



**OHBM2012**  
Beijing, China

June 10-14, 2012

China National Convention Center (CNCC)

18<sup>th</sup> Annual Meeting  
of the Organization for Human Brain Mapping

OHBM2012

*Beijing, China*

Abstracts



Organization for  
Human Brain Mapping

[www.humanbrainmapping.org/OHBM2012](http://www.humanbrainmapping.org/OHBM2012)

# POSTER KEY

All posters will be displayed for 2 days, either Monday/Tuesday or Wednesday/Thursday.

For Monday and Tuesday posters, even numbered posters will stand-by on Monday, June 11 and odd numbered posters will stand-by on Tuesday, June 12.

For Wednesday and Thursday posters, even numbered posters will stand-by on Wednesday, June 13 and odd numbered posters will stand-by on Thursday, June 14. See daily poster stand-by session times below.

## Daily Poster Stand-By Session Times

Monday, June 11: 13:30 – 15:30 (even numbers)

Tuesday, June 12: 13:30 – 15:30 (odd numbers)

Wednesday, June 13: 13:30 – 15:30 (even numbers)

Thursday, June 14: 10:45 – 12:45 (odd numbers)

## Wine Reception in the Poster Hall

There will be a wine reception held in the poster hall on Tuesday, June 12 from 18:00-19:30. Posters being presented that day are encouraged to stand by your poster and present.

## MONDAY AND TUESDAY POSTERS

### Categories/Subcategories

### Poster Numbers

#### Disorders of the Nervous System

Alzheimer's Disease and Other Dementias	1-67
Epilepsy	68-118
Stroke	119-146
Traumatic Brain Injury	147-167

#### Emotion and Motivation

Emotional Learning	168-184
Emotional Perception	185-229
Reward and Punishment	230-248
Sexual Behavior	249-251

#### Language

Language Acquisition	252-259
Language Comprehension and Semantics	260-297
Reading and Writing	298-325
Speech Perception	326-359
Speech Production	

### Categories/Subcategories

### Poster Numbers

#### Modeling and Analysis Methods

Bayesian Modeling	360-363
Classification and Predictive Modeling	364-400
Diffusion MRI Modeling and Analysis	401-428
EEG/MEG Modeling and Analysis	429-464
Exploratory Modeling and Artifact Removal	465-472
fMRI Connectivity and Network Modeling	473-592
Image Registration and Computational Anatomy	593-614
Motion Correction and Preprocessing	615-623
Multivariate Modeling	624-642
Other Methods	643-662
PET Modeling and Analysis	663-665
Segmentation and Parcellation	666-684
Task-Independent and Resting-State Analysis	685-757
Univariate Modeling	758-763

# POSTER KEY, CONTINUED

## MONDAY AND TUESDAY POSTERS, CONTINUED

Categories/Subcategories	Poster Numbers
<b>Motor Behavior</b>	
Brain Machine Interface	764-784
Mirror System	785-792
Motor Planning and Execution	793-812
Visuo-Motor Functions	813-816
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<b>Neuroanatomy</b>	
Anatomy and Function	817-845
Brain Networks	846-882
Cortical Anatomy and Segregation	883-898
Subcortical Structures	899-901
White Matter Anatomy, Fiber Pathways and Connectivity	902-922
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<b>Perception and Attention</b>	
Attention: Auditory/Tactile/Motor	923-926
Attention: Visual	927-948
Chemical Senses: Olfaction, Taste	949-954
Consciousness and Awareness	955-975
Perception: Auditory/ Vestibular	976-985
Perception: Multisensory and Crossmodal	986-1005
Perception: Pain and Visceral	1006-1026
Perception: Tactile/Somatosensory	1027-1045
Perception: Visual	1046-1099
Sleep and Wakefulness	1100-1111
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<b>Social Neuroscience</b>	
Social Cognition	1112-1113

## WEDNESDAY AND THURSDAY POSTERS

Categories/Subcategories	Poster Numbers
<b>Brain Stimulation Methods</b>	
Deep Brain Stimulation	1-8
Direct Electrical/Optogenetic Stimulation	9-10
TDCS	11-24
TMS	25-38
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<b>Disorders of the Nervous System</b>	
Addictions	39-75
Autism	76-94
Developmental Disorders	95-130
Mood and Anxiety Disorders	131-203
Obsessive-Compulsive Disorder and Tourette Syndrome	204-213
Other Disorders	214-264
Parkinson's Disease and Movement Disorders	265-292
Schizophrenia and Psychotic Disorders	293-355
Sleep Disorders	356-357
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<b>Genetics</b>	
Genetic Association Studies	358-379
Genetic Modeling and Analysis Methods	380-389
Neurogenetic Syndromes	390
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<b>Higher Cognitive Functions</b>	
Decision Making	391-444
Executive Function	445-475
Imagery	476-480
Music	481-491
Reasoning and Problem Solving	492-505
Space, Time and Number Coding	506-517

# POSTER KEY, CONTINUED

## WEDNESDAY AND THURSDAY POSTERS, CONTINUED

Categories/Subcategories	Poster Numbers
<b>Imaging Methods</b>	
Anatomical MRI	518-545
BOLD fMRI	546-637
Diffusion MRI	638-686
EEG	687-705
MEG	706-715
MR Spectroscopy	716-731
Multi-Modal Imaging	732-755
Non-BOLD fMRI	756-764
Optical Imaging/NIRS	765-787
PET	788-792
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<b>Informatics</b>	
Atlases	793-800
Databasing and Data Sharing	801-809
Pipelines	810-818
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<b>Learning and Memory</b>	
Implicit Memory	819-821
Long-Term Memory (Episodic and Semantic)	822-846
Neural Plasticity and Recovery of Function	847-860
Skill Learning	861-874
Working Memory	875-909

Categories/Subcategories	Poster Numbers
<b>Lifespan Development</b>	
Aging	910-956
Normal Brain Development: Fetus to Adolescence	957-983
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<b>Physiology, Metabolism and Neurotransmission</b>	
Cerebral Metabolism and Hemodynamics	984-997
Neurophysiology of Imaging Signals	998-1002
Pharmacology and Neurotransmission	1003-1011
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<b>Social Neuroscience</b>	
Self Processes	1012-1026
Social Cognition	1027-1079
Social Interaction	1080-1107

# SCHEDULE OF POSTER PRESENTATIONS

Monday, June 11, 2012 and Tuesday, June 12, 2012

\* Indicates poster will also be presented during an Oral Session. The oral session number is indicated in parentheses after the poster title.

\*\* Indicates poster will also be presented during an Interactive Poster (I-Poster) Session. Please check the Program Book for I-Poster Presentation times.

Information listed, including author affiliations, appear as submitted.

## DISORDERS OF THE NERVOUS SYSTEM

### Alzheimer's Disease and Other Dementias

- 1 MT Cortical Differences Analysis with Multivariate Tensor-Based Morphometry in 829 ADNI subjects**  
*Xing An<sup>1,2</sup>, Jie Shi<sup>2</sup>, Yalin Wang<sup>2</sup>, The ADNI<sup>3</sup>*  
<sup>1</sup>Beijing Institute of Technology, Beijing, China, <sup>2</sup>Arizona State University, Tempe, AZ, <sup>3</sup>The Alzheimer's Disease Neuroimaging Initiative, San Francisco, United States
- 2 MT Unbiased sparse longitudinal cortical analysis improves detection power in CSF-confirmed AD and FTD**  
*Brian Avants<sup>1</sup>, Corey McMillan<sup>2</sup>, Murray Grossman<sup>2</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, United States, <sup>2</sup>University of Pennsylvania, Philadelphia, PA
- 3 MT Long-term test-retest reproducibility of resting-state networks in healthy subjects and MCI patients**  
*Albert Berman<sup>1</sup>, Janusch Blautzik<sup>1</sup>, Daniel Keeser<sup>1,2</sup>, Marco Paolini<sup>1</sup>, Kirsch Valerie<sup>1</sup>, Sophia Mueller<sup>3</sup>, Ute Coates<sup>1</sup>, Maximilian Reiser<sup>1</sup>, Stefan Teipel<sup>4</sup>, Thomas Meindl<sup>1</sup>*  
<sup>1</sup>Institute of Clinical Radiology, Ludwig-Maximilian University, Munich, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Ludwig-Maximilian University, Munich, Germany, <sup>3</sup>Harvard University, Cambridge, MA, <sup>4</sup>Department of Psychiatry, University of Rostock, and DZNE, German Center for Neurodegenerative Disor, Rostock, Germany
- 4 MT Combined MRI and PET coherence analysis in early and prodromal AD subjects**  
*Paolo Bosco<sup>1</sup>, Andrea Chincarini<sup>1</sup>, Mario Esposito<sup>2</sup>, Luca Rei<sup>2</sup>, Francesco Sensi<sup>1</sup>, Ilaria Solano<sup>2</sup>, Gianluca Gemme<sup>1</sup>, Sandro Squarcia<sup>1</sup>, Renata Longo<sup>3</sup>, Roberto Bellotti<sup>4</sup>*  
<sup>1</sup>INFN, Genova, Italy, <sup>2</sup>Università degli studi di Genova, Genova, Italy, <sup>3</sup>INFN, Trieste, Italy, <sup>4</sup>INFN, Bari, Italy
- 5 MT A Meta-Analysis of fMRI Biomarkers for Alzheimer's Disease**  
*Ali Bourisly<sup>1</sup>, Alexandre Savio<sup>2</sup>, Manuel Grana<sup>2</sup>*  
<sup>1</sup>Department of Physiology, Faculty of Medicine, Kuwait University, Jabriya, Kuwait, <sup>2</sup>Grupo de Inteligencia Computacional, UPV/EHU, San Sebastian, Spain
- 6 MT Combined cognitive training and rTMS in patients with Alzheimer's Disease**  
*Anna-Katharine Brem<sup>1</sup>, Lukas Schilberg<sup>2</sup>, Catarina Freitas<sup>2</sup>, Natasha Atkinson<sup>2</sup>, Leonie Asboth<sup>2</sup>, Christina Carbone<sup>2</sup>, Ilya Vidrin<sup>2</sup>, Alvaro Pascual-Leone<sup>2</sup>*  
<sup>1</sup>Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, United States, <sup>2</sup>Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA
- 7 MT Increased Amygdala Functional Connectivity during Working Memory in Mild Cognitive Impairment**  
*Lucas Broster<sup>1</sup>, Ruolei Gu<sup>2,1</sup>, Sarah Wing<sup>1</sup>, Chunyan Guo<sup>3,1</sup>, Jessica Clark<sup>4,5</sup>, McKinley Heflin<sup>1</sup>, Gregory Jicha<sup>6,7</sup>, Yang Jiang<sup>1,7</sup>*  
<sup>1</sup>Department of Behavioral Science, University of Kentucky College of Medicine, Lexington, KY, <sup>2</sup>Institute of Brain and Cognitive Science, Beijing Normal University, Beijing, China, <sup>3</sup>Capital Normal University, Beijing, China, <sup>4</sup>National Rehabilitation Hospital, Washington DC, United States, <sup>5</sup>Department of Psychology, University of Kentucky College of Medicine, Lexington, KY, <sup>6</sup>Department of Neurology, University of Kentucky College of Medicine, Lexington, KY, <sup>7</sup>Sanders-Brown Center on Aging, Lexington, KY
- 8 MT Tract-Specific Study of Semantic, NonFluent and Logopenic Variants of Primary Progressive Aphasia**  
*Caroline Brun<sup>1</sup>, James Gee<sup>2</sup>, Murray Grossman<sup>2</sup>, Corey McMillan<sup>2</sup>, John Powers<sup>2</sup>, Paul Yushkevich<sup>2</sup>*  
<sup>1</sup>University of Pennsylvania, N/A, <sup>2</sup>University of Pennsylvania, Philadelphia, PA

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- 9 MT Corpus callosum degeneration in mild cognitive impairment and Alzheimer's disease**  
*Ni Jung Chang<sup>1</sup>, Kun-Hsien Chou<sup>2</sup>, Pei-Ning Wang<sup>3</sup>, Jiing-Feng Lin<sup>4</sup>, Ker-Neng Lin<sup>3</sup>, Wei-Ta Chen<sup>3</sup>, Gong-Yau Lan<sup>5</sup>, Ching-Po Lin<sup>6</sup>*  
<sup>1</sup>Department of Biomedical Imaging and Radiological Sciences (BIRS), National Yang-Ming University, New Taipei City, Chinese Taipei, <sup>2</sup>National Yang Ming University, <sup>3</sup>Department of Neurology, National Yang-Ming University School of Medicine, Taipei, Chinese Taipei, <sup>4</sup>Department of Radiology, National Yang-Ming University School of Medicine, Taipei, Chinese Taipei, <sup>5</sup>Department of Medical Imaging, Cheng-Hsin Hospital, Taipei, Chinese Taipei, <sup>6</sup>National Yang-Ming University, Taipei, Chinese Taipei
- 10 MT Gender Modulates the APOE  $\epsilon$ 4 Effect in Healthy Older Controls**  
*Jessica Damoiseaux<sup>1</sup>, William Seeley<sup>2</sup>, Juan Zhou<sup>3</sup>, William Shire<sup>4</sup>, Giovanni Coppola<sup>5</sup>, Anna Karydas<sup>6</sup>, Howard Rosen<sup>6</sup>, Bruce Miller<sup>6</sup>, Joel Kramer<sup>6</sup>, Michael Greicius<sup>7</sup>*  
<sup>1</sup>Stanford University School of Medicine, Stanford, United States, <sup>2</sup>University of California San Francisco, San Francisco, United States, <sup>3</sup>Duke-NUS Graduate Medical School, Singapore, Singapore, <sup>4</sup>Stanford University, Stanford, CA, <sup>5</sup>University of California, Los Angeles, Los Angeles, CA, <sup>6</sup>University of California San Francisco, San Francisco, CA, <sup>7</sup>Stanford University, Stanford, United States
- 11 MT Functional Connectivity within the Medial Temporal Lobe Increases in amnesic MCI**  
*Sandhitsu Das<sup>1</sup>, Dasha Kliot<sup>1</sup>, Lauren Mancuso<sup>1</sup>, Sylvia Orozco<sup>1</sup>, John Pluta<sup>1</sup>, Paul Yushkevich<sup>1</sup>, David Wolk<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, PA
- 12 MT Intensive Cognitive Stimulation Enhances Activity in Posterior Areas of the Default Mode Network**  
*Matteo De Marco<sup>1</sup>, Francesca Meneghello<sup>2</sup>, Davide Duzz<sup>2</sup>, Luca Ghezzi<sup>2</sup>, Luciano Foscolo<sup>2</sup>, Annalena Venneri<sup>1</sup>*  
<sup>1</sup>University of Sheffield, Sheffield, United Kingdom, <sup>2</sup>IRCCS Ospedale San Camillo, Venice, Italy
- 13 MT Impaired frontal-striatal function in antiretroviral naïve HIV positive South African Xhosa subjects**  
*Stéfan Du Plessis<sup>1</sup>, Matthijs Vink<sup>2</sup>, Bruce Spottiswoode<sup>3,4</sup>, Carsten Scheller<sup>5</sup>, Eleni Koutsilier<sup>5</sup>, John Joska<sup>6</sup>, Dan Stein<sup>7,8</sup>, Robin Emsley<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry, University of Stellenbosch, Cape Town, South Africa, <sup>2</sup>Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands, <sup>3</sup>MRC/UCT Medical Imaging Research Unit, Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>4</sup>Division of Radiology, University of Stellenbosch, Cape Town, South Africa, <sup>5</sup>Institute for Virology and Immunobiology, University of Würzburg, Würzburg, Germany, <sup>6</sup>Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa, <sup>7</sup>Medical Research Council (Unit on Anxiety and Stress Disorders), Cape Town, South Africa, <sup>8</sup>Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa
- 14 MT Integrative FDG-PET and MRI Model of Aging and Disease Progression in Alzheimer's Disease**  
*Juergen Dukart<sup>1</sup>, Ferath Kherif<sup>2</sup>, Karsten Müller<sup>3</sup>, Matthias Schroeter<sup>4</sup>, Richard Frackowiak<sup>5</sup>, Bogdan Draganski<sup>6</sup>*  
<sup>1</sup>Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland, <sup>2</sup>LREN, CHUV, DNC university lausanne, Lausanne, Switzerland, <sup>3</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>5</sup>LREN, Département des Neurosciences Cliniques, CHUV, Université de Lausanne, Lausanne, Switzerland, Lausanne, Switzerland, <sup>6</sup>LREN, Département des neurosciences cliniques - CHUV, Lausanne, Switzerland
- 15 MT Longitudinal patterns of BrainAGE in normal aging, MCI, and AD**  
*Katja Franke<sup>1</sup>, Christian Gaser<sup>1</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Department of Psychiatry, University Hospital, Jena, Germany
- 16 MT Lesion mapping in relation to cognition & treatment responsiveness in vascular or mixed dementia**  
*Fuqiang Gao<sup>1,2</sup>, Gregory Szilagyi<sup>1</sup>, Kevin Shield<sup>3</sup>, Alex Kiss<sup>4</sup>, Kenneth Rockwood<sup>5</sup>, Sandra Black<sup>1,2,6</sup>*  
<sup>1</sup>L.C. Campbell Cognitive Neurology, Sunnybrook Research Institute, University of Toronto, Toronto, Canada, <sup>2</sup>Heart and Stroke Centre for Stroke Recovery, Sunnybrook Health Sciences Centre, Toronto, Canada, <sup>3</sup>Department of Epidemiology, University of Toronto, Toronto, Canada, <sup>4</sup>Evaluative Clinical Sciences, Brain Sciences Program, Sunnybrook Health Sciences Centre, Toronto, Canada, <sup>5</sup>Geriatric Medicine and Neurology, Dalhousie University, Halifax, Canada, <sup>6</sup>Division of Neurology, Department of Medicine, University of Toronto, Toronto, Canada

DISORDERS OF THE NERVOUS SYSTEM  
Alzheimer's Disease and Other Dementias, continued

- 17 MT **Self-appraisal and medial prefrontal activation in early stage Alzheimer's disease**  
*Sarah Genon<sup>1</sup>, Fabienne Collette<sup>1</sup>, Lucie Angele<sup>2</sup>, Eric Salmon<sup>1</sup>, Christine Bastin<sup>1</sup>*  
<sup>1</sup>Cyclotron Research Centre, LIEGE, Belgium, <sup>2</sup>François-Rabelais University, TOURS, France
- 18 MT **SVM-based Markers Yield Outcome Measures for Neuroimaging Clinical Trials of Alzheimer's Disease**  
*Chris Hinrichs<sup>1</sup>, Moo Chung<sup>2</sup>, Sterling Johnson<sup>3</sup>, Vikas Singh<sup>3</sup>*  
<sup>1</sup>University of Wisconsin - Madison, Madison, United States, <sup>2</sup>University of Wisconsin, Madison, WI, <sup>3</sup>University of Wisconsin - Madison, Madison, WI
- 19 MT **Attenuated theta phase locking during auditory change detection processing in early-stage AD**  
*Fu-Jung Hsiao<sup>1,2</sup>, Chia-Hsiung Cheng<sup>1</sup>, Wei-Ta Chen<sup>3</sup>, Yung-Yang Lin<sup>1</sup>*  
<sup>1</sup>Institute of Brain Science, National Yang Ming University, Taipei, Chinese Taipei, <sup>2</sup>Department of education and research, Taipei city hospital, Taipei, Chinese Taipei, <sup>3</sup>Department of Neurology, National Yang-Ming University School of Medicine, Taipei, Chinese Taipei
- 20 MT **Longitudinal changes of neuropsychiatric symptoms in normal aging, MCI and AD patients: a VBM study**  
*Xiaochen Hu<sup>1</sup>, Dix Meiberth<sup>1</sup>, Beate Newport<sup>2</sup>, Frank Jessen<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, University of Bonn, Bonn, Germany, <sup>2</sup>German Center for Neurodegenerative Diseases, University of Bonn, Bonn, Germany
- 21 MT **Detection of Dementia using Arterial Spin Labeling Perfusion MRI**  
*Wei Huang<sup>1</sup>, Yanbo Wang<sup>2</sup>, Mei-Yee Tang<sup>1</sup>, Ramani Venketasubramanian<sup>3</sup>, Christopher Chen<sup>4</sup>, Anqi Qiu<sup>2</sup>, Kai-Hsiang Chuang<sup>1</sup>*  
<sup>1</sup>Laboratory of Molecular Imaging, Singapore Bioimaging Consortium, Singapore, Singapore, <sup>2</sup>National University of Singapore, Singapore, Singapore, <sup>3</sup>Division of Neurology, National University Hospital, Singapore, Singapore, <sup>4</sup>Department of Pharmacology, National University of Singapore, Singapore, Singapore, Singapore
- 22 MT **Mismatch negativity: distinct patterns of effective connectivity in bvFTD and PSP**  
*Laura Hughes<sup>1,2</sup>, Boyd Ghosh<sup>2</sup>, James Rowe<sup>2,1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom
- 23 MT **Different Network Structure and Complex Network Properties in Brain Image of Developing AD**  
*Hyoungkyu Kim<sup>1</sup>, Jaeseung Jeong<sup>2</sup>*  
<sup>1</sup>KAIST, Deajon, Korea, Republic of, <sup>2</sup>KAIST, Daejeon, Korea, Republic of
- \*24 MT **C9ORF72 gene mutation increases functional connectivity in FTLN (O-M1)**  
*Vesa Kiviniemi<sup>1</sup>, Riikka Rytty<sup>2</sup>, Juha Nikkinen<sup>1</sup>, Osmo Tervonen<sup>1</sup>, Anne Remes<sup>2</sup>*  
<sup>1</sup>Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, <sup>2</sup>Department of Neurology, Oulu University Hospital, Oulu, Finland
- 25 MT **Accelerated Brain Atrophy Mapped in Carriers of Multiple AD Risk Genes: Empowering Clinical Trials**  
*Omid Kohannim<sup>1</sup>, Xue Hua<sup>1</sup>, Priya Rajagopalan<sup>1</sup>, Derrek Hibar<sup>1</sup>, Neda Jahanshad<sup>1</sup>, Arthur Toga<sup>1</sup>, Clifford Jack<sup>2</sup>, Michael Weiner<sup>3</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, UCLA, Los Angeles, CA, USA, <sup>2</sup>Department of Radiology, Mayo Clinic, Rochester, MN, USA, <sup>3</sup>Departments of Radiology and Biomedical Imaging, Psychiatry and Medicine, UCSF School of Medicine, San Francisco, CA, USA
- 26 MT **Annual brain volume changes in MCI and dementia: A Voxel-Guided Morphometry study**  
*Matthias Kraemer<sup>1</sup>, Andreas Dabringhaus<sup>2</sup>, Martha Dlugaj<sup>3</sup>, Thorsten Schormann<sup>4</sup>, Christian Weimar<sup>3</sup>*  
<sup>1</sup>Neurologisches Therapiezentrum, Cologne, Germany, <sup>2</sup>St. Mauritius Therapiezentrum, Meerbusch, Germany, <sup>3</sup>Department of Neurology, University Hospital, Essen, Germany, <sup>4</sup>Institute for Anatomy, Duesseldorf, Germany
- 27 MT **Default mode network connectivity in Alzheimer's disease and Parkinson's disease dementia**  
*Lenka Krajcovicova<sup>1</sup>, Michal Mikl<sup>1</sup>, Radek Marek<sup>1</sup>, Irena Rektorova<sup>1</sup>*  
<sup>1</sup>Central European Institute of Technology, CEITEC, Masaryk University, Brno, Czech Republic
- 28 MT **Perceptual encoding in persons with mild cognitive impairment: An ERP study**  
*Michael Kuo<sup>1</sup>, Karen Liu<sup>1</sup>, Evan Gao<sup>1</sup>, Chetwyn Chen<sup>1</sup>*  
<sup>1</sup>Hong Kong Polytechnic University, Hong Kong, Hong Kong
- 29 MT **Neuropsychological Correlates of P300 in Patients with Alzheimer's Disease**  
*Moon-Soo Lee<sup>1</sup>, Seung-Hwan Lee<sup>2,3</sup>, Eunok Moon<sup>3</sup>, Yoon-Jae Moon<sup>3</sup>, Sangrae Kim<sup>3</sup>, Seung-Hyun Kim<sup>1</sup>, In-Kwa Jung<sup>1</sup>*  
<sup>1</sup>Department of psychiatry, Korea University, College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Psychiatry Department, Ilsan Paik Hospital, Inje University, Goyang, Korea, Republic of, <sup>3</sup>Clinical Emotion and Cognition Research Laboratory, Goyang, Korea, Republic of

>> Monday, June 11: 13:30 - 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 - 15:30 (odd numbers)

- 30 MT **Differentiations between MCI and normal older adults: An ERP study on working memory decline**  
Juan Li<sup>1</sup>, Lucas Broster<sup>2</sup>, Charles Smith<sup>3</sup>, Gregory Jicha<sup>4</sup>, Yang Jiang<sup>5</sup>  
<sup>1</sup>Key laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Behavioral Science, University of Kentucky College of Medicine, Lexington, KY, <sup>3</sup>Department of Neurology, University of Kentucky College of Medicine, Lexington, KY, <sup>4</sup>Department of Neurology, University of Kentucky College of Medicine, LEX, KY, <sup>5</sup>Department of Behavioral Science, University of Kentucky College of Medicine, LEX, KY
- 31 MT **Spontaneous Brain Activity in Subtypes of Amnesic MCI: a Resting-State fMRI Study**  
Xin Li<sup>1</sup>, Miao Cao<sup>1</sup>, Junying Zhang<sup>1</sup>, Chao Ma<sup>1</sup>, Yaojing Chen<sup>1</sup>, Xiaoqing Zhou<sup>1</sup>, Yong He<sup>1</sup>, Zhanjun Zhang<sup>1</sup>  
<sup>1</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China
- 32 MT **DTI with Tract-based Spatial Statistics (TBSS) Reveals Heterogeneity in Different aMCI Subtypes**  
Ying Liang<sup>1</sup>, He Li<sup>2</sup>, Ni Shu<sup>1</sup>, Junying Zhang<sup>1</sup>, Xin Li<sup>1</sup>, Zhanjun Zhang<sup>1</sup>  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Institute of Basic Research In Clinical Medicine, China Academy of Chinese Medical Sciences, Beijing, China
- 33 MT **Morphological and functional brain alterations associated with Alzheimer's disease**  
Linwen Liu<sup>1</sup>, Yong Fan<sup>2</sup>  
<sup>1</sup>National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 34 MT **Abnormalities of Cortical Sulci in Early Stage Alzheimer's disease**  
Tao Liu<sup>1,2,3</sup>, Darren Lipnicki<sup>1</sup>, Wanlin Zhu<sup>1</sup>, Dacheng Tao<sup>2</sup>, Chengqi Zhang<sup>2</sup>, Yue Cui<sup>3</sup>, Jesse Jin<sup>2,3</sup>, Jiyang Jiang<sup>1</sup>, Perminder Sachdev<sup>1</sup>, Wei Wen<sup>1</sup>  
<sup>1</sup>University of New South Wales, Sydney, Australia, <sup>2</sup>University of Technology Sydney, Sydney, Australia, <sup>3</sup>the University of Newcastle, Sydney, Australia
- 35 MT **Impaired Long Distance Connectivity and Weighted Network Architecture in Alzheimer's disease**  
Yong Liu<sup>1,2</sup>, Xinqing Zhang<sup>3</sup>, Jieqiong Liu<sup>3</sup>, Yunyun Duan<sup>4</sup>, Aaron F. Alexander-Bloch<sup>2</sup>, Bing Liu<sup>1</sup>, Chunshui Yu<sup>5</sup>, Tianzi Jiang<sup>1</sup>, Edward Bullmore<sup>2</sup>  
<sup>1</sup>CCM, National Laboratory of Pattern Recognition, Institute of Automation, Beijing, China, <sup>2</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Department of Neurology, Xuanwu Hospital of Capital Medical University, Beijing, China, <sup>4</sup>Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, <sup>5</sup>Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China
- 36 MT **Disrupted Organization of White Matter Network in Alzheimer's Disease and Mild Cognitive Impairment**  
Chun-Yi Lo<sup>1</sup>, Pei-Ning Wang<sup>2</sup>, Kun-Hsien Chou<sup>1</sup>, Wang Jinhui<sup>3</sup>, Yong He<sup>4</sup>, Ching-Po Lin<sup>5</sup>  
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- 37 MT **Multivariate indexed regional laterality differentiates mild cognitive impairment from healthy aging**  
Xiaoqing Long<sup>1</sup>, Lijuan Zhang<sup>1</sup>, Weiqi Liao<sup>1</sup>, Chunxiang Jiang<sup>1</sup>, Bensheng Qiu<sup>1</sup>  
<sup>1</sup>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China
- 38 MT **Asymptomatic MRI lesion load is predicted by a EEG-Source/Cognitive MVPA in hypertensive subjects**  
Yenisleidy Lorenzo-Ceballos<sup>1</sup>, Juan Antonio Samper-Noa<sup>1</sup>, Gertrudis de los Angeles Hernández-González<sup>1</sup>, Jorge Bosch-Bayard<sup>1</sup>, Pedro A. Valdes-Sosa<sup>1</sup>, Lidice Galán-García<sup>1</sup>  
<sup>1</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba
- 39 MT **ASL Measurements of Precuneus CBF in Dementia with Vascular Disease and Alzheimer's Disease**  
Wen-Ming Luh<sup>1</sup>, Belen Pascua<sup>2</sup>, Joseph Masdeu<sup>2</sup>  
<sup>1</sup>National Institutes of Health, Bethesda, MD, United States, <sup>2</sup>University of Navarra, Pamplona, Spain
- 40 MT **Emotional Processing Differentiates Amnesic Cognitive Impairment and Late-Life Depression**  
Linda Mah<sup>1</sup>, Cheryl Grady<sup>2</sup>, Nicole Anderson<sup>2</sup>, Bruce Pollock<sup>3</sup>  
<sup>1</sup>Rotman Research Institute, Baycrest, University of Toronto, Toronto, Canada, <sup>2</sup>Rotman Research Institute, Baycrest, University of Toronto, Toronto, Ontario, <sup>3</sup>Centre for Addiction and Mental Health, Department of Psychiatry, University of Toronto, Toronto, Ontario
- 41 MT **Withdrawn**



- 42 MT Frontal atrophy and executive dysfunction in APOE E4 non-carriers converting to Alzheimer's dementia**  
*Katrin E Morgen<sup>1</sup>, Lutz Froelich<sup>1</sup>, Heike Tost<sup>1</sup>, Michael Plichta<sup>1</sup>, Johannes Kornhuber<sup>2</sup>, Harald Hampel<sup>3</sup>, Stefan Teipel<sup>4</sup>, Michael Ewers<sup>5</sup>, Frank Jessen<sup>6</sup>, Oliver Peters<sup>7</sup>, Holger Jahn<sup>8</sup>, Christian Luckhaus<sup>9</sup>, Michael Huell<sup>10</sup>, Hermann-Josef Gertz<sup>11</sup>, Johannes Schroeder<sup>12</sup>, Johannes Pante<sup>3</sup>, Isabella Heuser<sup>7</sup>, Jens Wiltfang<sup>13</sup>, Eckart Ruether<sup>14</sup>, Wolfgang Maier<sup>15</sup>, Andreas Meyer-Lindenberg<sup>1</sup>*  
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- 43 MT Amyloid load has network- and hub-specific effects on connectivity in default and attention networks**  
*Nicholas Myers<sup>1</sup>, Jens Göttler<sup>2</sup>, Valentin Riedl<sup>3</sup>, Stefan Förster<sup>4</sup>, Timo Grimmer<sup>2</sup>, Afra Wohlschläger<sup>5</sup>, Alexander Drzezga<sup>2</sup>, Christian Sorg<sup>6</sup>*  
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- 44 MT Anatomical Network Measures Predict Future Decline in People With Mild Cognitive Impairment**  
*Talia Nir<sup>1</sup>, Neda Jahanshad<sup>1</sup>, Arthur Toga<sup>1</sup>, Bret Borowski<sup>2</sup>, Matt Bernstein<sup>2</sup>, Clifford Jack<sup>2</sup>, Michael Weiner<sup>3</sup>, Paul Thompson<sup>1</sup>*  
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- 45 MT Binding of  $\alpha 4\beta 2$  nicotinic acetylcholine receptor and cognition in normal subjects**  
*Yasuomi Ouchi<sup>1</sup>, Tatsuhiko Terada<sup>1</sup>, Shunsuke Yagi<sup>1</sup>, Yumi Oboshi<sup>1</sup>, Etsuji Yoshikawa<sup>2</sup>, Masami Futatsubashi<sup>2</sup>, Toshihiko Kanno<sup>3</sup>, Mikako Ogawa<sup>4</sup>, asuhiro Magata<sup>4</sup>*  
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- 46 MT Functional alterations in task-induced BOLD activity as an early biomarker of cognitive decline**  
*Judy Pa<sup>1</sup>, Jacob Bollinger<sup>1</sup>, Nicole Yee<sup>1</sup>, Julene Johnson<sup>1,2</sup>, Adam Gazzaley<sup>1</sup>*  
<sup>1</sup>University of California, San Francisco, Department of Neurology, San Francisco, CA, <sup>2</sup>University of California, San Francisco, Institute for Health and Aging, Department of Social and Behavioral Sciences, San Francisco, CA
- 47 MT Changes in specific brain networks correlate with cognitive and motor function in PSP and CBD**  
*Timothy Rittman<sup>1</sup>, Boyd Ghosh<sup>1</sup>, William Shirer<sup>2</sup>, Michael Greicius<sup>2</sup>, James Rowe<sup>1</sup>*  
<sup>1</sup>Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Stanford University, Stanford, United States
- 48 MT Diffusivity and anisotropy as indicative for white matter differences in Alzheimer Disease**  
*Carlo Rondinoni<sup>1</sup>, Tiago Nunes<sup>2</sup>, Carlos Salmon<sup>3</sup>, Antonio Carlos dos Santos<sup>2</sup>*  
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- 49 **MT Sensory-motor cortex reorganization in Alzheimer's disease: an MEG study**  
*Carlo Salustri<sup>1</sup>, Franca Tecchio<sup>2</sup>, Filippo Zappasod<sup>3</sup>, Leo Tomasevic<sup>2</sup>, Matilde Ercolani<sup>4</sup>, Filomena Moffa<sup>4</sup>, Emanuele Cassetta<sup>4</sup>, Rosanna Squitti<sup>5</sup>, Paolo Maria Rossini<sup>6</sup>*  
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- 50 **MT Individual Structural Connectivity Networks Enable Automated Prediction of AD in Subjects at Risk**  
*Junming Shao<sup>1</sup>, Nicholas Myers<sup>2</sup>, Qinli Yang<sup>3</sup>, Chun Meng<sup>4</sup>, Valentin Riedl<sup>5</sup>, Afra Wohlschläger<sup>1</sup>, Christian Sorg<sup>6</sup>*  
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- 51 **MT Surface Fluid Registration and Its Application to Human Brain Mapping**  
*Jie Shi<sup>1</sup>, Paul Thompson<sup>2</sup>, Yuting Wang<sup>3</sup>, Boris Gutman<sup>4</sup>, Yalin Wang<sup>5</sup>, The ADNI<sup>6</sup>*  
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- 52 **MT An fMRI study in MCI patients and healthy adults shows age-related changes in brain activity**  
*Christian Siedentopf<sup>1</sup>, Anja Ischebeck<sup>2</sup>, Werner Jaschke<sup>1</sup>, Florian Koppelstaetter<sup>1</sup>, Bernd Krause<sup>3</sup>, Giorgi Kuchukhidze<sup>1</sup>, Matthias Starzinger<sup>1</sup>, Michael Verius<sup>1</sup>, Elisabeth Weiss<sup>4</sup>*  
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- 53 **MT Changes of intrinsic brain networks are regionally consistent and related to local amyloid in AD**  
*christian sorg<sup>1</sup>, Nicholas Myers<sup>2</sup>, Jens Göttler<sup>1</sup>, Timo Grimmer<sup>1</sup>, Valentin Riedl<sup>1</sup>, Alexander Drzezga<sup>1</sup>, Afra Wohlschläger<sup>1</sup>*  
<sup>1</sup>Technische Universität München, Munich, Germany, <sup>2</sup>Oxford University, Oxford, United Kingdom
- 54 **MT Focal hypoperfusion in early dementia as assessed by arterial spin labeling magnetic resonance (MR)**  
*Rebecca Steketee<sup>1</sup>, Sophie Ooms<sup>1</sup>, Maartje Luijten<sup>2</sup>, Gavin Houston<sup>3</sup>, John van Swieten<sup>1</sup>, Marion Smits<sup>1</sup>*  
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- 55 **MT Functional hippocampal changes within the working memory network in patients with amnesic MCI**  
*Max Toepper<sup>1</sup>, Hans Markowitsch<sup>2</sup>, Helge Gebhardt<sup>3</sup>, Thomas Beblo<sup>1</sup>, Christine Thomas<sup>4</sup>, Stefan Kreisel<sup>4</sup>, Kirsten Labudda<sup>2</sup>, Markus Mertens<sup>5</sup>, Friedrich Wörmann<sup>5</sup>, Martin Driessen<sup>1</sup>, Bernd Gallhofer<sup>3</sup>, Gebhard Sammer<sup>3</sup>*  
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- 56 **MT White Matter Changes in Chinese Patients with Alzheimer's Disease Revealed by DTI**  
*Defeng Wang<sup>1,2</sup>, Lin Shi<sup>1,3</sup>, Likun Han<sup>4</sup>, Steve Hui<sup>1</sup>, Winnie Chu<sup>1</sup>, Yumei Zhang<sup>5</sup>, Yilong Wang<sup>5</sup>, Anil Ahuja<sup>1</sup>, Yongjun Wang<sup>5</sup>*  
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- 57 **MT Disruption of the functional brain connectome in individuals at risk for Alzheimer's disease**  
*Jinhui Wang<sup>1</sup>, Xi-Nian Zuo<sup>2</sup>, Zheng-Jia Dai<sup>1</sup>, Ming-Rui Xia<sup>1</sup>, Zhi-Lian Zhao<sup>3</sup>, Xiao-Ling Zhao<sup>4</sup>, Jian-Ping Jia<sup>4</sup>, Ying Han<sup>4</sup>, Yong He<sup>1</sup>*  
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- 58 **MT** **Cortical Thickness of the Cingulate Gyrus in Memory & Ageing Study**  
*Jacqueline Wentz<sup>1</sup>, Lei Wang<sup>2</sup>, Mirza Faisal Beg<sup>3</sup>, Wei Wen<sup>4</sup>, Perminder Sachdev<sup>5</sup>, Julian Trollor<sup>6</sup>, Tilak Ratnanather<sup>7</sup>*  
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- 59 **MT** **Lower Amyloid Burden in Early Mild Cognitive Impairment (MCI) compared to Late MCI**  
*Liyong Wu<sup>1,2,3</sup>, Jared Rowley<sup>1</sup>, Sara Mohades<sup>1</sup>, Marina Tedeschi Dauar<sup>1</sup>, Monica Shin<sup>1</sup>, Antoine Leuzy<sup>1</sup>, Vladimir Fonov<sup>1</sup>, Serge Gauthier<sup>1,3</sup>, Pedro Rosa-Neto<sup>1,3</sup>*  
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- 60 **MT** **FMRI Congruous Word Repetition Effects Show Loss of Hemispheric Encoding/Retrieval Asymmetry in MCI**  
*Jinchen Yang<sup>1</sup>, Jason Taylor<sup>2</sup>, Shiao-hui Chan<sup>3</sup>, David Salmon<sup>4</sup>, Vicente Iragui-Madoz<sup>5</sup>, Marta Kutas<sup>6</sup>, John Olichney<sup>7</sup>*  
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- 61 **MT** **Impaired Amygdala Connectivity Pattern in Alzheimer's disease Revealed by Resting state fMRI**  
*Hongxiang Yao<sup>1</sup>, Yong Liu<sup>2</sup>, Bo Zhou<sup>3</sup>, Zengqiang Zhang<sup>3</sup>, Xi Zhang<sup>3</sup>, Tianzi Jiang<sup>2</sup>*  
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- 62 **MT** **The Association of Amyloid Burden with Glucose Metabolism and Cortical Volume in Alzheimer's Disease**  
*Eun Jin Yoon<sup>1</sup>, Yu Kyeong Kim<sup>1</sup>, Il Han Choo<sup>2</sup>, Dong Young Lee<sup>2</sup>, Sang Eun Kim<sup>1</sup>*  
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- 63 **MT** **Feature selection and SVM classification of multiple modality images for predicting MCI**  
*Hao Zhang<sup>1,2</sup>, Linwen Liu<sup>2</sup>, Hong Wu<sup>1</sup>, Yong Fan<sup>2</sup>*  
<sup>1</sup>School of Computer Science and Engineering, University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 64 **MT** **The analysis of the conflict resolution in Alzheimer's disease and mild cognitive impairment**  
*Xin Zhang<sup>1</sup>, Pan Wang<sup>2</sup>, Yong Liu<sup>1</sup>, Xi Zhang<sup>2</sup>, Tianzi Jiang<sup>1</sup>, Yong Fan<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Neurology, Chinese PLA General Hospital, Beijing, China
- 65 **MT** **Functional Connectivity of New Supplement of Limbic System, Marginal Division, Affected in Alzheimer**  
*Zengqiang Zhang<sup>1</sup>, Yong Liu<sup>2</sup>, Bo Zhou<sup>1</sup>, Hongxiang Yao<sup>3</sup>, Pan Wang<sup>1</sup>, Ningyu An<sup>3</sup>, Siyun Shu<sup>4</sup>, Xi Zhang<sup>1</sup>, Luning Wang<sup>1</sup>, Tianzi Jiang<sup>2</sup>*  
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- 66 **MT** **Memory impairments in amnesic-type mild cognitive impairment are reflected in atrophic hippocampus**  
*Zhi-Lian Zhao<sup>1</sup>, Feng-Mei Fan<sup>2,3,4</sup>, Jie Lu<sup>1</sup>, Jian-Ping Jia<sup>5</sup>, Kun-Cheng Li<sup>1</sup>, Ying Han<sup>5</sup>, Xi-Nian Zuo<sup>2,3,6</sup>*  
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## DISORDERS OF THE NERVOUS SYSTEM

### Alzheimer's Disease and Other Dementias, continued

- 67 MT Personality factors and cognitive scores modulate structural brain changes in MCI**  
*Valérie Zufferey<sup>1</sup>, Alessia Donati<sup>2</sup>, Armen von Gunten<sup>2</sup>, Ferath Kherif<sup>1</sup>*  
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<sup>2</sup>Service of Old Age Psychiatry, CHUV, Department of Psychiatry, University Lausanne, Lausanne, Switzerland

## DISORDERS OF THE NERVOUS SYSTEM

### Epilepsy

- 68 MT Thalamocortical connectivity in children with epilepsy: A DTI tractography study**  
*Ishmael Amarreh<sup>1</sup>, Jack Renfrew<sup>2</sup>, Bruce Hermann<sup>2</sup>, Mary Meyerand<sup>3</sup>*  
<sup>1</sup>University of Wisconsin-Madison, Madison, United States, <sup>2</sup>University of Wisconsin-Madison, Madison, WI, <sup>3</sup>UW-Madison, Madison, WI
- 69 MT fMRI Study of Psychogenic Non-epileptic Seizures using fALFF Analysis**  
*Dongmei An<sup>1</sup>, Jurong Ding<sup>2</sup>, Sihan Chen<sup>1</sup>, Bo Yan<sup>1</sup>, Jiajia Fang<sup>1</sup>, Huafu Chen<sup>2</sup>, Dong Zhou<sup>1</sup>*  
<sup>1</sup>Department of Neurology, West China Hospital, Sichuan University, Chengdu, China, <sup>2</sup>School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China
- 70 MT Gray Matter Reduction in MTL Epilepsy—A Quantitative Meta-Analysis of VBM Studies**  
*Daniel Barron<sup>1</sup>, Mickle Fox<sup>2</sup>, Jennifer Robinson<sup>3</sup>, Angela laird<sup>1</sup>, Peter Fox<sup>2</sup>*  
<sup>1</sup>UTHSCSA, San Antonio, United States, <sup>2</sup>UTHSCSA, San Antonio, TX, <sup>3</sup>Scott and White Memorial Hospital, Temple, TX
- 71 MT BOLD signal preceding electrographic seizures in simultaneous EEG-fMRI recording**  
*Guilherme Beltrami<sup>1</sup>, Ana Carolina Coan<sup>1</sup>, Brunno Machado de Campos<sup>1</sup>, Fernando Cendes<sup>1</sup>, Roberto Covolan<sup>1</sup>*  
<sup>1</sup>University of Campinas - UNICAMP, Campinas, Brazil
- 72 MT Aberrant sensorimotor – language connectivity in Rolandic epilepsy using fMRI**  
*René Besseling<sup>1</sup>, Anton de Louw<sup>2</sup>, Saskia Ebus<sup>2</sup>, Jacobus Jansen<sup>3</sup>, Geke Overvliet<sup>3</sup>, Johannes Vles<sup>3</sup>, Sylvie van der Kruijs<sup>4</sup>, paul hofman<sup>5</sup>, Bert Aldenkamp<sup>2</sup>, Walter Backes<sup>5</sup>*  
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- 73 MT Preterm cortical thinning in children with Rolandic epilepsy**  
*René Besseling<sup>1</sup>, Geke Overvliet<sup>2</sup>, Jacobus Jansen<sup>2</sup>, Sylvie van der Kruijs<sup>3</sup>, Johannes Vles<sup>2</sup>, paul hofman<sup>4</sup>, Saskia Ebus<sup>5</sup>, Anton de Louw<sup>5</sup>, Bert Aldenkamp<sup>5</sup>, Walter Backes<sup>4</sup>*  
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- 74 MT The structural anatomy of nonpathological déjà vu**  
*Milan Brázdil<sup>1</sup>, Radek Mareček<sup>1</sup>, Tomas Urbanek<sup>2</sup>, Tomáš Kašpárek<sup>3</sup>, Michal Mikl<sup>4</sup>, Ivan Rektor<sup>3</sup>, Adam Zeman<sup>5</sup>*  
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- 75 MT Intracranial EEG-fMRI in epilepsy: A preliminary investigation of modeling frequent spike discharges**  
*David Carmichael<sup>1</sup>, Li Hu<sup>2</sup>, Umair Chaudhary<sup>3</sup>, Giandominico Iannetti<sup>4</sup>, Serge Vulliemoz<sup>5</sup>, Rachel Thornton<sup>3</sup>, Roman Rodionov<sup>3</sup>, Louis Lemieux<sup>3</sup>*  
<sup>1</sup>UCL Institute of Child Health, London, United Kingdom, <sup>2</sup>Southwest University, Chongqing, China, <sup>3</sup>UCL Institute of Neurology, London, United Kingdom, <sup>4</sup>UCL, London, United Kingdom, <sup>5</sup>University of Geneva, Geneva, Switzerland
- 76 MT Grey matter volume changes in the piriform cortex of patients with frontal lobe epilepsy**  
*Maria Centeno<sup>1</sup>, Vollmar Christian<sup>2</sup>, Jason Stretton<sup>3</sup>, Jonathan O'Muircheartaigh<sup>4</sup>, Mark Symms<sup>3</sup>, Gareth Barker<sup>6</sup>, Pamela Thompson<sup>6</sup>, Veena Kumari<sup>7</sup>, John Duncan<sup>3</sup>, Mark Richardson<sup>7</sup>, Matthias Koepp<sup>6</sup>*  
<sup>1</sup>University College of London. Institute of Neurology, London, United Kingdom, <sup>2</sup>UCL, Institute of Neurology, London, United Kingdom, <sup>3</sup>UCL Institute of Neurology, London, United Kingdom, <sup>4</sup>King's College London. Institute of Psychiatry, London, United Kingdom, <sup>5</sup>King's College London, London, United Kingdom, <sup>6</sup>UCL, Institute of Neurology, London, United Kingdom, <sup>7</sup>King's College London, Institute of Psychiatry, London, United Kingdom
- 77 MT An fMRI study on epilepsy patients with depressive symptoms**  
*Sihan Chen<sup>1</sup>*  
<sup>1</sup>west china hospital, chengdu, China

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- 78 MT Single-subject Classification of Epilepsy Patients Based on Resting-state fMRI Data**  
*Weï Cheng<sup>1,2</sup>, Jianfeng Feng<sup>1</sup>, Guangming Lu<sup>3</sup>, Zhengge Wang<sup>4</sup>, Xuejuan Zhang<sup>5</sup>, Jie Zhang<sup>6</sup>, Zhiqiang Zhang<sup>3</sup>*  
<sup>1</sup>Centre for Computational Systems Biology, School of Mathematical Sciences, Fudan University, Shanghai, China, <sup>2</sup>Mathematical Department, Zhejiang Normal University, Jinhua, China, <sup>3</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>4</sup>Nanjing Jinling Hospital, Nanjing, China, <sup>5</sup>Zhejiang Normal Univ, Jinhua, China, <sup>6</sup>Fudan Univ, Shanghai, China
- 79 MT Functional and structural network in left medial temporal lobe epilepsy using graph filtration**  
*Jarang Hahm<sup>1</sup>, Hyekeyoung Lee<sup>1</sup>, Hyejin Kang<sup>1</sup>, Yu-Kyeong Kim<sup>1</sup>, Sang-Kun Lee<sup>1</sup>, Dong Soo Lee<sup>1</sup>*  
<sup>1</sup>Seoul National University College of Medicine, Seoul, Korea, Republic of
- 80 MT MRI-based cortical thickness analysis in drug-resistant extra-temporal focal epilepsy**  
*SeokJun Hong<sup>1</sup>, Boris Bernhardt<sup>1,2</sup>, Dewi Schrader<sup>1</sup>, Ho-sung Kim<sup>1</sup>, Neda Bernasconi<sup>3</sup>, Andrea Bernasconi<sup>3</sup>*  
<sup>1</sup>McConnell Brain Imaging Center, Montreal Neurological Institute and Hospital, McGill University, Montreal, Quebec, Canada, <sup>2</sup>Max Plank Institute Leipzig, Leipzig, Germany, <sup>3</sup>Department of Neurology and Montreal Neurological Institute and Hospital, McGill University, Montreal, Quebec, Canada
- 81 MT Neuronal networks associated with atypical benign partial epilepsy**  
*Imke Ick<sup>1</sup>, Jan Moehring<sup>1</sup>, Rainer Boor<sup>1</sup>, Ulrich Stephani<sup>1</sup>, Michael Siniatchkin<sup>1</sup>*  
<sup>1</sup>University of Kiel, Kiel, Germany
- 82 MT EEG-MREG detects spike-related epileptogenic networks with high sensitivity**  
*Julia Jacobs<sup>1</sup>, Julia Stich<sup>1</sup>, Georgia Ramantani<sup>1</sup>, Hansjörg Mast<sup>1</sup>, Rudolf Korinthenberg<sup>1</sup>, Andreas Schulze-Bonhage<sup>1</sup>, Jürgen Hennig<sup>1</sup>, Pierre LeVan<sup>1</sup>*  
<sup>1</sup>University Medical Center Freiburg, Freiburg, Germany
- 83 MT Functional Brain Connectivity in patients with Photoparoxysmal Response**  
*Natia Japaridze<sup>1</sup>, Andreas Galka<sup>2</sup>, Moeller Friederike<sup>2</sup>, Moehring Jan<sup>2</sup>, Stephani Ulrich<sup>2</sup>, Michael Siniatchkin<sup>2</sup>*  
<sup>1</sup>Department of Neuropediatrics University Medical Center Schleswig-Holstein (UKSH), Kiel, Germany, <sup>2</sup>Department of Neuropediatrics, Christian-Albrechts-University, Kiel, Germany
- 84 MT MEG interictal spike clustering in relation with surgical outcome of cortical dysplasia**  
*Woorim Jeong<sup>1</sup>, Chun Kee Chung<sup>1</sup>, June Sic Kim<sup>1</sup>*  
<sup>1</sup>MEG Center, Department of Neurosurgery, Seoul National University Hospital, Seoul, Korea, Republic of
- 85 MT Granger Causality Analysis in Mesial Temporal Lobe Epilepsy: A Resting-State fMRI Study**  
*Gongjun Ji<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Han Zhang<sup>3</sup>, Dongqiang Liu<sup>3</sup>, Jue Wang<sup>3</sup>, Wei Liao<sup>3</sup>, Guangming Lu<sup>2</sup>, Yufeng Zang<sup>3,1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>3</sup>Center for Cognition and Brain Disorder, Hangzhou Normal University, Hangzhou, China
- 86 MT Altered Default Mode Network Connectivity in Idiopathic Generalized Epilepsy**  
*Benjamin Kay<sup>1</sup>, Mark DiFrancesco<sup>2</sup>, Scott Holland<sup>2</sup>, Jerzy Szaflarski<sup>1</sup>*  
<sup>1</sup>University of Cincinnati, Cincinnati, Ohio, <sup>2</sup>Cincinnati Children's Hospital, Cincinnati, Ohio
- 87 MT Differentiation of interictal events based on spatio-temporal correlation in EEG for ESI-fMRI**  
*Stephan Lau<sup>1,2</sup>, Simon Vogrin<sup>3</sup>, Wendy D'Souza<sup>4</sup>, Jens Hauelsen<sup>2</sup>, Mark Cook<sup>3,4</sup>*  
<sup>1</sup>NeuroEngineering Laboratory, Dept. of Electrical and Electronic Engineering, University of Melbourne, Parkville, Australia, <sup>2</sup>Institute of Biomedical Engineering and Informatics, Ilmenau Technical University, Ilmenau, Germany, <sup>3</sup>Centre for Clinical Neurosciences, St Vincent's Hospital Melbourne, Fitzroy, Australia, <sup>4</sup>Department of Medicine, St. Vincent's, University of Melbourne, Fitzroy, Australia
- 88 MT Resting State fMRI Functional Connectivity Between Hemispheres in Medial Temporal Lobe Epilepsy**  
*Hyang Woon Lee<sup>1,2</sup>, Jagriti Arora<sup>3</sup>, F. Scott Winstanley<sup>4</sup>, Hye-Sun Hong<sup>5</sup>, Song Kim<sup>5</sup>, Ji-Young Kim<sup>6</sup>, Yongmin Chang<sup>7</sup>, Dennis Spencer<sup>8</sup>, R Constable<sup>9</sup>*  
<sup>1</sup>Dept of Neurology, Ewha Womans Univ School of Medicine & Ewha Medical Research Institute, Seoul, Korea, Republic of, <sup>2</sup>Depts of Neurology & Diagnostic Radiology, Yale Univ School of Medicine, New Haven, CT, USA, <sup>3</sup>Dept of Diagnostic Radiology, Yale Univ School of Medicine, New Haven, CT, USA, <sup>4</sup>Dept of Neurology, Yale Univ School of Medicine, New Haven, CT, USA, <sup>5</sup>Ewha Womans Univ Graduate School of Medicine & Ewha Medical Research Institute, Seoul, Korea, Republic of, <sup>6</sup>Kyungpook National University School of Medicine, Daegu, Korea, Republic of, <sup>7</sup>Depts of Molecular Medicine, Radiology, Medical & Biological Engineering, Kyungpook National Univ, Daegu, Korea, Republic of, <sup>8</sup>Dept of Neurosurgery, Yale Univ School of Medicine, New Haven, CT, USA, <sup>9</sup>Depts of Diagnostic Radiology, Neurosurgery, Biomedical Engineering, Yale Univ School of Medicine, New Haven, CT, USA

- 89 MT EEG spectrum - BOLD correlations in epilepsy**  
*Marco Leite<sup>1</sup>, Umair Chaudhary<sup>2</sup>, Roman Rodionov<sup>2</sup>, David Carmichael<sup>2</sup>, Louis Lemieux<sup>3</sup>, Patrícia Figueiredo<sup>1</sup>*  
<sup>1</sup>Institute for Systems and Robotics / Instituto Superior Técnico, Lisbon, Portugal, <sup>2</sup>UCL Institute of Neurology, London, United Kingdom, <sup>3</sup>Institute of Neurology, London, United Kingdom
- \*90 MT EEG-fMRI using the ultra-fast MREG sequence allows the single-trial localization of epileptic spikes (O-M1)**  
*Pierre LeVan<sup>1</sup>, Julia Jacobs<sup>1</sup>, Julia Stich<sup>1</sup>, Benjamin Zahneisen<sup>2</sup>, Thimo Hugger<sup>1</sup>, Jakob Aszländer<sup>1</sup>, Andreas Schulze-Bonhage<sup>1</sup>, Jürgen Hennig<sup>1</sup>*  
<sup>1</sup>University Medical Center Freiburg, Freiburg, Germany, <sup>2</sup>Neuroscience and MR Research Program Department of Medicine, Honolulu, United States
- 91 MT Altered Whole Brain Functional Connectivity in the Idiopathic Generalized Epilepsy**  
*Huandong Li<sup>1</sup>, Hanjian Du<sup>2</sup>, Yong Liu<sup>1</sup>, Jian Wang<sup>3</sup>, Feng Hua<sup>2</sup>, Tianzi Jiang<sup>1,4,5</sup>*  
<sup>1</sup>LIAMA Center for Computational Medicine, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Neurosurgery, Southwest Hospital, Third Military Medical University, Chongqing, China, <sup>3</sup>Department of Radiology, Southwest Hospital, Third Military Medical University, Chongqing, China, <sup>4</sup>Key Laboratory for NeuroInformation of Ministry of Education, University of Electronic Science and Technology of China, Chengdu, China, <sup>5</sup>The Queensland Brain Institute, the University of Queensland, Brisbane, Australia
- 92 MT Altered Functional Covariance Networks in Idiopathic Generalized Epilepsy**  
*Wei Liao<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Qiang Xu<sup>3</sup>, Ju-Rong Ding<sup>3</sup>, Guo-Rong Wu<sup>3,4</sup>, HuaFu Chen<sup>3</sup>, Yufeng Zang<sup>1,5</sup>, Guangming Lu<sup>2</sup>*  
<sup>1</sup>Center for Cognition and Brain Disorders, Affiliated Hospital, Hangzhou Normal University, Hangzhou, China, <sup>2</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>3</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>4</sup>Department of Data Analysis, Faculty of Psychological and Pedagogical Science, University of Ghent, Ghent, Belgium, <sup>5</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 93 MT Optimizing Tractography of the Anterior Extent of the Optic Radiation**  
*Ylva Lilja<sup>1</sup>, Maria Ljungberg<sup>2</sup>, Kristina Malmgren<sup>2</sup>, Daniel Nilsson<sup>2</sup>, Bertil Rydhagen<sup>2</sup>, Goran Starck<sup>2</sup>*  
<sup>1</sup>Inst of Neuroscience and Physiology, Gothenburg, Sweden, <sup>2</sup>Institute of Neuroscience and Physiology, Gothenburg, Sweden
- 94 MT Identification of epileptiform networks using functional MRI: Model- vs data-driven approach**  
*Pauly Ossenblok<sup>1</sup>, Petra van Houdt<sup>2</sup>, Debby Klooster<sup>1</sup>, Albert Colon<sup>1</sup>, Peter Hilbers<sup>3</sup>, Natal van Riel<sup>3</sup>, Wim Corbijn van Willenswaard<sup>4</sup>, Jan de Munck<sup>5</sup>*  
<sup>1</sup>Epilepsy Center Kempenhaeghe, Heeze, Netherlands, <sup>2</sup>Epilepsy Centre Kempenhaeghe, Heeze, Netherlands, <sup>3</sup>Technical University, Eindhoven, Netherlands, <sup>4</sup>Philips Health Care, Best, Netherlands, <sup>5</sup>VU Medical Center, Amsterdam, Netherlands
- 95 MT Dysfunctions in frontal circuitries during empathy for pain in juvenile myoclonic epilepsy (JME)**  
*Frieder Paulus<sup>1</sup>, Marius Blanke<sup>2</sup>, Soeren Krach<sup>1,3</sup>, Marcus Belke<sup>3</sup>, Christine Roth<sup>3</sup>, Felix Rosenow<sup>3</sup>, Katja Menzler<sup>3</sup>, Jens Sonntag<sup>3</sup>, Jens Sommer<sup>1</sup>, Tilo Kircher<sup>1</sup>, Andreas Jansen<sup>1</sup>, Frank Bremmer<sup>4</sup>, Wolfgang Einhäuser<sup>4</sup>, Susanne Knake<sup>3</sup>*  
<sup>1</sup>Department of Psychiatry, Philipps-University Marburg, Marburg, Germany, <sup>2</sup>Department of Neurophysics, Philipps-University, Marburg, Germany, <sup>3</sup>Department of Neurology, Epilepsy Center Hessen, Philipps-University Marburg, Marburg, Germany, <sup>4</sup>Department of Neurophysics, Philipps-University Marburg, Marburg, Germany
- 96 MT Abnormal Integrity of Short Subcortical Fibers is Fundamental in Patients with Nonlesional Epilepsy**  
*Syu-Jyun Peng<sup>1</sup>, Changwei Wu<sup>2</sup>, Yue Hsin<sup>3</sup>, Jang Tsai<sup>1</sup>*  
<sup>1</sup>Department of Electrical Engineering, National Central University, Taoyuan, Chinese Taipei, <sup>2</sup>Graduate Institute of Biomedical Engineering, National Central University, Taoyuan, Chinese Taipei, <sup>3</sup>Epilepsy Center, Buddhist Tzu Chi General Hospital, Hualien, Chinese Taipei
- 97 MT TCA and functional connectivity analysis using Resting fMRI in Epilepsy patients**  
*Ricardo Pizarro<sup>1</sup>, Ryan Holdsworth<sup>2</sup>, Mary Meyerand<sup>2</sup>, Veena Nair<sup>2</sup>, Vivek Prabhakaran<sup>2</sup>, Paul Rutecki<sup>2</sup>, Karl Sillay<sup>2</sup>, Evelyn Tunnel<sup>2</sup>*  
<sup>1</sup>UW-Madison, Madison, United States, <sup>2</sup>UW-Madison, Madison, WI
- 98 MT Diffusivity properties of different motor tracts and functional impairment after hemispherectomy**  
*Theodor Ruber<sup>1</sup>, Robert Lindenberg<sup>2</sup>, Marec von Lehe<sup>3</sup>, Bernd Weber<sup>4</sup>, Christian Elger<sup>5</sup>, Jan-Christoph Schoene-Bake<sup>4</sup>*  
<sup>1</sup>Department of Epileptology, Bonn University Hospital, Bonn, Germany, <sup>2</sup>Charite University Medicine, Berlin, Germany, <sup>3</sup>Department of Neurosurgery, Bonn University Hospital, Bonn, Germany, <sup>4</sup>Department of NeuroCognition Imaging, Life & Brain Center, University of Bonn, Bonn, Germany, <sup>5</sup>Dept. of Epileptology, Univ. of Bonn, Bonn, Germany
- 99 MT White matter affections in different types of temporal lobe epilepsy (O-M1)**  
*Jan-Christoph Schoene-Bake<sup>1</sup>, Jan Wagner<sup>1</sup>, Peter Trautner<sup>2</sup>, Michael Malter<sup>1</sup>, Christian Elger<sup>1</sup>, Bernd Weber<sup>1</sup>*  
<sup>1</sup>University of Bonn Medical Center, Bonn, Germany, <sup>2</sup>Life & Brain Center, Bonn, Germany

## DISORDERS OF THE NERVOUS SYSTEM

### Epilepsy, continued

- 100 MT Lateralization of mTLE: A multimode neuroimaging study combining resting-state fMRI and PASL**  
*lianfang shen<sup>1</sup>, Zhiqiang Zhang<sup>1</sup>, Zhengge Wang<sup>1</sup>, cuiping yuan<sup>1</sup>, Guangming Lu<sup>1</sup>*  
<sup>1</sup>Department of Radiology, Jinling Hospital, Nanjing, Nanjing, China
- 101 MT Frontal lobe activity during memory encoding in Temporal Lobe Epilepsy**  
*Meneka Sidhu<sup>1</sup>, Jason Stretton<sup>1</sup>, Gavin Winston<sup>1</sup>, Mark Symms<sup>1</sup>, Pamela Thompson<sup>1</sup>, Matthias Koepp<sup>1</sup>, John Duncan<sup>1</sup>*  
<sup>1</sup>UCL, Institute of Neurology, London, United Kingdom
- 102 MT Spike and Wave Discharge Generators are Different between Valproate Refractory and Responsive IGES**  
*Jerzy Szaflarski<sup>1</sup>, Benjamin Kay<sup>1</sup>, Mark DiFrancesco<sup>2</sup>, Michael Privitera<sup>1</sup>, Scott Holland<sup>2</sup>*  
<sup>1</sup>University of Cincinnati, Cincinnati, OH, <sup>2</sup>Cincinnati Children's Hospital, Cincinnati, OH
- 103 MT Abnormal modular organization of functional networks in pediatric frontal lobe epilepsy**  
*Maarten Vaessen<sup>1</sup>, Hilde Braakman<sup>2</sup>, Jorn Heerink<sup>1</sup>, jaap jansen<sup>1</sup>, Mariette Debeij-van Halbeek<sup>1</sup>, paul hofman<sup>1</sup>, Bert Aldenkamp<sup>2</sup>, Walter Backes<sup>1</sup>*  
<sup>1</sup>Maastricht UMC+, Maastricht, Netherlands, <sup>2</sup>Epilepsy Center Kempenhaeghe, Heeze, Netherlands
- 104 MT Partial epilepsy in children can be predicted with functional network characteristics**  
*Eric van Diessen<sup>1</sup>, Kees Braun<sup>1</sup>, Floor Jansen<sup>1</sup>, Wim Otte<sup>1</sup>, Cornelis Stam<sup>2</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands, <sup>2</sup>Department of Clinical Neurophysiology, VU University Medical Centre, Amsterdam, Netherlands
- 105 MT Language deficits in Epilepsy, an fMRI study**  
*Helene van Ettinger-Veenstra<sup>1</sup>, Helena Gauffin<sup>2</sup>, Anita McAllister<sup>3</sup>, Peter Lundberg<sup>4</sup>, Daniel Ulric<sup>5</sup>, Anne-Marie Landtblom<sup>6</sup>, Thomas Karlsson<sup>7</sup>, Maria Engstrom<sup>1</sup>*  
<sup>1</sup>Radiology, Linköping University, Linköping, Sweden, <sup>2</sup>Neurology, Linköping University, Linköping, Sweden, <sup>3</sup>Logopedics, Linköping University, Linköping, Sweden, <sup>4</sup>Radiation Physics, Linköping University, Linköping, Sweden, <sup>5</sup>Neurology, Östergötland County Council, Linköping, Sweden, <sup>6</sup>Linköping University, Linköping, Sweden, <sup>7</sup>Disability Research, Linköping University, Linköping, Sweden
- 106 MT Intracranial EEG connectivity analysis improves the ictal onset zone identification in patients**  
*Pieter van Mierlo<sup>1</sup>, Hans Hallez<sup>2,1</sup>, Evelien Carrette<sup>3</sup>, Steven Staelens<sup>4</sup>, Paul Boon<sup>3</sup>*  
<sup>1</sup>MEDISIP, Ghent University - IBBT, Ghent, Belgium, <sup>2</sup>Catholic University College of Bruges-Ostend, Ostend, Belgium, <sup>3</sup>LKEN, Ghent University Hospital, Ghent, Belgium, <sup>4</sup>MICA, Antwerp University - IBBT, Antwerp, Belgium
- 107 MT Visual and computer-aided SPM analysis of FDG-PET in the pre-operative workup for epilepsy surgery**  
*Maryse van 't Klooster<sup>1</sup>, Geertjan Huiskamp<sup>1</sup>, Frans Leijten<sup>1</sup>, René Debets<sup>2</sup>, Emile Comans<sup>3</sup>, Sandrine Bouvard<sup>4</sup>, Philippe Ryvlin<sup>5</sup>*  
<sup>1</sup>Department of Neurology and Neurosurgery, Rudolf Magnus Institute, University Medical Center Utrecht, Utrecht, Netherlands, <sup>2</sup>Department of Neurology, Epilepsy Institute of The Netherlands Foundation (SEIN) Heemstede, Heemstede, Netherlands, <sup>3</sup>Department of Nuclear Medicine and PET Research, VU University Medical Center, Amsterdam, Netherlands, <sup>4</sup>CERMEP—Imagerie du Vivant, Lyon, France, Lyon, France, <sup>5</sup>IDEE, Hospices Civils de Lyon, Lyon, France; TIGER; Inserm U1028; CNRS UMR5292, Lyon, France
- 108 MT Automated classification of interictal epileptic EEG abnormalities and related hemodynamic changes**  
*Anna Elisabetta Vaudano<sup>1,2</sup>, Carlos Pedreira<sup>3</sup>, Rachel Thornton<sup>4</sup>, Umair Chaudhary<sup>4</sup>, Serge Vulliemoz<sup>5</sup>, Helmut Laufs<sup>6</sup>, Roman Rodionov<sup>7</sup>, Rodrigo Quian Quiroga<sup>8</sup>, Louis Lemieux<sup>9</sup>*  
<sup>1</sup>Neurocenter (EOC) of Southern Switzerland, Ospedale Civico, Lugano, Switzerland, <sup>2</sup>UCL Institute of Neurology, Department of Clinical and Experimental Epilepsy, London, United Kingdom, <sup>3</sup>Department of Engineering, The University of Leicester, NeuroEngineering Lab, Leicester, United Kingdom, <sup>4</sup>UCL Institute of Neurology, London, United Kingdom, <sup>5</sup>University Hospital of Geneva, N/A, <sup>6</sup>Brain Imaging Center (BIC), Goethe University Frankfurt am Main, Frankfurt, Germany, <sup>7</sup>UCL Institute of Neurology, London, United Kingdom, <sup>8</sup>Department of Engineering, The University of Leicester, NeuroEngineering Lab, Leicester, United Kingdom, <sup>9</sup>Institute of Neurology, London, United Kingdom

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- \*109 MT Structural Substrates for resting network disruption in temporal lobe epilepsy (O-M1)**  
*Natalie Voets<sup>1</sup>, Christian Beckmann<sup>2</sup>, David Cole<sup>3</sup>, SeokJun Hong<sup>4</sup>, Andrea Bernasconi<sup>4</sup>, Neda Bernasconi<sup>4</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>University of Twente, Enschede, Netherlands, <sup>3</sup>Imperial College London, London, United Kingdom, <sup>4</sup>Neuroimaging of Epilepsy Laboratory and Brain Imaging Centre, MNI, McGill University, Montreal, Canada
- 110 MT Whole-brain structural connectivity in temporal lobe epilepsy: a Diffusion Spectrum Imaging study**  
*Serge Vulliemoz<sup>1</sup>, Alia Lemkaddem<sup>2</sup>, Alessandra Griffa<sup>2</sup>, Alessandro Daducci<sup>2</sup>, François Lazeyras<sup>3</sup>, Margitta Seeck<sup>4</sup>, Jean-Philippe Thiran<sup>2</sup>*  
<sup>1</sup>University Hospital and Faculty of Medicine, Geneva, Switzerland, <sup>2</sup>Ecole Polytechnique Fédérale, Lausanne, Switzerland, <sup>3</sup>Department of Radiology & CIBM, University of Geneva, Geneva, Switzerland, <sup>4</sup>University Hospital, Geneva, Switzerland
- 111 MT Impaired default mode network in different epilepsy types: a resting-state fMRI study**  
*Maoxue Wang<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Zhengge Wang<sup>3</sup>, Guangming Lu<sup>4</sup>*  
<sup>1</sup>Department of Medical Imaging, Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China, <sup>2</sup>Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China, <sup>3</sup>Nanjing Jinling Hospital, Nanjing, China, <sup>4</sup>Dept. Med. Img., Jinling Hospital, Nanjing, China
- 112 MT Structural and functional impairments of thalamocortical network in generalized tonic clonic seizure**  
*Zhengge Wang<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Wei Liao<sup>3</sup>, Qiang Xu<sup>3</sup>, Guangming Lu<sup>2</sup>*  
<sup>1</sup>Department of Radiology, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China, <sup>2</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>3</sup>University of Electronic Science and Technology of China, Chengdu, China
- 113 MT Full frequency oscillation in GTCS epilepsy patients' brain: A resting state fMRI study**  
*Zhengge Wang<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Qiang Xu<sup>3</sup>, Wei Liao<sup>3</sup>, Guangming Lu<sup>2</sup>*  
<sup>1</sup>Nanjing Jinling Hospital, Nanjing, China, <sup>2</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>3</sup>University of Electronic Science and Technology of China, Chengdu, China
- 114 MT Structural Correlates of Impaired Working Memory in Temporal Lobe Epilepsy using VBM and DTI**  
*Gavin Winston<sup>1</sup>, Jason Stretton<sup>1</sup>, Meneka Sidhu<sup>1</sup>, Mark Symms<sup>1</sup>, John Duncan<sup>1</sup>*  
<sup>1</sup>UCL Institute of Neurology, London, United Kingdom
- 115 MT PharmacofMRI in epilepsy: effects of topiramate on cognitive fMRI**  
*clarissa yasuda<sup>1</sup>, Maria Centeno<sup>2</sup>, Vollmar Christian<sup>3</sup>, Jason Stretton<sup>4</sup>, Mark Symms<sup>4</sup>, Fernando Cendes<sup>1</sup>, Mitul Mehta<sup>5</sup>, Pamela Thompson<sup>6</sup>, John Duncan<sup>4</sup>, Matthias Koepp<sup>6</sup>*  
<sup>1</sup>university of campinas, campinas, Brazil, <sup>2</sup>University College of London, London, United Kingdom, <sup>3</sup>UCL, Institute of Neurology, London, United Kingdom, <sup>4</sup>UCL Institute of Neurology, London, United Kingdom, <sup>5</sup>King's College London, London, United Kingdom, <sup>6</sup>UCL, Institute of Neurology, London, United Kingdom
- 116 MT Alterations of Intrinsic Connectivity Networks Implicate Loss of Consciousness during Absence Seizur**  
*Zhiqiang Zhang<sup>1</sup>, Wei Liao<sup>2</sup>, Guangming Lu<sup>3</sup>, Zhengge Wang<sup>4</sup>*  
<sup>1</sup>Dept. of Med. Img., JinLing Hospital, Nanjing, China, <sup>2</sup>Center for Cognition and Brain Disorders and the Affiliated Hospital, Hangzhou, China, <sup>3</sup>Dept. Med. Img., Jinling Hospital, Nanjing, China, <sup>4</sup>Dept. of Med. Img., Jinling Hospital, Nanjing, China
- 117 MT Decreased Coupling between task- and resting-state brain activities in medial temporal lobe epilepsy**  
*Zhiqiang Zhang<sup>1</sup>, cuiping yuan<sup>2</sup>, Guangming Lu<sup>3</sup>*  
<sup>1</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>2</sup>Department of Radiology, Jinling Hospital, Nanjing, nanjing, China, <sup>3</sup>Dept. Med. Img., Jinling Hospital, Nanjing, China
- 118 MT Functional and Structural connectivity of Periventricular Nodular Heterotopia with epilepsy**  
*Xiangwen Zhu<sup>1</sup>, Zhiqiang Zhang<sup>2</sup>, Zhengge Wang<sup>3</sup>, Guangming Lu<sup>4</sup>*  
<sup>1</sup>Dept. of Radiology, Jinling Hospital, Nanjing University School of Medicine., Nanjing, China, <sup>2</sup>Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China, <sup>3</sup>Dept. of Med. Img., Jinling Hospital, Nanjing, China, <sup>4</sup>Dept. Med. Img., Jinling Hospital, Nanjing, China



## DISORDERS OF THE NERVOUS SYSTEM

### Stroke

- \*119 MT Daily tDCS induces persistent functional and structural cortical changes in chronic stroke patients (O-Th1)**  
*Ugwechi Amadi<sup>1</sup>, Claire Allman<sup>1</sup>, Charlotte Stagg<sup>1</sup>, Heidi Johansen-Berg<sup>1</sup>*  
<sup>1</sup>Nuffield Department of Clinical Neurosciences, FMRIB, University of Oxford, Oxford, United Kingdom
- 120 MT Automatic pipeline for acute stroke infarct core and penumbra segmentation using diffusion weighted**  
*Yohan Attal<sup>1</sup>, Charlotte Rosso<sup>2</sup>, Yves Samson<sup>3</sup>, Sylvain Baillet<sup>4</sup>*  
<sup>1</sup>CRICM - CNRS UMR7225, Paris, France, <sup>2</sup>Institut du Cerveau et de la Moelle épinière, Paris, France, <sup>3</sup>AP-HP, Urgences Cérébro-Vasculaires, La Pitié-Salpêtrière Hospital, Paris, France, <sup>4</sup>Medical college of Wisconsin, Milwaukee, WI
- 121 MT Bilateral white matter integrity predicts motor recovery and skill learning in chronic stroke**  
*Michael Borich<sup>1</sup>, Kate Brown<sup>1</sup>, Cameron Mang<sup>1</sup>, Lara Boyd<sup>1</sup>*  
<sup>1</sup>University of British Columbia, Vancouver, British Columbia
- 122 MT Cingulate and premotor cortical thickness changes may reflect post-stroke plasticity**  
*Amy Brodtmann<sup>1</sup>, Toby Cumming<sup>1</sup>, Qi Li<sup>1</sup>, Renee Lichter<sup>1</sup>, Leif Ostergaard<sup>2</sup>, Heath Pardoe<sup>3</sup>*  
<sup>1</sup>Florey Neuroscience Institutes, Melbourne, Australia, <sup>2</sup>Aarhus University, Aarhus, Denmark, <sup>3</sup>Florey Neuroscience Institutes, Melbourne, Victoria
- 123 MT Imaging neuroplasticity of touch after stroke: training-facilitated changes following intervention**  
*Leeanne Carey<sup>1,2</sup>, David Abbott<sup>1,3</sup>, Gemma Lamp<sup>1</sup>, Aina Puce<sup>4</sup>, Rudiger Seitz<sup>5</sup>, Geoffrey Donnan<sup>1,3</sup>*  
<sup>1</sup>Florey Neuroscience Institutes, Melbourne, Vic, Australia, <sup>2</sup>Latrobe University, Melbourne, Vic, Australia, <sup>3</sup>University of Melbourne, Melbourne, Vic, Australia, <sup>4</sup>Indiana University, Bloomington, IN, USA, <sup>5</sup>Heinrich-Heine-University Dusseldorf, Düsseldorf, Germany
- 124 MT Is the rescued penumbra capable of neuronal activation despite selective neuronal loss?**  
*emmanuel carrera<sup>1</sup>, Rhiannon Morris<sup>2</sup>, F Aigbirhio<sup>3</sup>, Josef Alawneh<sup>3</sup>, jean-claude BARON<sup>3</sup>, T Carpenter<sup>3</sup>, V Ferrari<sup>3</sup>, T Fryer<sup>3</sup>, Y Hong<sup>4</sup>, P. Simon Jones<sup>5</sup>, Tulasi Marrapu<sup>3</sup>, E Warburton<sup>3</sup>*  
<sup>1</sup>university of lausanne, lausanne, Switzerland, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>university of cambridge, Cambridge, United Kingdom, <sup>4</sup>university of cambridge, c, United Kingdom, <sup>5</sup>University of Cambridge, Cambridge, United Kingdom
- 125 MT Post-stroke brain excitability of contralesional motor representations depends on lesion location**  
*Marco Curado<sup>1,2</sup>, Fabrício Brasil<sup>1,2</sup>, Bálint Varkuti<sup>2</sup>, Manuel Agostini<sup>2</sup>, Eliana Cossio<sup>1,2</sup>, Giulia Liberati<sup>3,4</sup>, Simon Richter<sup>1</sup>, Matthias Witkowski<sup>1</sup>, Niels Birbaumer<sup>2,5</sup>, Surjo Soekadar<sup>1</sup>*  
<sup>1</sup>University Hospital Tuebingen, Department of Psychiatry and Psychotherapy, Tuebingen, Germany, <sup>2</sup>Eberhard Karls University, Institute of Medical Psychology and Behavioral Neurobiology, Tuebingen, Germany, <sup>3</sup>Interuniversity Centre for Research on Cognitive Processing in Natural and Artificial Systems(ECONA), Rome, Italy, <sup>4</sup>Sapienza University, Faculty of Psychology, Rome, Italy, <sup>5</sup>Ospedale San Camilo, IRCCS, Venice, Italy
- 126 MT Quantitative Assessment of Collateral from External Carotid in Patients with Cerebrovascular Disease**  
*Yi Dang<sup>1</sup>, Bing Wu<sup>2</sup>, Ying Sun<sup>3</sup>, Dapeng Mo<sup>4</sup>, Xiaoying Wang<sup>1,2</sup>, Jue Zhang<sup>1,3</sup>, Jing Fang<sup>1,3</sup>*  
<sup>1</sup>Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, <sup>2</sup>Dept. of Radiology, Peking University First Hospital, Beijing, China, <sup>3</sup>College of Engineering, Peking University, Beijing, China, <sup>4</sup>Dept. of Neurosurgery, Peking University First Hospital, Beijing, China
- 127 MT Lateralization of the arcuate fasciculus predicts aphasia recovery at 6 month**  
*Stephanie Forke<sup>1</sup>, Flavio Dell'Acqua<sup>2</sup>, Lalit Kalra<sup>3</sup>, Steve Williams<sup>2</sup>, Marco Catani<sup>4</sup>*  
<sup>1</sup>Institute of Psychiatry - King's College London, London, United Kingdom, London, United Kingdom, <sup>2</sup>King's College London, London, United Kingdom, <sup>3</sup>King's College Hospital, London, United Kingdom, <sup>4</sup>Institute of Psychiatry - King's College London, London, United Kingdom
- 128 MT The role of the left and right inferior frontal gyrus (IFG) in language recovery in aphasia**  
*Peter Glynn<sup>1</sup>, Swathi Kiran<sup>1</sup>, Chaleece Sandberg<sup>1</sup>*  
<sup>1</sup>Boston University, Boston, MA
- 129 MT Cortical compensation supports motor recovery following cerebellar stroke**  
*Assia JAILLARD HOMMEL<sup>1</sup>, Marc HOMMEL<sup>1</sup>, Jean François LeBas<sup>1</sup>, Thomas Zeffiro<sup>2</sup>*  
<sup>1</sup>University Hospital, Grenoble, France, <sup>2</sup>Massachusetts General Hospital, Boston, MA
- 130 MT Dislocation of hand motor area in M1 of the stroke patients. Evaluation with navigated TMS**  
*HIROKAZU KAWANO<sup>1</sup>, Takafumi Matsuzaki<sup>2</sup>, Kazuhito Tsuruta<sup>2</sup>, Kazuhiro Yagi<sup>2</sup>*  
<sup>1</sup>JUNWAKAI MEMORIAL HOSPITAL, MIYAZAKI, Japan, <sup>2</sup>Junwakai Memorial Hospital, Miyazaki, Japan

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- 131 MT Long-period rTMS therapy on M1 with navigation for the severely affected stroke patients**  
*HIROKAZU KAWANO<sup>1</sup>, Miki Hakukawa<sup>2</sup>, Fumiko Nagano<sup>2</sup>, Kazuhito Tsuruta<sup>2</sup>*  
<sup>1</sup>JUNWAKAI MEMORIAL HOSPITAL, MIYAZAKI, Japan, <sup>2</sup>Junwakai Memorial Hospital, Miyazaki, Japan
- 132 MT Resting State Functional Connectivity and Spontaneous BOLD Fluctuation Disturbed in Stroke patients**  
*Christian La<sup>1</sup>, Veena Nair<sup>1</sup>, Vivek Prabhakaran<sup>1</sup>, Mary Meyerand<sup>1</sup>*  
<sup>1</sup>UW-Madison, Madison, WI
- 133 MT Cerebellum involvement in post-stroke depression: a combined ecological and MRI study**  
*Saïoa Lassalle-Lagadec<sup>1</sup>, Gwénaëlle Catheline<sup>1,2</sup>, Willy Mayo<sup>1</sup>, Olivier Fleury<sup>3</sup>, Bixente Dilharreguy<sup>1</sup>, Pauline Renou<sup>3</sup>, Michèle Allard<sup>1,2</sup>, Joel Swendsen<sup>1</sup>, Igor Sibon<sup>1,3</sup>*  
<sup>1</sup>Université Bordeaux, INCIA, UMR 5287, Bordeaux, France, <sup>2</sup>EPHE, Paris, France, <sup>3</sup>CHU Bordeaux, Pôle de Neurosciences Cliniques, Hôpital Pellegrin, Bordeaux, France
- 134 MT Comparison of longitudinal cortical thickness measurement methods in a stroke population**  
*Qi Li<sup>1</sup>, Heath Pardoe<sup>1</sup>, Toby Cumming<sup>1</sup>, Renee Lichter<sup>1</sup>, Leif Ostergaard<sup>2</sup>, Amy Brodtmann<sup>1</sup>*  
<sup>1</sup>Florey Neuroscience Institutes, Melbourne, Australia, <sup>2</sup>Aarhus University, Aarhus, Denmark
- 135 MT Electrical Neuroimaging in Acute Stroke: A Pilot Study**  
*Virginia Liu<sup>1</sup>, William Winter<sup>2</sup>, Jennifer Wu<sup>3</sup>, Ramesh Srinivasan<sup>4</sup>, Steven Cramer<sup>5</sup>*  
<sup>1</sup>University of California-Irvine, Irvine, United States, <sup>2</sup>UCI Irvine School of Medicine, Irvine, CA, <sup>3</sup>University of California-Irvine, N/A, <sup>4</sup>UC Irvine, Irvine, CA, <sup>5</sup>University of California, Irvine, Orange, United States
- 136 MT Withdrawn**
- 137 MT Relative contribution of the right hemisphere to language recovery in chronic aphasia**  
*Carolina Mendez Orellana<sup>1,2</sup>, Evy Visch-Brink<sup>1</sup>, Marjolein de Jong-Hagelstein<sup>1</sup>, Peter Koudstaal<sup>1</sup>, Aad van der Lugt<sup>2</sup>, Marion Smits<sup>2</sup>*  
<sup>1</sup>Erasmus MC - University Medical Centre, Department of Neurology, Rotterdam, Netherlands, <sup>2</sup>Erasmus MC - Medical Centre, Department of Radiology, Rotterdam, Netherlands
- 138 MT A Preliminary Study of Functional Connectivity in Post-Stroke Depression using resting-state fMRI**  
*Ding Nan<sup>1</sup>, Peiyao Zhang<sup>2</sup>, Huicong Shen<sup>2</sup>, Ai Lin<sup>2</sup>, Yuejia Luo<sup>1</sup>, Jun Wang<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Department of Radiology, Tiantan Hospital of Capital Medical University, Beijing, China
- 139 MT Brain topological changes after stroke in motor performance**  
*Chang-hyun Park<sup>1</sup>, Marie-Hélène Boudrias<sup>1</sup>, Nick Ward<sup>1</sup>*  
<sup>1</sup>UCL Institute of Neurology, London, United Kingdom
- 140 MT Investigating Cortical Thinning of the Motor Cortex following Pyramidal Tract Stroke**  
*Basia Radlinska<sup>1</sup>, Peter Zepper<sup>2</sup>, Alexander Thiel<sup>1</sup>*  
<sup>1</sup>McGill University, Montreal, Canada, <sup>2</sup>SMBD Jewish General Hospital, Montreal, Canada
- 141 MT Effects of early focal lesions on the modular organization of the developing brain**  
*Anjali Raja Beharelle<sup>1</sup>, Anthony McIntosh<sup>1</sup>, Steven Small<sup>2</sup>*  
<sup>1</sup>Rotman Research Institute of Baycrest Centre, Toronto, ON, <sup>2</sup>University of California Irvine, Irvine, CA
- \*142 MT Mapping Associations between Kidney Biomarkers, Brain Atrophy and Cognition in ADNI: An N=701 study (O-M1)**  
*Priya Rajagopalan<sup>1</sup>, Helga Refsum<sup>2</sup>, Xue Hua<sup>1</sup>, Arthur Toga<sup>3</sup>, Clifford R. Jack Jack<sup>4</sup>, Michael Weiner<sup>5</sup>, Paul Thompson<sup>1</sup>, The ADNI<sup>6</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>University of Oslo, Oslo, Norway, <sup>3</sup>UCLA, Los Angeles, CA, <sup>4</sup>Department of Radiology, Mayo Clinic and Foundation, Rochester, MN, <sup>5</sup>Department of Radiology and Biomedical Imaging, UCSF School of Medicine, San Francisco, CA, <sup>6</sup>The Alzheimer's Disease Neuroimaging Initiative, San Francisco, United States
- 143 MT CST damage in acute stroke patients: tract-specific analysis versus CST template segmentation**  
*Charlotte Rosso<sup>1,2</sup>, Patricia Vargas<sup>3</sup>, Romain Valabrègue<sup>4</sup>, Marie Gaudron<sup>3</sup>, Eric Bertasi<sup>4</sup>, Frederic Humbert<sup>4</sup>, Lehéricy Stéphane<sup>4</sup>, Yves Samson<sup>5</sup>*  
<sup>1</sup>Institut du Cerveau et de la Moelle épinière, Paris, France, <sup>2</sup>COGIMAGE, Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière, UPMC Paris 6, Inserm, U975, CNRS, UMR 7225, Paris, France, <sup>3</sup>COGIMAGE, CR-ICM épinière, Inserm, U975, CNRS, UMR 7225, Paris, France, <sup>4</sup>Centre de Neuro-Imagerie de Recherche (CENIR), CR-ICM, Inserm, U975, CNRS, UMR 7225, Paris, France, <sup>5</sup>AP-HP, Urgences Cérébro-Vasculaires, La pitié-Salpêtrière Hospital, Paris, France

## DISORDERS OF THE NERVOUS SYSTEM

### Stroke, continued

- 144 MT Remapping of cortical language in LMCA stroke patients with good vs. poor language recovery**  
*Jerzy Szaflarski<sup>1</sup>, Jane Allendorfer<sup>1</sup>, Jennifer Vannest<sup>2</sup>, Scott Holland<sup>3</sup>*  
<sup>1</sup>University of Cincinnati, Cincinnati, United States, <sup>2</sup>Cincinnati Children's Hospital Medical Center, Cincinnati, OH, <sup>3</sup>Cincinnati Children's Hospital Research Foundation, Cincinnati, OH
- \*145 MT The Pattern of Regional Homogeneity Determining Outcome of Hand Function after Subcortical Stroke (O-M1)**  
*Dazhi Yin<sup>1</sup>, Fan Song<sup>2</sup>, Bradley S Peterson<sup>3</sup>, Limin Sun<sup>2</sup>, Weiwei Men<sup>1</sup>, Xu Yan<sup>1</sup>, Xiaozheng Liu<sup>1</sup>, Mingxia Fan<sup>1</sup>, Dongrong Xu<sup>3</sup>*  
<sup>1</sup>Key Laboratory of Brain Functional Genomics, Shanghai Key Laboratory of Magnetic Resonance, ECNU, Shanghai, China, <sup>2</sup>Department of Rehabilitation, Huashan Hospital of Fudan University, Shanghai, China, <sup>3</sup>MRI unit, Columbia University Department of Psychiatry, & New York State Psychiatric Institute, New York, United States
- 146 MT Cognitive dysfunction in patients with white matter lesion: Proton magnetic resonance spectroscopy**  
*Junliang YUAN<sup>1</sup>, Wenli HU<sup>\*2</sup>, Andrew CHEN<sup>\*3</sup>*  
<sup>1</sup>Beijing Chaoyang Hospital, Capital Medical University, Beijing, China, <sup>2</sup>Beijing Chaoyang Hospital, Capital Medical University, Beijing, China, <sup>3</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China

## DISORDERS OF THE NERVOUS SYSTEM

### Traumatic Brain Injury

- 147 MT Functional Connectivity differences in Blast-Induced vs. non-Blast-Induced Traumatic Brain Injury**  
*Erik Beall<sup>1</sup>, Stephen Rao<sup>1</sup>, Micheal Phillips<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH
- 148 MT Diffusion tensor imaging of the impact of sports-related concussion on the adolescent brain**  
*Michael Borich<sup>1</sup>, Lara Boyd<sup>1</sup>, Nadia Makan<sup>1</sup>, Carolyn Emery<sup>2</sup>, Naznin Virji-Babul<sup>1</sup>*  
<sup>1</sup>University of British Columbia, Vancouver, British Columbia, Canada, <sup>2</sup>University of Calgary, Calgary, Alberta, Canada
- 149 MT White Matter Disruption in Language Network After Mild Traumatic Brain Injury**  
*Yu-Chen Chang<sup>1</sup>, Fan-pei Yang<sup>2</sup>, Kailyn Bradley<sup>3</sup>, Brain Dorner<sup>3</sup>, Claire Simpson<sup>3</sup>, Daniel Krawczyk<sup>3,4</sup>*  
<sup>1</sup>National Tsing Hua University, Hsinchu, <sup>2</sup>National Tsing Hua University, Hsinchu, <sup>3</sup>Center for Brain Health, University of Texas at Dallas, Dallas, TX, <sup>4</sup>Southwestern Medical Center, University of Texas Southwestern, Dallas, TX
- 150 MT Global DTI histograms for disorders of consciousness characterization**  
*Francisco Gómez<sup>1</sup>, Andrea Soddu<sup>1</sup>, Quentin Noirhomme<sup>1</sup>, Luaba Tshibanda<sup>2</sup>, Audrey Vanhauzenhuysse<sup>1</sup>, Natasha Lepore<sup>3</sup>, Steven Laureys<sup>1</sup>*  
<sup>1</sup>Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>2</sup>Department of Radiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>3</sup>USC Keck School of Medicine, Los Angeles, USA
- 151 MT MEG Low-Frequency Source Imaging for Detecting Injuries in Mild and Moderate TBI**  
*Mingxiong Huang<sup>1</sup>, Sharon Nichols<sup>2</sup>, Ashley Robb<sup>3</sup>, Annemarie Angeles<sup>3</sup>, Angela Drake<sup>4</sup>, Won Chun<sup>3</sup>, Michael Levy<sup>5</sup>, Tao Song<sup>6</sup>, Dewleen Baker<sup>3</sup>, Paul Hammer<sup>7</sup>, Robert McLay<sup>7</sup>, Rebecca Theilmann<sup>8</sup>, Raul Coimbra<sup>2</sup>, Mithun Diwakar<sup>2</sup>, Thomas Liu<sup>1</sup>, Jennifer Webb-Murphy<sup>9</sup>, Roxanna Farinpour<sup>7</sup>, Catherine Cheung<sup>7</sup>, Roland Lee<sup>2</sup>*  
<sup>1</sup>Univ California, San Diego, San Diego, CA, <sup>2</sup>University of California at San Diego, San Diego, CA, <sup>3</sup>VA San Diego Healthcare System, San Diego, CA, <sup>4</sup>National University, San Diego, CA, <sup>5</sup>Rady Children's Hospital San Diego, San Diego, CA, <sup>6</sup>University of California at San Diego, San Diego, CA, <sup>7</sup>Naval Medical Center San Diego, San Diego, CA, <sup>8</sup>Department of Radiology, UC San Diego, La Jolla, CA, <sup>9</sup>Naval Medical Center San Diego, San Diego, United States

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## DISORDERS OF THE NERVOUS SYSTEM

### Traumatic Brain Injury, continued

- 152 MT Connectome-level evaluation of neurodegeneration caused by traumatic brain injury**  
*Andrei Irimia<sup>1</sup>, John Van Horn<sup>1</sup>, Micah Chambers<sup>1</sup>, Bo Wang<sup>2</sup>, Marcel Prastawa<sup>2</sup>, Sylvain Gouttard<sup>2</sup>, Paul Vespa<sup>1</sup>, David Hovda<sup>1</sup>, Jeffry Alger<sup>3</sup>, Sonia Pujol<sup>4</sup>, Guido Gerig<sup>2</sup>, Stephen Aylward<sup>5</sup>, Arthur Toga<sup>6</sup>, Ron Kikinis<sup>4</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, CA, <sup>2</sup>University of Utah, Salt Lake City, UT, <sup>3</sup>David Geffen School of Medicine at UCLA, Los Angeles, United States, <sup>4</sup>Harvard Medical School, Boston, MA, <sup>5</sup>Kitware, Inc. and University of North Carolina, Chapel Hill, NC, <sup>6</sup>University of California - Los Angeles, Los Angeles, CA
- 153 MT Weaker Interaction of Functional Brain Sub-Networks in TBI quantified by Graph Theoretical Analysis**  
*Christof Karmonik<sup>1</sup>, Jessica Clark<sup>2</sup>, Steve Fung<sup>1</sup>, Robert Grossman<sup>1</sup>, Walter High<sup>3</sup>, Yang Jiang<sup>3</sup>*  
<sup>1</sup>The Methodist Hospital Neurological Institute, Houston, TX, United States, <sup>2</sup>National Rehabilitation Hospital, Washington DC, United States, <sup>3</sup>University of Kentucky, Lexington, KY, United States
- 154 MT Mild head injury demonstrates impaired brain tissue viability in thalamus at the acute stage**  
*Zhifeng Kou<sup>1</sup>, Randall Benson<sup>2</sup>, Hardik Doshi<sup>2</sup>, Ramtilak Gattu<sup>2</sup>, E Mark Haacke<sup>2</sup>, Grace Ma<sup>2</sup>, Valerie Mika<sup>2</sup>, Robert Welch<sup>2</sup>, Jie Yang<sup>2</sup>*  
<sup>1</sup>Wayne State University, Detroit, United States, <sup>2</sup>Wayne State University, Detroit, MI
- 155 MT Altered Resting State Functional Connectivity One Month after Mild Traumatic Brain Injury**  
*Yi-Ou Li<sup>1</sup>, Sara LaHue<sup>1</sup>, Roger Chen<sup>1</sup>, Shelly Cooper<sup>1</sup>, John Yue<sup>1</sup>, Geoffrey Manley<sup>1</sup>, Pratik Mukherjee<sup>1</sup>*  
<sup>1</sup>University of California San Francisco, San Francisco, United States
- 156 MT Source-Based Analysis of DTI Reveals Disrupted White Matter Integrity in Mild Traumatic Brain Injury**  
*Yi-Ou Li<sup>1</sup>, Charvi Shetty<sup>1</sup>, Julia Owen<sup>1</sup>, Sara LaHue<sup>1</sup>, Shelly Cooper<sup>1</sup>, Jamshid Ghajar<sup>2</sup>, Geoffrey Manley<sup>1</sup>, Pratik Mukherjee<sup>1</sup>*  
<sup>1</sup>University of California San Francisco, San Francisco, United States, <sup>2</sup>Brain Trauma Foundation, New York, NY
- 157 MT Making every word count: intuitive and robust communication without a behavioural response**  
*Lorina Naci<sup>1</sup>, Rhodri Cusack<sup>1</sup>, Vivian Jia<sup>1</sup>, Adrian M Owen<sup>1</sup>*  
<sup>1</sup>University of Western Ontario, London, Canada
- 158 MT Working Memory function after Drowning: a fMRI study**  
*Mariana Nucci-da-Silva<sup>1</sup>, Lukasova katerina<sup>1</sup>, João Ricardo Sato<sup>2</sup>, Edson Amaro Junior<sup>1</sup>*  
<sup>1</sup>NIF-HCFMUSP, University of São Paulo, São Paulo, Brazil, <sup>2</sup>ABC Federal University, Santo André, Brazil
- 159 MT MRI volume and diffusion measures indicate fight exposure-related damage to white matter in fighters**  
*Wanyong Shin<sup>1</sup>, Blessy Mathew<sup>1</sup>, Sarah Banks<sup>2</sup>, Mark Lowe<sup>1</sup>, Michael Phillips<sup>1</sup>, Michael Modic<sup>1</sup>, Charles Bernick<sup>2</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, United States, <sup>2</sup>Cleveland Clinic, Las Vegas, United States
- 160 MT Automatic discriminating Conscious States in Non-Communicative Patients, going beyond the clinics ?**  
*Jacobo Sitt<sup>1,2</sup>, Jean-Remi King<sup>1,2</sup>, Frederic FAUGERAS<sup>2,3</sup>, Benjamin Rohaut<sup>2,3</sup>, imen El Karou<sup>2,4</sup>, Laurent Cohen<sup>2,3,5</sup>, Stanislas Dehaene<sup>1,6,7</sup>, Lionel Naccache<sup>2,3,5</sup>*  
<sup>1</sup>Unicog, CEA/Saclay, Saclay, France, <sup>2</sup>ICM Res.Center, UMRS 975, INSERM, Paris, France, <sup>3</sup>Dept. of Neurol., AP-HP, Groupe hospitalier Pitié-Salpêtrière, Paris, France, <sup>4</sup>Ecole Normale Supérieure, Paris, France, <sup>5</sup>Faculté de Médecine Pitié- Salpêtrière, Univ. Paris 6, Paris, France, <sup>6</sup>Univ. Paris-sud 11, Orsay, France, <sup>7</sup>Col. de France, Paris, France
- 161 MT Simulating metabolic activity out of resting state functional connectivity**  
*Andrea Soddu<sup>1</sup>, Francisco Gomez<sup>1</sup>, Henning Voss<sup>2</sup>, Marie-Aurélié Bruno<sup>3</sup>, Audrey Vanhauzenhuysse<sup>4</sup>, Athena Demertzis<sup>5</sup>, Camille Chatelle<sup>6</sup>, Julie Truong<sup>7</sup>, Vanessa Charland<sup>4</sup>, Quentin Noirhomme<sup>8</sup>, Luaba Tshibanda<sup>9</sup>, Eric Salmon<sup>10</sup>, Nicholas Shiff<sup>6</sup>, Steven Laureys<sup>1</sup>*  
<sup>1</sup>Université de Liège, Liège, Belgium, <sup>2</sup>Weill Cornell Medical College, New York, United States, <sup>3</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>5</sup>Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>6</sup>University of Liège, Liège, Belgium, <sup>7</sup>CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>8</sup>University of Liège, Liège, Belgium, <sup>9</sup>Department of Radiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>10</sup>Cyclotron Research Centre, LIEGE, Belgium
- 162 MT Structure and Function in Severe TBI**  
*Chandler Sours<sup>1</sup>, Jacqueline Janowich<sup>2</sup>, Jiachen Zhuo<sup>2</sup>, Kathirkamanthan Shanmuganathan<sup>2</sup>, Rao Gullapalli<sup>2</sup>*  
<sup>1</sup>University of Maryland at Baltimore, Baltimore, MD, <sup>2</sup>University of Maryland School of Medicine, Baltimore, United States

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## DISORDERS OF THE NERVOUS SYSTEM

### Traumatic Brain Injury, continued

- 163 MT Cerebral glucose metabolism in the minimally conscious and vegetative states**  
*Johan Stender<sup>1</sup>, Camille Chatelle<sup>2</sup>, Aurore Thibaut<sup>3</sup>, Marie-Aurélié Bruno<sup>4</sup>, Erik Ziegler<sup>5</sup>, Ron Kupers<sup>6</sup>, Albert gjedde<sup>1</sup>, Steven Laureys<sup>5</sup>*  
<sup>1</sup>University of Copenhagen, Copenhagen, Denmark, <sup>2</sup>University of Liège, Liège, Belgium, <sup>3</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>Coma Science Group, Cyclotron Research Centre, University of Liège., Liège, Belgium, <sup>5</sup>Université de Liège, Liège, Belgium, <sup>6</sup>Institute for Neuroscience and Pharmacology, Panum Institute, University of Copenhagen, Copenhagen, Denmark
- 164 MT Lesion-based Language Deficit Localization and Prediction Using Partial Least Square (PLS) Analysis**  
*Ze Wang<sup>1</sup>, Olufunsho Faseyitan<sup>2</sup>, Daniel Kimberg<sup>3</sup>, H Coslett<sup>4</sup>, Myrna Schwartz<sup>4</sup>*  
<sup>1</sup>University of Pennsylvania, N/A, <sup>2</sup>University of Pennsylvania, Philadelphia, PA, <sup>3</sup>Google Inc, Redwood, CA, <sup>4</sup>Moss Rehabilitation Research Institute, Philadelphia, PA
- 165 MT Altered Network Centrality Predicts the Consciousness Level and Recovery Outcome in Brain Injury**  
*Xuehai Wu<sup>1</sup>, Qihong Zou<sup>2</sup>, Ying Mao<sup>1</sup>, Weijun Tang<sup>1</sup>, Liang Gao<sup>1</sup>, Jianghong Zhu<sup>1</sup>, Xing Wu<sup>1</sup>, Yu-Feng Zang<sup>3</sup>, Xuchu Weng<sup>3</sup>, Jia-Hong Gao<sup>2,4</sup>, Xi-Nian Zuo<sup>5</sup>, Liangfu Zhou<sup>1</sup>, Yong He<sup>6</sup>, Yihong Yang<sup>7</sup>*  
<sup>1</sup>Fudan University, Shanghai, China, <sup>2</sup>Peking University, Beijing, China, <sup>3</sup>Hangzhou Normal University, Hangzhou, China, <sup>4</sup>University of Chicago, Chicago, IL, <sup>5</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>6</sup>Beijing Normal University, Beijing, China, <sup>7</sup>NIDA/NIH, Baltimore, MD
- 166 MT Thalamic gray matter atrophy and hypometabolism in mTBI: a combined VBM and MRSI study**  
*Xiaodan Yan<sup>1</sup>*  
<sup>1</sup>New York University, New York, USA
- 167 MT Correlations of Diffusion Kurtosis Parameters and Cognitive Functions in Mild Traumatic Brain Injury**  
*Jiachen Zhuo<sup>1</sup>, Jesse Stokum<sup>1</sup>, Chandler Sours<sup>2</sup>, Jacqueline Janowich<sup>1</sup>, Rao Gullapalli<sup>1</sup>*  
<sup>1</sup>University of Maryland School of Medicine, Baltimore, MD, <sup>2</sup>University of Maryland at Baltimore, Baltimore, MD

## EMOTION AND MOTIVATION

### Emotional Learning

- 168 MT No link between amygdala reactivity to emotional faces and fear conditioning**  
*Thomas Ågren<sup>1</sup>, Jonas Engman<sup>1</sup>, Andreas Frick<sup>1</sup>, Vanda Faria<sup>2</sup>, Tomas Furmark<sup>1</sup>, Mats Fredrikson<sup>2</sup>*  
<sup>1</sup>Uppsala University, Uppsala, Sweden, <sup>2</sup>Dept. of Psychology Uppsala University, Uppsala, Sweden
- 169 MT fMRI-based social neurofeedback of the ACC specifically modulates cognitive interference processing**  
*Eliza M. Alawi<sup>1,2</sup>, Krystyna A. Mathiak<sup>1,2,3</sup>, Yury Koush<sup>1,2</sup>, Miriam Dyck<sup>1,2</sup>, Julia Cordes<sup>1,2</sup>, Saurabh Bhavsar<sup>1,2</sup>, Tilman Gaber<sup>3</sup>, Florian Zepf<sup>3</sup>, Mikhail Zvyagintsev<sup>1,2</sup>, Klaus Mathiak<sup>1,2,4</sup>*  
<sup>1</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany, <sup>2</sup>JARA - Translational Brain Research, Germany, <sup>3</sup>Department of Child and Adolescent Psychiatry, Psychotherapy and Psychosomatic, Aachen University, Aachen, Germany, <sup>4</sup>INM-1, Forschungszentrum Jülich GmbH, Germany
- 170 MT Behavioral and amygdala BOLD responses in psychopaths during fear conditioning**  
*Nicholas Balderston<sup>1</sup>, Doug Schultz<sup>1</sup>, Joseph Newman<sup>2</sup>, Christine Larson<sup>1,3</sup>, Fred Helmstetter<sup>1,3</sup>*  
<sup>1</sup>University of Wisconsin-Milwaukee, Milwaukee, WI, <sup>2</sup>University of Wisconsin-Madison, Madison, WI, <sup>3</sup>Medical College of Wisconsin, Milwaukee, WI
- 171 MT The influence of cognitive emotion regulation on effective connectivity during emotion learning**  
*Marie-Luise Brandt<sup>1,2</sup>, Satja Mulej Bratec<sup>1,2</sup>, Valentin Riedl<sup>1</sup>, Verena Krupp<sup>1</sup>, Afra Wohlschläger<sup>1</sup>, Christian Sorg<sup>1</sup>*  
<sup>1</sup>Klinikum Rechts der Isar TUM, Munich, Germany, <sup>2</sup>Ludwig Maximilian University, Munich, Germany
- 172 MT Interactions Between Emotional Processing and Sleep Electrophysiology in Healthy Subjects**  
*Marieke de Boer<sup>1</sup>, Laura Bringmann<sup>1</sup>, Winni Hofman<sup>1</sup>, Lucia Talamini<sup>1</sup>*  
<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands

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- 173 MT Emotional context modulates ventral striatal reward prediction error**  
*Lorenz Deserno<sup>1</sup>, Robert C. Lorenz<sup>1</sup>, Simone Kühn<sup>1</sup>, Torsten Wüstenberg<sup>1</sup>, Michael Rapp<sup>1</sup>, Werner Sommer<sup>2</sup>, Jürgen Gallinat<sup>1</sup>, Florian Schlagenhauf<sup>1,3</sup>*  
<sup>1</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Department of Biological Psychology, Humboldt Universität, Berlin, Germany, <sup>3</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 174 MT Memory bias and structural differences in high and low trait-anxious individuals**  
*Annuschka Eden<sup>1,2</sup>, Jan Schreiber<sup>3</sup>, Kati Keuper<sup>1</sup>, Peter Zwanzger<sup>4</sup>, Inga Laeger<sup>4</sup>, Christian Döbel<sup>1</sup>*  
<sup>1</sup>Institute for Biomagnetism and Biosignalanalysis, Muenster, Germany, <sup>2</sup>Otto Creutzfeldt Center for Cognitive and Behavioural Neuroscience, Muenster, Germany, <sup>3</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>4</sup>Department of Psychiatry and Psychotherapy, Muenster, Germany
- 175 MT Neural Correlates of Eye Movement Desensitization and Reprocessing**  
*Geraldine Gvozdanovic<sup>1</sup>, Roberto Goya-Maldonado<sup>1</sup>, Michael Czisch<sup>1</sup>, Victor Spoormaker<sup>1</sup>*  
<sup>1</sup>Max Planck Institute of Psychiatry, Munich, Germany
- 176 MT Dopamine D2/D3 Receptor Availability and Instrumental Learning : An [18F]Fallypride PET Study**  
*Dawoon Jung<sup>1</sup>, Hyeon Min An<sup>1</sup>, Sang-Hyun Baik<sup>1</sup>, Sang Hee Kim<sup>1</sup>*  
<sup>1</sup>Department of Brain and Cognitive Engineering, Korea University, Seoul, Korea, Republic of
- 177 MT The role of gene-environment interaction in neural correlates of human fear learning**  
*Tim Klucken<sup>1</sup>, Nina Alexander<sup>2</sup>, Jan Schweckendiek<sup>1</sup>, Christian Merz<sup>1</sup>, Juergen Hennig<sup>3</sup>, Dieter Vaitl<sup>1</sup>, Rudolf Stark<sup>1</sup>*  
<sup>1</sup>Bender Institute of Neuroimaging, Giessen, Germany, <sup>2</sup>Technical University of Dresden, Dresden, Germany, <sup>3</sup>Justus Liebig University Giessen, Giessen, Germany
- 178 MT Spatio-Temporal Mapping of Salience Attribution Using Olfactory-Trigeminal Aversive Conditioning**  
*Carolin Moessnang<sup>1</sup>, Thilo Kellermann<sup>2</sup>, Katharina Pauly<sup>2</sup>, Jörn Krämer<sup>2</sup>, Andreas Finkelmeyer<sup>3</sup>, Frank Schneider<sup>2</sup>, Thomas Hummel<sup>4</sup>, Ute Habel<sup>2</sup>*  
<sup>1</sup>Department of Psychiatry, Psychotherapy, and Psychosomatics, Medical School, RWTH Aachen University, Aachen, Germany, <sup>2</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, Medical School, RWTH Aachen University, Aachen, Germany, <sup>3</sup>Institute of Neuroscience, Newcastle University, Newcastle Upon Tyne, United Kingdom, <sup>4</sup>Department of Otorhinolaryngology, University of Dresden Medical School, Dresden, Germany
- 179 MT Differences in emotion regulation in skydivers in relation to experience: Training the amygdala**  
*Carmen Morawetz<sup>1,2,3</sup>, Stefan Bode<sup>4</sup>, Juergen Baudewig<sup>5,6</sup>, Hauke Heekeren<sup>3,5,6</sup>*  
<sup>1</sup>Freie Universitaet Berlin, Berlin, Germany, <sup>2</sup>Cluster Languages of Emotion, Berlin, Germany, <sup>3</sup>Department of Education and Psychology, Freie Universitaet Berlin, Berlin, Germany, <sup>4</sup>Psychological Sciences, The University of Melbourne, Melbourne, Australia, <sup>5</sup>Cluster of Excellence „Languages of Emotion“, Freie Universität Berlin, Berlin, Germany, <sup>6</sup>Dahlem Institute for Neuroimaging of Emotion, Cluster of Excellence „Languages of Emotion“, Freie Universität Berlin, Berlin, Germany
- 180 MT Cognitive emotion regulation suppresses the adaptive effects of negative emotions**  
*Satja Mulej Bratec<sup>1,2</sup>, Valentin Riedl<sup>1</sup>, Verena Krupp<sup>1</sup>, Marie-Luise Brandi<sup>1,2</sup>, Afra Wohlschläger<sup>1</sup>, Christian Sorg<sup>1</sup>*  
<sup>1</sup>Klinikum Rechts der Isar TUM, Munich, Germany, <sup>2</sup>Ludwig Maximilian University, Munich, Germany
- 181 MT Self-regulation of Amygdala Activation with Real-Time fMRI Neurofeedback in MDD Patients**  
*Raquel Phillips<sup>1</sup>, Kymberly Young<sup>1</sup>, Vadim Zotev<sup>1</sup>, Wayne Drevets<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK
- 182 MT When disgust is rewarding: Neural correlates of counterconditioning**  
*Jan Schweckendiek<sup>1</sup>, Tim Klucken<sup>1</sup>, Christian Merz<sup>1</sup>, Dieter Vaitl<sup>1</sup>, Rudolf Stark<sup>1</sup>*  
<sup>1</sup>Bender Institute of Neuroimaging, Giessen, Germany

## EMOTION AND MOTIVATION

### Emotional Learning, continued

- 183 MT The Role of Arousal in Affective Priming: Behavioral and Electrophysiological Evidence**  
*Qin Zhang<sup>1</sup>, Yang Jiang<sup>2</sup>, Lingyue Kong<sup>3</sup>*  
<sup>1</sup>Department of Psychology, Capital Normal University, Beijing, China, <sup>2</sup>Behavioral Science Department, University of Kentucky College of Medicine, Lexington, KY, <sup>3</sup>International College for Chinese Language Study, Peking University, Beijing, China
- 184 MT Real-Time fMRI Neurofeedback Modulates Brain Networks: Insights from Granger Causality Analysis**  
*Vadim Zotev<sup>1</sup>, Raquel Phillips<sup>1</sup>, Kymberly Young<sup>1</sup>, Wayne Drevets<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK

## EMOTION AND MOTIVATION

### Emotional Perception

- 185 MT Using morphed vocal expressions to disentangle valence and arousal effects on neural activity**  
*Patricia E. G. Bestelmeyer<sup>1</sup>, Sonja Kotz<sup>2</sup>, Pascal Belin<sup>3</sup>*  
<sup>1</sup>Bangor University, Bangor, Gwynedd, United Kingdom, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Institute of Neuroscience and Psychology, University of Glasgow, Glasgow, United Kingdom
- 186 MT The inner theater: decoding emotional vocal signals described in literary texts**  
*Carolin Brück<sup>1,2</sup>, Benjamin Kreifelts<sup>1</sup>, Christina Göbbling-Arnold<sup>3,2</sup>, Jürgen Wertheimer<sup>3,2</sup>, Dirk Wildgruber<sup>1,2</sup>*  
<sup>1</sup>Eberhard Karls University, Department of Psychiatry and Psychotherapy, Tübingen, Germany, <sup>2</sup>Werner Reichardt Centre for Integrative Neuroscience (CIN), Tübingen, Germany, <sup>3</sup>Eberhard Karls University, Department of Comparative Literature (International Literature), Tübingen, Germany
- 187 MT Brain activity underlying the emotional states of stimuli during a cognitive conflict task**  
*Ji-Won Chun<sup>1,2</sup>, Il-Ho Park<sup>3</sup>, Hae-Jeong Park<sup>4</sup>, Eo Su Kim<sup>1,5</sup>, Jae-Jin Kim<sup>1,5</sup>*  
<sup>1</sup>Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Department of Psychiatry, Myongji Hospital, Kwandong University, Goyang, Korea, Republic of, <sup>4</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of, <sup>5</sup>Department of Psychiatry, Yonsei University College of Medicine, Seoul, Korea, Republic of
- 188 MT As bad as it looks? Modulating effects of situation type on brain responses to cognitive reappraisal**  
*Ioana Cristea<sup>1</sup>, Claudio Gentil<sup>2</sup>, Emiliano Ricciardi<sup>3</sup>, Daniel David<sup>4</sup>, Pietro Pietrin<sup>5</sup>, Mario Guazzelli<sup>6</sup>*  
<sup>1</sup>Babes-Bolyai University, Cluj-Napoca, Romania, <sup>2</sup>Chair of clinical psychology and department of psychiatry, university of Pisa, Pisa, Italy, <sup>3</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, <sup>4</sup>Clinical Psychology Chair, Department of Psychiatry, Neurobiology, Pharmacology and Biotechnologies, Cluj-Napoca, Romania, <sup>5</sup>University of Pisa Medical School, Pisa, Italy, <sup>6</sup>Clinical Psychology Chair, Department of Psychiatry, Neurobiology, Pharmacology and Biotechnologies, Pisa, Italy

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- 189 MT **Culture but not gender modulates amygdala activation during explicit emotion recognition**  
*Birgit Derntl<sup>1</sup>, Ute Habel<sup>1</sup>, Simon Robinson<sup>2</sup>, Christian Windischberger<sup>3</sup>, Ilse Kryspin-Exner<sup>4</sup>, Ruben Gur<sup>5</sup>, Ewald Moser<sup>6</sup>*  
<sup>1</sup>RWTH Aachen University, Aachen, Germany, <sup>2</sup>Medical University of Vienna, Vienna, Austria, <sup>3</sup>MR Center, Medical University of Vienna, Vienna, Austria, <sup>4</sup>Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>5</sup>University of Pennsylvania, Philadelphia, PA, <sup>6</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria
- 190 MT **Longitudinal Decrease in Amygdala Response to Emotional Stimuli after Eight-Week Meditation Training**  
*Gaëlle Desbordes<sup>1</sup>, Lobsang Negi<sup>2</sup>, Charles Raison<sup>3</sup>, Eric Schwartz<sup>1</sup>*  
<sup>1</sup>Boston University, Boston, MA, <sup>2</sup>Emory University, Atlanta, GA, <sup>3</sup>University of Arizona, Tucson, AZ
- 191 MT **Automatic Control of Emotion: Validation of a Novel fMRI Task**  
*Eric Fakra<sup>1,2</sup>, Magali Comte<sup>2</sup>, Emmanuelle Reynaud<sup>3</sup>, Eric Guedj<sup>3</sup>, Bruno Wicker<sup>4</sup>, Jean-Luc Anton<sup>5</sup>, Pilar Salgado-Pineda<sup>6</sup>, Jennifer Coull<sup>7</sup>, Olivier Blin<sup>3</sup>*  
<sup>1</sup>AP-HM, University Hospital, Marseille, France, <sup>2</sup>INT CNRS UMR 7289, Marseille, France, <sup>3</sup>INT, CNRS UMR 7289, Marseille, France, <sup>4</sup>INCM CNRS, Marseille, France, <sup>5</sup>Centre IRM Fonctionnelle - IFR 131, Marseille, France, <sup>6</sup>Unidad de Investigación. Benito Menni CASM, Barcelona, Spain, <sup>7</sup>Universite de Provence & CNRS, N/A
- 192 MT **Effects of intranasal oxytocin on implicit emotion regulation and associated brain activity**  
*Melanie Feesser<sup>1</sup>, Karin Pestke<sup>2</sup>, Yan Fan<sup>1</sup>, Simone Grimm<sup>1,3</sup>, Malek Bajbouj<sup>1,4</sup>*  
<sup>1</sup>Cluster Languages of Emotion, Freie Universität Berlin, Berlin, Germany, <sup>2</sup>Freie Universität Berlin, Berlin, Germany, <sup>3</sup>Clinic for Affective Disorders and General Psychiatry, Psychiatric University Hospital Zürich, Zürich, Switzerland, <sup>4</sup>Department of Psychiatry, Charité-Universitätsmedizin Berlin, Berlin, Germany
- 193 MT **Neural Markers of Anger and Mindfulness and Using rsfMRI**  
*Carl Fulwiler<sup>1</sup>, Jean King<sup>2</sup>, Nanyin Zhang<sup>2</sup>*  
<sup>1</sup>University of Massachusetts Medical School, Worcester, United States, <sup>2</sup>University of Massachusetts Medical School, Worcester, MA
- 194 MT **Functional Connectivity of The Cortical-limbic and Motor Systems of Athletes under Distress**  
*Chao-Yi Ho<sup>1</sup>, Henry Davis IV<sup>2</sup>, Georg Northoff<sup>3</sup>*  
<sup>1</sup>Institute of Mental Health Research, University of Ottawa, Ottawa, Canada, <sup>2</sup>Swimmer Canada, Calgary, Alberta, <sup>3</sup>Institute of Mental Health Research, Ottawa, Canada
- 195 MT **Effects of Visibility on the Processing of Emotional Words**  
*Shen-Mou Hsu<sup>1</sup>, William Hetrick<sup>2</sup>, Luiz Pessoa<sup>3</sup>, Yu-Fang Yang<sup>1</sup>*  
<sup>1</sup>Research Center for Mind, Brain and Learning, National Chengchi University, Taipei, Chinese Taipei, <sup>2</sup>Indiana University, Bloomington, IN, <sup>3</sup>Department of Psychology, University of Maryland, College Park, MD
- 196 MT **Empathy for other's pain was modulated by acute alcohol intoxication: An fMRI study**  
*Yang Hu<sup>1</sup>, Mingxia Fan<sup>2</sup>, Zhuoya Cui<sup>1</sup>, Yuwei Jiang<sup>2</sup>, Zhaoxin Wang<sup>1,2</sup>*  
<sup>1</sup>Key Laboratory of Brain Functional Genomics, Ministry of Education, East China Normal University, Shanghai, China, <sup>2</sup>Shanghai Key Laboratory of MRI, East China Normal University, Shanghai, China
- 197 MT **Neural Correlates of Understanding Another Person's Happy Emotion**  
*Tetsuya Iidaka<sup>1</sup>, Tokiko Harada<sup>2</sup>, Norihiro Sadato<sup>3</sup>*  
<sup>1</sup>Nagoya University, Nagoya, Japan, <sup>2</sup>Nagoya University, Nagoya, Japan, <sup>3</sup>National Institute for Physiological Sciences, Okazaki, Japan
- 198 MT **Midbrain Presynaptic Dopamine Tunes Sustained and Transient Neural Response to Emotional Salience**  
*Mbemba Jabbi<sup>1</sup>, Tiffany Nash<sup>2</sup>, Philip Kohn<sup>3</sup>, Angela Ianni<sup>3</sup>, Daniel Rubinstein<sup>4</sup>, Tom Holroyd<sup>3</sup>, Frederick Carver<sup>3</sup>, Stephen Robinson<sup>3</sup>, Jonathan Kippenhan<sup>3</sup>, Joseph Masdeu<sup>3</sup>, Richard Coppola<sup>5</sup>, Karen Berman<sup>3</sup>*  
<sup>1</sup>National Institute of Mental Health, NIH, Bethesda, United States, <sup>2</sup>Vanderbilt University, Nashville, TN, <sup>3</sup>NIMH, Bethesda, MD, <sup>4</sup>NIMH, Bethesda, UT, <sup>5</sup>NIMH/NIH, Bethesda, MD
- 199 MT **Effects of Working Memory Load on Affective Processing: An Event-related Potentials Study**  
*Junghee Kim<sup>1</sup>, Taejin Park<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Chonnam National University, Gwangju, Korea, Republic of
- 200 MT **Another sublime—Aesthetic experience of perceptual novelty: an fMRI study**  
*Momo Kim<sup>1</sup>, Eunae Lee<sup>1</sup>, Jungwoo Son<sup>2</sup>, Seungbok Lee<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Chungbuk National University, Cheongju, Korea, Republic of, <sup>2</sup>Department of Neuropsychiatry, Chungbuk National University, Cheongju, Korea, Republic of



- 201 MT **Withdrawn**
- 202 MT **Salience processing in subjective Perception, objective Behaviour and the Neuroanatomical Correlates**  
*Anna Linda Krause<sup>1</sup>, Coraline Metzger<sup>1,2</sup>, Johann Steiner<sup>1</sup>, Joern Kaufmann<sup>3</sup>, Axel Genz<sup>1</sup>, Bernhard Bogerts<sup>1</sup>, Martin Walter<sup>1,2</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>2</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>3</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany
- 203 MT **Emotion Communication Training Induces Specific Changes in Brain Function and Structure**  
*Benjamin Kreifelts<sup>1</sup>, Heike Jacob<sup>1</sup>, Carolin Brück<sup>1</sup>, Michael Erb<sup>2</sup>, Dirk Wildgruber<sup>1</sup>*  
<sup>1</sup>Dpt. of Psychiatry, University of Tuebingen, Tuebingen, Germany, <sup>2</sup>Dpt. of Neuroimaging and MR-Physics, University of Tuebingen, Tuebingen, Germany
- 204 MT **Sex Matters: Gender-Specific Neural Correlates of Laughter Perception**  
*Benjamin Kreifelts<sup>1</sup>, Diana Szameitat<sup>1</sup>, Carolin Brück<sup>1</sup>, Thomas Ethofer<sup>1</sup>, Kai Alter<sup>2</sup>, Dirk Wildgruber<sup>1</sup>*  
<sup>1</sup>Dpt. of Psychiatry and Psychotherapy, University of Tuebingen, Tuebingen, Germany, <sup>2</sup>Institute of Neuroscience, University of Newcastle, Newcastle upon Tyne, United Kingdom
- 205 MT **A neuroaesthetic study on the “perceptual novelty” and the education effect**  
*eunae lee<sup>1</sup>, Momo Kim<sup>2</sup>, Seungbok Lee<sup>2</sup>, Son Jungwoo<sup>3</sup>*  
<sup>1</sup>Department of Psychology Chungbuk National University, N/A, <sup>2</sup>Department of Psychology, Chungbuk National University, Cheongju, Korea, Republic of, <sup>3</sup>Department of Neuropsychiatry, college of Medicine, Chungbuk National University, Cheongju, Korea, Republic of
- 206 MT **Imaging brain dynamics of emotional-perceptual processing by Granger causality analysis: a MEG study**  
*Tai-Ying Liu<sup>1</sup>, Li-Fen Chen<sup>2,3</sup>, Yong-Sheng Chen<sup>4</sup>, Jen-Chuen Hsieh<sup>2,5</sup>*  
<sup>1</sup>Institute of Biomedical Informatics, National Yang-Ming University, Taipei, <sup>2</sup>Institute of Brain Science, National Yang-Ming University, Taipei, <sup>3</sup>Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, <sup>4</sup>Department of Computer Science, National Chiao Tung University, Hsinchu, <sup>5</sup>Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei
- 207 MT **The Distinct Effect of Emotional Valence and Arousal on Working Memory — an fMRI Study**  
*Xiaonan Liu<sup>1</sup>, Greg Siegle<sup>2</sup>*  
<sup>1</sup>Carnegie Mellon University, Pittsburgh, PA, <sup>2</sup>University of Pittsburgh, Pittsburgh, PA
- 208 MT **The neural correlates of limb-specific emotionally charged images: a spinal fMRI study**  
*Theresa McIver<sup>1</sup>, Jennifer Kornelsen<sup>1</sup>, Stephen D Smith<sup>2</sup>, Randy Summers<sup>1</sup>, Boguslaw Tomanek<sup>1</sup>*  
<sup>1</sup>National Research Council Canada Institute for Biodiagnostics, Winnipeg, Canada, <sup>2</sup>University of Winnipeg, Winnipeg, Canada
- 209 MT **Embodying the nation: Collective emotions and national identification during the 2010 FIFA World Cup**  
*Carmen Morawetz<sup>1,2</sup>, Peter Mohr<sup>3</sup>, Sven Ismer<sup>1</sup>, Juergen Baudewig<sup>4,5</sup>, Christian von Scheve<sup>1</sup>, Hauke Heekeren<sup>3,4,5</sup>*  
<sup>1</sup>Cluster Languages of Emotion, Freie Universitaet Berlin, Berlin, Germany, <sup>2</sup>Department of Education and Psychology, Freie Universität Berlin, Berlin, Germany, <sup>3</sup>Department of Education and Psychology, Freie Universitaet Berlin, Berlin, Germany, <sup>4</sup>Cluster of Excellence, Languages of Emotion, Freie Universität Berlin, Berlin, Germany, <sup>5</sup>Dahlem Institute for Neuroimaging of Emotion, Cluster of Excellence, Languages of Emotion, Berlin, Germany
- 210 MT **Face processing in the amygdala & FFA: why to consider stimulus history & individual variability**  
*Anwar Nunez-Elizalde<sup>1</sup>, Geoffrey Aguirre<sup>2</sup>, Sonia Bishop<sup>3</sup>*  
<sup>1</sup>UC Berkeley, Berkeley, CA, <sup>2</sup>University of Pennsylvania, Philadelphia, PA, <sup>3</sup>UC Berkeley, Berkeley, United States
- 211 MT **Interaction of Affective Valence and Perceptual Complexity in the Affective Picture Processing**  
*Taejin Park<sup>1</sup>, Minkyu Ahn<sup>2</sup>, Sung Chan Jun<sup>2</sup>, Soodam Park<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Chonnam National University, GWANGJU, Korea, Republic of, <sup>2</sup>School of information and communications, Gwangju Institute of Science and Technology, Gwangju, Sout, GWANGJU, Korea, Republic of

- 212 MT Induction of positive and negative emotional states bias later amygdala sensitivity to fearful faces**  
*Swann Pichon<sup>1</sup>, Ewa Miendlarzewska<sup>1</sup>, Hamdi Eryilmaz<sup>1</sup>, Patrik Vuilleumier<sup>1</sup>*  
<sup>1</sup>University of Geneva, Geneva, Switzerland
- 213 MT The impact of social sharing on the processing of emotional stimuli**  
*Kristin Prehn<sup>1,2</sup>, Christoph Korn<sup>3,4</sup>, Malek Bajbouj<sup>5,1,2</sup>, Gisela Klann-Delius<sup>1,6</sup>, Winfried Menninghaus<sup>1,7</sup>, Arthur Jacobs<sup>1,3,2</sup>, Hauke Heekeren<sup>3,1,2,4</sup>*  
<sup>1</sup>Cluster of Excellence Languages of Emotion, Freie Universität, Berlin, Germany, <sup>2</sup>Dahlem Institute for Neuroimaging of Emotion, Freie Universität, Berlin, Germany, <sup>3</sup>Department of Education and Psychology, Freie Universität, Berlin, Germany, <sup>4</sup>Berlin School of Mind and Brain, Humboldt Universität, Berlin, Germany, <sup>5</sup>Department of Psychiatry, Charité-Universitätsmedizin Berlin, Berlin, Germany, <sup>6</sup>Department of Linguistics, Institut für Deutsche und Niederländische Philologie, Freie Universität, Berlin, Germany, <sup>7</sup>Peter Szondi-Institut für Allgemeine und Vergleichende Literaturwissenschaft, Berlin, Germany
- 214 MT Neural correlates of voluntary and spontaneous regulation of emotion**  
*Ignazio Puzzo<sup>1</sup>, Birthe Henne<sup>1</sup>, Tom Johnstone<sup>1</sup>*  
<sup>1</sup>Centre for Integrative Neuroscience & Neurodynamics, School of Psychology and CLS, University of Rea, Reading, United Kingdom
- 215 MT Emotional Conflict in Cinematic Experience: An fMRI study**  
*Christiane Rohr<sup>1,2</sup>, Carolina Solms-Baruth<sup>1,2</sup>, Maurice Hollmann<sup>1</sup>, Arno Villringer<sup>1,2</sup>, Daniel Margulies<sup>1,2</sup>, Hadas Okon-Singer<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Mind & Brain Institute, Humboldt University of Berlin, Berlin, Germany
- 216 MT Oral Fat Texture Representation in the Orbitofrontal Cortex, Taste Insula, and Somatosensory Cortex**  
*Edmund Rolls<sup>1</sup>, Fabian Grabenhorst<sup>2</sup>, Tian Ge<sup>3</sup>, Jianfeng Feng<sup>3</sup>*  
<sup>1</sup>University of Warwick, Coventry, United Kingdom, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Centre for Computational Systems Biology, School of Mathematical Sciences, Fudan University, Shanghai, China
- 217 MT Stress effect on central and autonomic nervous system responses when driving on a driving-simulator**  
*Emilie SALVIA<sup>1</sup>, Claude DELPUECH<sup>2</sup>, Sébastien DALIGAULT<sup>2</sup>, Aymeric GUILLOT<sup>3</sup>, Robert MARTIN<sup>3</sup>, Christian COLLET<sup>3</sup>*  
<sup>1</sup>University Claude Bernard Lyon 1 – EA 647 Mental processes and Motor Performance, Villeurbanne, F, Villeurbanne, France, <sup>2</sup>INSERM U821 Brain Dynamics and Cognition, Bron, France, <sup>3</sup>University Claude Bernard Lyon 1 – EA 647 Mental processes and Motor Performance, Villeurbanne, France
- 218 MT Decoding Valence across Picture and Sound Stimuli from fMRI Data**  
*Svetlana Shinkareva<sup>1</sup>, Jing Wang<sup>1</sup>, Jongwan Kim<sup>1</sup>, Matthew Facciani<sup>1</sup>, Laura Baucom<sup>1</sup>, Douglas Wedell<sup>1</sup>*  
<sup>1</sup>University of South Carolina, Columbia, United States
- \*219 MT Oxytocin enhances encoding of emotional faces under conditions of limited awareness (O-M2)**  
*Manuela Sibold<sup>1</sup>, Markus Heinrichs<sup>1</sup>, Gregor Domes<sup>1</sup>*  
<sup>1</sup>University of Freiburg, Freiburg, Germany
- 220 MT Parietal activation to suppressed fearful faces in adolescents**  
*Vanessa Troiani<sup>1</sup>, Robert Schultz<sup>2</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, United States, <sup>2</sup>Children's Hospital of Philadelphia, University of Pennsylvania, Philadelphia, PA
- 221 MT Emotion Processing in the Sleeping Brain**  
*Shun-Ju Tsai<sup>1</sup>, Chenyi Chen<sup>1</sup>, Shin-Yi Lee<sup>1</sup>, Jia-Ying Sung<sup>2</sup>, Yawei Cheng<sup>1,3</sup>*  
<sup>1</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>Center of Sleep Medicine, Wan Fang Hospital, Taipei, Chinese Taipei, <sup>3</sup>Department of Rehabilitation, National Yang-Ming University Hospital, Yilan, Chinese Taipei
- 222 MT Serotonin Transporter Genetic Variation and Children's Brain and Behavioral Response to Face Emotion**  
*Angela Tseng<sup>1</sup>, Kathleen Thomas<sup>2</sup>*  
<sup>1</sup>College of Physicians and Surgeons and the New York State Psychiatric Institute, Columbia University, New York, United States, <sup>2</sup>Institute of Child Development, University of Minnesota, Minneapolis, MN
- 223 MT The Brain on Art: Intense Aesthetic Experience Activates the Default Mode Network**  
*Edward Vessel<sup>1</sup>, G Starr<sup>2</sup>, Nava Rubin<sup>2</sup>*  
<sup>1</sup>New York University, New York, United States, <sup>2</sup>New York University, New York, NY

## EMOTION AND MOTIVATION

### Emotional Perception, continued

- 224 MT What's so important about Salience?**  
*Toby Winton-Brown<sup>1</sup>, Jonathan Roiser<sup>2</sup>, Nico Bunzeck<sup>3</sup>, Emrah Duzel<sup>4</sup>, Shitij Kapur<sup>4</sup>, Philip McGuire<sup>1</sup>*  
<sup>1</sup>Institute of Psychiatry, London, United Kingdom, <sup>2</sup>Institute of Cognitive Neuroscience, UCL, London, United Kingdom, <sup>3</sup>Department of Systems Neuroscience, University Medical Center Hamburg, London, United Kingdom, <sup>4</sup>King's College London, London, United Kingdom
- 225 MT Emotional responsiveness related to visual processing as revealed by EEG component clustering**  
*Mirosław Wyczesany<sup>1</sup>, Szczepan Grzybowski<sup>1</sup>*  
<sup>1</sup>Psychophysiology Lab, Jagiellonian University, Krakow, Poland
- \*226 MT Heart Rate Deceleration Predicts BOLD Activity in Default Mode Regions during Emotion Processing (O-M2)**  
*Xiao-Fei Yang<sup>1</sup>, Savio Wong<sup>2</sup>, Mary Helen Immordino-Yang<sup>1</sup>*  
<sup>1</sup>University of Southern California, Los Angeles, CA, United States, <sup>2</sup>The Hong Kong Institute of Education, Hong Kong, Hong Kong
- 227 MT Positive emotion facilitates Task Switching: a fMRI study**  
*wang yanmei<sup>1</sup>, Yue zhu<sup>2</sup>, Guo Jun<sup>3</sup>*  
<sup>1</sup>the School of Psychology and Cognitive Science, East China Normal University, Shanghai, China, <sup>2</sup>Department of Psychology, Sun Yat-sen University, Guangzhou, Guangdong, <sup>3</sup>Department of Psychology, Capital Normal University, Beijing, Beijing
- 228 MT Effects of Menstrual Cycle on Facial Expressions Recognition: Evidences From ERPs**  
*Wenjuan Zhang<sup>1</sup>, Renlai Zhou<sup>1,2</sup>*  
<sup>1</sup>Beijing Key Lab of Applied Experimental Psychology, Beijing Normal University, Beijing, China, <sup>2</sup>State Key laboratory of Cognitive Neuroscience and learning, Beijing Normal University, Beijing, China
- 229 MT Personal Experiences Reduce Racial Bias in Neural Responses to the Suffering of Others**  
*Xiangyu Zuo<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Peking University, Beijing, China

## EMOTION AND MOTIVATION

### Reward and Punishment

- 230 MT Personality traits are associated with neural responses during reward and punishment learning**  
*Hyeon Min An<sup>1</sup>, Heung Sik Yoon<sup>1</sup>, Hyeon Guk Kang<sup>1</sup>, Hackjin Kim<sup>1</sup>, Sang Hee Kim<sup>1</sup>*  
<sup>1</sup>Department of Brain and Cognitive Engineering, Korea University, Seoul, Korea, Republic of
- 231 MT NEURAL RESPONSES TO ACUTE IV ALCOHOL IN HEALTHY MODERATE DRINKERS**  
*Emma Childs<sup>1</sup>, Sean O'Connor<sup>1</sup>, Jia-Hong Gao<sup>1</sup>, Elliot Stein<sup>2</sup>, Harriet de Wit<sup>1</sup>*  
<sup>1</sup>The University of Chicago, Chicago, IL, USA, <sup>2</sup>NIH, Baltimore, MD, USA
- \*232 MT Dopamine-dependent cortico-subcortical network functional connectivity: association with impulsivity (O-M2)**  
*David Cole<sup>1</sup>, Nicole Oer<sup>2</sup>, Roelof Soeter<sup>3</sup>, Stephanie Both<sup>2</sup>, Joop van Gerven<sup>4</sup>, Serge Rombouts<sup>3</sup>, Christian Beckmann<sup>5</sup>*  
<sup>1</sup>Imperial College London, London, United Kingdom, <sup>2</sup>Leiden University Medical Center, Leiden, Netherlands, <sup>3</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>4</sup>Center for Human Drug Research, Leiden, Netherlands, <sup>5</sup>University of Twente, Enschede, Netherlands
- \*233 MT Loss aversion is under the control of dopaminergic signaling (O-M2)**  
*Alain Dagher<sup>1</sup>, Sylvia Cox<sup>1</sup>, Crystal Erickson<sup>2</sup>, Marco Leyton<sup>3</sup>, Kevin Larcher<sup>4</sup>*  
<sup>1</sup>McGill University, Montreal, Quebec, <sup>2</sup>N/A, Montreal, Canada, <sup>3</sup>McGill University, Montréal, Quebec, <sup>4</sup>Montréal Neurological Institute, Montréal, Quebec
- 234 MT Does similar neurocircuitry underlie beneficial placebo effects on pain and pleasantness perception?**  
*Dan Mikael Ellingsen<sup>1</sup>, Siri Leknes<sup>2</sup>, Jaquette Liljenkrantz<sup>1</sup>, Tor Endestad<sup>2</sup>, Håkan Olausson<sup>3</sup>, Johan Wessberg<sup>1</sup>*  
<sup>1</sup>Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden, <sup>2</sup>Department of Psychology, University of Oslo, Oslo, Norway, <sup>3</sup>Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden

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- 235 MT Acute Dopamine changes & D2 receptor binding predict differences in avoidance learning: a PET study**  
*Crystal Erickson<sup>1</sup>, Kevin Larcher<sup>1</sup>, Lauren Templeton<sup>1</sup>, Michael Frank<sup>2</sup>, Marco Leyton<sup>3</sup>, Alain Dagher<sup>1</sup>*  
<sup>1</sup>Montréal Neurological Institute, Montréal, Quebec, <sup>2</sup>Brown University, Providence, RI, <sup>3</sup>McGill University, Montréal, Quebec
- 236 MT Global Dimensions of Impulsivity Modulate Brain Responses to Reinforcing Stimuli**  
*Ruolei Gu<sup>1</sup>, Yang Jiang<sup>2</sup>, Seth Kiser<sup>3</sup>, Chelsea Black<sup>4</sup>, Yue-jia Luo<sup>5</sup>, Thomas Kelly<sup>2</sup>*  
<sup>1</sup>Institute of Brain and Cognitive Science, Beijing Normal University, Beijing, China, <sup>2</sup>Department of Behavioral Science, University of Kentucky College of Medicine, Lexington, KY, <sup>3</sup>Department of Psychology, The Catholic University of America, Washington, WA, <sup>4</sup>Department of Psychology, Temple University, Philadelphia, PA, <sup>5</sup>Institute of Brain and Cognitive Science, Beijing, China
- 237 MT Neural implementation of Gray's BIS varies with genotype-dependent serotonergic neurotransmission**  
*Tim Hahn<sup>1</sup>, Sebastian Heinzel<sup>2</sup>, Thomas Dresler<sup>2</sup>, Andreas Reif<sup>3</sup>, Klaus-Peter Lesch<sup>3</sup>, Peter Jakob<sup>4</sup>, Karolien Notebaert<sup>5</sup>, Sabine Windmann<sup>1</sup>, Andreas Fallgatter<sup>2</sup>*  
<sup>1</sup>Department of Cognitive Psychology II, Johann Wolfgang Goethe University, Frankfurt, Germany, <sup>2</sup>University of Tuebingen, Department of Psychiatry and Psychotherapy, Tübingen, Germany, <sup>3</sup>University of Würzburg, Department of Psychiatry, Psychosomatics and Psychotherapy, Würzburg, Germany, <sup>4</sup>University of Würzburg, Department of Experimental Physics V, Würzburg, Germany, <sup>5</sup>Katholieke Universiteit Leuven, Leuven, Belgium
- 238 MT Overlapping and Distinct Neural Representations of Anticipating and Consuming Taste Rewards**  
*John Ingeholm<sup>1</sup>, W. Kyle Simmons<sup>2</sup>, Kristina Rapuano<sup>1</sup>, Seth Kallman<sup>1</sup>, Kevin Hall<sup>3</sup>, Alex Martin<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, <sup>2</sup>Laureate Institute for Brain Research, Tulsa, OK, <sup>3</sup>National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD
- 239 MT Amygdala response to masked negative faces is associated with childhood maltreatment**  
*Harald Kugel<sup>1</sup>, Franziska Huber<sup>2</sup>, Anja Stuhmann<sup>2</sup>, Dominik Grotegerd<sup>2</sup>, Katharina Dohm<sup>2</sup>, Christina Sehlmeier<sup>2</sup>, Volker Arolt<sup>2</sup>, Walter Heindel<sup>1</sup>, Pienie Zwitserlood<sup>3</sup>, Thomas Suslow<sup>2,4</sup>, Udo Dannlowski<sup>2,5</sup>*  
<sup>1</sup>Dept. of Clinical Radiology, University of Muenster, Muenster, Germany, <sup>2</sup>Dept. of Psychiatry, University of Muenster, Muenster, Germany, <sup>3</sup>Dept. of Psychology II, University of Muenster, Muenster, Germany, <sup>4</sup>Dept. of Psychosomatic Medicine and Psychotherapy, University of Leipzig, Leipzig, Germany, <sup>5</sup>Dept. of Psychiatry, University of Marburg, Marburg, Germany
- 240 MT Habenula responses to primary and secondary aversive stimuli in humans: a high-resolution fMRI study**  
*Rebecca Lawson<sup>1</sup>, Ben Seymour<sup>2</sup>, Eleanor Loh<sup>2</sup>, Antoine Lutti<sup>2</sup>, David Thomas<sup>3</sup>, Raymond Dolan<sup>2</sup>, Peter Dayan<sup>4</sup>, Nikolaus Weiskopf<sup>2</sup>, Jonathan Roiser<sup>1</sup>*  
<sup>1</sup>Institute of Cognitive Neuroscience, University College London, London, United Kingdom, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom, <sup>3</sup>Department of Brain Repair and Rehabilitation, Institute of Neurology, UCL, London, United Kingdom, <sup>4</sup>Gatsby Computational Neuroscience Unit, University College London, London, United Kingdom
- 241 MT Correlation between testosterone levels and reward-induced activity in orbitofrontal cortex in men**  
*Yansong Li<sup>1,2</sup>, Guillaume Sescousse<sup>1,2</sup>, Jean-Claude Dreher<sup>1,2</sup>*  
<sup>1</sup>Center for Cognitive Neuroscience, Reward and Decision Making Group, CNRS, UMR 5229, 69675, Bron, France, <sup>2</sup>Université Lyon 1, 69003, Lyon, France
- \*242 MT Reward risk coding in the orbitofrontal cortex: An intracranial recording study in humans (O-M2)**  
*Yansong Li<sup>1,2</sup>, Giovanna Vanni-Mercier<sup>1,2</sup>, François Mauguière<sup>2,3</sup>, Jean-Claude Dreher<sup>1,2</sup>*  
<sup>1</sup>Center for Cognitive Neuroscience, Reward and Decision Making Group, CNRS, UMR 5229, 69675, Bron, France, <sup>2</sup>Université Lyon 1, 69003, Lyon, France, <sup>3</sup>Neurological Hospital, 69675, Bron, France
- 243 MT Novelty affects reinforcement learning mechanism in midbrain and striatum**  
*Robert Lorenz<sup>1</sup>, Audrey Houllion<sup>2</sup>, Wendelin Böhmer<sup>2</sup>, Torsten Wüstenberg<sup>1</sup>, Florian Schlagenhauf<sup>1</sup>, Simone Kühn<sup>1</sup>, Björn Schott<sup>1</sup>, Michael Rapp<sup>1</sup>, Andreas Heinz<sup>1</sup>, Klaus Obermayer<sup>2</sup>, Juergen GALLINAT<sup>1</sup>*  
<sup>1</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Technical University Berlin, Berlin, Germany

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### Reward and Punishment, continued

- 244 MT **Withdrawn**
- 245 MT **Neural correlates of sensitivity to punishment in adolescent with excess weight**  
*Laura Moreno-Lopez<sup>1</sup>, Carles Soriano-Mas<sup>2</sup>, Elena Delgado-Rico<sup>3</sup>, Miguel Pérez-García<sup>3</sup>, Antonio Verdejo-García<sup>3</sup>*  
<sup>1</sup>Department of Personality, Evaluation and Psychological Treatment, University of Granada, Granada, Spain, <sup>2</sup>Instituto de Salud Carlos III. Neuroscience Group, Bellvitge Biomedical Research Institute, Barcelona, Spain, <sup>3</sup>Department of Personality, Evaluation and Psychological Treatment, University of Granada, Granada, Spain
- 246 MT **The neural underpinnings of gambling near misses**  
*Juergen Prippl<sup>1</sup>, Mikhail Votinov<sup>1</sup>, Patrick Markey<sup>1</sup>, Eva Maria Link<sup>1</sup>, Christian Windischberger<sup>2</sup>, Ewald Moser<sup>2</sup>, Uta Sailer<sup>1</sup>, Claus Lamm<sup>1</sup>*  
<sup>1</sup>SCAN-Unit, Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria
- 247 MT **Ghrelin modulates the computation of food value in the human brain**  
*Deborah Tang<sup>1</sup>, Jung Eun Han<sup>2</sup>, Lesley Fellows<sup>2</sup>, Antonio Rangel<sup>3</sup>, Alain Dagher<sup>2</sup>*  
<sup>1</sup>McGill University, Montreal, Canada, <sup>2</sup>McGill University, Montreal, Quebec, <sup>3</sup>Caltech, Pasadena, CA
- 248 MT **Effects of Real and Hypothetical Monetary Rewards on Risk Taking: An ERP Study on the BART**  
*sihua xu<sup>1,2</sup>, Zhe Qu<sup>1</sup>, Yuling Su<sup>1</sup>, You Wang<sup>1</sup>, Yulong Ding<sup>1</sup>, Hengyi Rao<sup>1,3</sup>*  
<sup>1</sup>Department of Psychology, Sun Yat-sen University, GuangZhou, China, <sup>2</sup>Financial School of Guangdong University of Business Studies, GuangZhou, Guangdong, China, <sup>3</sup>Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA

## EMOTION AND MOTIVATION

### Sexual Behavior

- 249 MT **Dopamine modulates reward system activity during subconscious processing of sexual stimuli**  
*Nicole Oei<sup>1,2</sup>, Serge Rombouts<sup>2,3,1</sup>, Roelof Soeter<sup>2,3,1</sup>, Joop van Gerven<sup>4</sup>, Stephanie Both<sup>1,2</sup>*  
<sup>1</sup>Leiden University Medical Center, Leiden, Netherlands, <sup>2</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>3</sup>Leiden University, Leiden, Netherlands, <sup>4</sup>Center for Human Drug Research, Leiden, Netherlands
- 250 MT **Meta-analysis of neuroimaging findings on the neural correlates of male sexual arousal**  
*Timm B Poeppel<sup>1</sup>, Berthold Langguth<sup>1</sup>, Simon Eickhoff<sup>2</sup>*  
<sup>1</sup>University of Regensburg, Regensburg, Germany, <sup>2</sup>Research Center Jülich, Jülich, Germany
- 251 MT **SSRI-related sexual dysfunction is predicted by pre-treatment resting state functional connectivity**  
*Martin Walter<sup>1</sup>, Coraline Metzger<sup>2</sup>, Georg Groen<sup>3</sup>, Heiko Graf<sup>4</sup>, Birgit Abler<sup>3</sup>*  
<sup>1</sup>Clinical Affective Neuroimaging Laboratory, Magdeburg, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>3</sup>University of Ulm, Ulm, Germany, <sup>4</sup>Ulm University, Germany

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## LANGUAGE

### Language Acquisition

- 252 MT A Developmental fMRI Study on the Processing of Complex Syntax**  
*Jens Brauer<sup>1</sup>, Kodjo Vissienon<sup>1</sup>, Angela Friederici<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 253 MT Morphosyntactic processing in late bilinguals: A cross-language event-related potential study**  
*Bing Cheng<sup>1</sup>, Yang Zhang<sup>2</sup>, Tess Koerner<sup>2</sup>, Jenifer Windsor<sup>2</sup>*  
<sup>1</sup>School of Foreign Studies, Xi'an Jiaotong University, Xi'an, China, <sup>2</sup>Department of Speech-Language-Hearing Sciences, University of Minnesota, Minneapolis, MN
- 254 MT On the road to being a biliterate : Reading networks in Hindi-English children**  
*Sarika Cherodath<sup>1</sup>, T Sumathi<sup>1</sup>, Chaitra Rao<sup>2</sup>, Nandini Singh<sup>1</sup>*  
<sup>1</sup>National Brain Research Centre, Manesar, India, <sup>2</sup>National Brain Research Centre, N/A
- 255 MT Anatomical connectivity changes in the bilingual brain**  
*Lorna Garcia Penton<sup>1</sup>, Yasser Iturria Medina<sup>2</sup>, Alejandro Perez Fernandez<sup>1</sup>, Manuel Carreiras<sup>1</sup>*  
<sup>1</sup>Basque Center on Cognition, Brain and Language (BCBL), Donostia, Spain, <sup>2</sup>Cuban Neuroscience Center, La Habana, Cuba
- 256 MT Second Language at Low and High Proficiency Levels: A Functional Connectivity Study**  
*Ladan Ghazi Saidi<sup>1,2</sup>, Vincent Perlberg<sup>3</sup>, Guillaume Marrelec<sup>2</sup>, melanie pelegri-issac<sup>4</sup>, Habib Benal<sup>5</sup>, Ana-Ines Ansaldo<sup>2,1</sup>*  
<sup>1</sup>University of Montreal, Montreal, Canada, <sup>2</sup>CRIUGM, Montreal, Canada, <sup>3</sup>INSERM / UPMC Univ. Paris 06, UMR\_S678, LIF, Paris, France, <sup>4</sup>inserm, N/A, <sup>5</sup>INSERM, Paris, France
- 257 MT The Neural Correlates of Phonological Transfer Effects across Distant Languages**  
*Ladan Ghazi Saidi<sup>1</sup>, Ana-Ines Ansaldo<sup>2</sup>*  
<sup>1</sup>University of Montreal, N/A, <sup>2</sup>CRIUGM, Montreal, Canada
- 258 MT Modulation of Prelexical Processing of Pseudowords in response to Lexico-Semantic Training**  
*Sonja Rossi<sup>1,2</sup>, Rüdiger Wolf<sup>1</sup>, Paula Hillebrand<sup>1</sup>, Hellmuth Obrig<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Faculty of Medicine, University of Leipzig, Leipzig, Germany

- 259 MT Neural Changes Underlying Short-Term Language Training: An fMRI Study**  
*Jing Yang<sup>1</sup>, Ping Li<sup>2</sup>*  
<sup>1</sup>Pennsylvania State University, State College, PA, <sup>2</sup>Department of Psychology, Pennsylvania State University, University Park, PA

## LANGUAGE

### Language Comprehension and Semantics

- 260 MT Neural correlates of perceptual and semantic processing during visual object recognition**  
*Francesco Barban<sup>1</sup>, Giovanni Carlesimo<sup>2</sup>, Emiliano Macaluso<sup>1</sup>, Carlo Caltagirone<sup>2</sup>, Francesco Scalici<sup>1</sup>, Gian Daniele Zannino<sup>1</sup>*  
<sup>1</sup>IRCCS Santa Lucia Foundation, Rome, Italy, <sup>2</sup>University of Rome "Tor Vergata", IRCCS Santa Lucia Foundation, Rome, Italy
- 261 IMT Identity coding in right fusiform gyrus is invariant for location, size and color**  
*Rose Bruffaerts<sup>1,2</sup>, Patrick Dupont<sup>1</sup>, Ronald Peeters<sup>2</sup>, simon de deyne<sup>1</sup>, Gerrit Storms<sup>1</sup>, Rik Vandenberghe<sup>1,2</sup>*  
<sup>1</sup>KU Leuven, Leuven, Belgium, <sup>2</sup>University Hospitals Leuven, Leuven, Belgium
- 262 MT Withdrawn**
- 263 MT Linking the structure of semantic meaning to the structure of information in ventral temporal cortex**  
*Thomas Carlson<sup>1</sup>, Ryan Simmons<sup>1</sup>, Nikolaus Kriegeskorte<sup>2</sup>, Robert Slevc<sup>1</sup>*  
<sup>1</sup>University of Maryland, College Park, United States, <sup>2</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom
- 264 MT Neural substrates of humor incongruity and resolution: An fMRI study**  
*Hsueh-Chih Chen<sup>1</sup>, Yu-Chen Chan<sup>2</sup>, Tai-Li Chou<sup>3</sup>, Kuo-En Chang<sup>4</sup>, Yuejia Luo<sup>5</sup>*  
<sup>1</sup>Department of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Chinese Taipei, <sup>2</sup>Department of Educational Psychology and Counseling, National Taiwan Normal University, Taipei, Chinese Taipei, <sup>3</sup>Department of Psychology, National Taiwan University, Taipei, Chinese Taipei, <sup>4</sup>Graduate Institute of Information and Computer Education, National Taiwan Normal University, Taipei, Chinese Taipei, <sup>5</sup>College of Brain & Cognitive Science, Beijing Normal University, Beijing, China

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## LANGUAGE

### Language Comprehension and Semantics, continued

- 265 MT The centro-parietal N200 is sensitive to orthographic manipulations**  
*Huixian Chen<sup>1</sup>, Zude Zhu<sup>2</sup>, Suiping Wang<sup>2</sup>, John Xuexin Zhang<sup>3</sup>*  
<sup>1</sup>Shantou University, Shantou University, China, <sup>2</sup>South China Normal University, Guangzhou, China, <sup>3</sup>Chinese Univ. of Hong Kong, Hong Kong, China
- 266 MT Local and inter-regional neural synchrony in gamma-band during judgment of autobiographic facts**  
*Jeong Woo Choi<sup>1</sup>, Jong Ku Lee<sup>1</sup>, Kyung Hwan Kim<sup>1</sup>*  
<sup>1</sup>Yonsei University, Wonju, Korea
- 267 MT Neural correlates of narrative speech processing in second language**  
*Hia Datta<sup>1</sup>, Jason Zevin<sup>2</sup>*  
<sup>1</sup>Molloy College & Sackler Institute for Developmental Psychobiology, New York, United States, <sup>2</sup>Sackler Institute for Developmental Psychobiology, New York, United States
- 268 MT Bilingual word reading depends on basic statistical regularities: ERP evidence from masked priming**  
*Jon Andoni Dunabeitia<sup>1</sup>, Aina Casaponsa<sup>1</sup>*  
<sup>1</sup>Basque Center on Cognition, Brain and Language (BCBL), Donostia, Spain
- 269 MT A unifying view of semantic network revealed by task-free fMRI**  
*Christine Guo<sup>1</sup>, Benno Gesierich<sup>1</sup>, Maria Luisa Gorno Tempini<sup>1</sup>, Maya Henry<sup>1</sup>, Kate Rankin<sup>1</sup>, Tal Shany-Ur<sup>1</sup>, AndreW Trujillo<sup>1</sup>, William Seeley<sup>1</sup>*  
<sup>1</sup>University of California San Francisco, San Francisco, United States
- 270 MT Word Class Effect on Neural Processing of Semantic Relatedness: Spatiotemporal Investigation of ERPs**  
*Masahiro Hata<sup>1</sup>, Hidekazu Yarimizu<sup>1</sup>, Lisa Sugiura<sup>1</sup>, Fumitaka Homae<sup>1</sup>, Hiroko Hagiwara<sup>1</sup>*  
<sup>1</sup>Tokyo Metropolitan University, Tokyo, Japan
- 271 MT Reaching the semantic hub in 240 ms: The spatio-temporal dynamics of written word processing**  
*Olaf Hauk<sup>1</sup>, Elisa Cooper<sup>1</sup>, Gemma Evans<sup>2</sup>, Yuanyuan Chen<sup>1</sup>, Karalyn Patterson<sup>1</sup>, Anna Woollams<sup>2</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>University of Manchester, School of Psychological Sciences, Manchester, United Kingdom
- 272 MT Resolving lexico-semantic interference during word retrieval**  
*Ilona Hensele<sup>1,2</sup>, Andreas Mädebach<sup>3</sup>, Hellmuth Obrig<sup>1,2</sup>, Sonja Kotz<sup>1</sup>, Arno Villringer<sup>1</sup>, Jörg Jescheniak<sup>3</sup>*  
<sup>1</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Day Clinic for Cognitive Neurology, Leipzig, Germany, <sup>3</sup>Department of Psychology, University of Leipzig, Leipzig, Germany
- 273 MT The cerebral networks of emotional speech comprehension**  
*Pierre-Yves Hervé<sup>1</sup>, Annick Razafimandimby<sup>2</sup>, Mathieu Vigneau<sup>3</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen, Bordeaux, France, <sup>2</sup>ISTPCT UMR 6301 CNRS CEA Université de Caen, Caen, France, <sup>3</sup>FRE 3481 CNRS URCA équipe MéDIAN, Faculté de Médecine de Reims, Reims, France
- 274 MT Hearing about others: an fMRI study of theory-of-mind sentence comprehension**  
*Pierre-Yves Hervé<sup>1</sup>, Gael Jobard<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Laure Zago<sup>1</sup>, Annick Razafimandimby<sup>2</sup>, Mathieu Vigneau<sup>3</sup>, Laurent Petit<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Marc Joliot<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA University, Bordeaux, France, <sup>2</sup>ISTPCT UMR 6301 CNRS CEA Université de Caen, Caen, France, <sup>3</sup>FRE 3481 CNRS URCA équipe MéDIAN, Faculté de Médecine de Reims, Reims, France
- 275 MT Cerebellar internal models in language processing? An fMRI study of contextual priming**  
*Eva G. Hilland<sup>1</sup>, Torgeir Moberget<sup>1</sup>, Stein Andersson<sup>2</sup>, Tor Endestad<sup>1</sup>*  
<sup>1</sup>Department of Psychology, University of Oslo, Oslo, Norway, <sup>2</sup>Department of Neuropsychiatry and Psychosomatic Medicine, Oslo University Hospital, Oslo, Norway
- 276 MT Functional segregation of semantic processes at different level of syntactic hierarchy**  
*Xiaoming Jiang<sup>1</sup>, Zheng Ye<sup>1</sup>, Hongbo Yu<sup>2</sup>, Xiaolin Zhou<sup>1</sup>*  
<sup>1</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China, <sup>2</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China
- 277 MT Mapping within- and cross-modality information content in human temporal cortex**  
*James Keidel<sup>1</sup>, Nikolaas Oosterhof<sup>1</sup>, Guillaume Thierry<sup>1</sup>*  
<sup>1</sup>Bangor University, Bangor, United Kingdom

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### Language Comprehension and Semantics, continued

- 278 MT Learning by Doing? Different Brain Regions Mediate Word Learning with Gestures and without Gestures**  
*Klaus-Martin Krönke<sup>1</sup>, Karsten Müller<sup>1</sup>, Angela Friederici<sup>1</sup>, Hellmuth Obrig<sup>1,2</sup>*  
<sup>1</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Clinic for Cognitive Neurology, University Hospital Leipzig, Leipzig, Germany
- 279 MT Concreteness Effects on Theta and Upper Alpha EEG Coherence**  
*Kevin Lai<sup>1</sup>, Hsiao-Ching She<sup>1</sup>, Sheng-Chang Chen<sup>1</sup>, Tzzy-Ping Jung<sup>2</sup>*  
<sup>1</sup>Institute of Education, National Chiao-Tung University, Hsinchu, Chinese Taipei, <sup>2</sup>Institute for Neural Computation, University of California, San Diego, California, United States
- 280 MT Neural basis of processing conventional implicature in sentence comprehension**  
*Sai Li<sup>1</sup>, Xiaoming Jiang<sup>1</sup>, Hongbo Yu<sup>1</sup>, Xiaolin Zhou<sup>2</sup>*  
<sup>1</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China, <sup>2</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China
- 281 MT Recognition potential differentiates semantic processing of emotional words in L1 and L2**  
*Siyao Li<sup>1,2</sup>, Wuwei Fan<sup>2</sup>, Taomei Guo<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>School of Psychology, Beijing Normal University, Beijing, China
- 282 MT The role of accentuation in conveying semantic meaning and in modulating attention allocation**  
*Xiaoqing Li<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 283 MT The role of right hemisphere in the processing of Chinese idioms: an fMRI study**  
*Yuyi Liu<sup>1</sup>, Jie Yang<sup>1,2</sup>, Xiaoping Fang<sup>1</sup>, Ping Li<sup>3</sup>, Hua Shu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Sackler Institute, Department of Psychiatry, Weill Cornell Medical College, NY, United States, <sup>3</sup>Department of Psychology, Pennsylvania State University, PA, United States
- 284 MT Regression shows inverse relationship between gamma-band and N400 responses during semantic priming**  
*Monika Melle<sup>1,2</sup>, Rhonda Friedman<sup>2</sup>, Andrei V. Medvedev<sup>1</sup>*  
<sup>1</sup>Center for Functional and Molecular Imaging, Georgetown University, Washington, DC, <sup>2</sup>Center for Aphasia Research and Rehabilitation, Georgetown University, Washington, DC
- 285 MT Oscillatory dynamics related to Agreement and Unagreement in Spanish**  
*Alejandro Perez Fernandez<sup>1</sup>, Nicola Molinaro<sup>1</sup>, Simona Mancini<sup>1</sup>, Paulo Barraza<sup>1</sup>, Manuel Carreiras<sup>1</sup>*  
<sup>1</sup>BCBL - Basque Center on Cognition, Brain and Language, Donostia, Spain
- 286 MT The anterior temporal lobes support residual comprehension in Wernicke's aphasia: A fMRI study**  
*Holly Robson<sup>1</sup>, Richard Binney<sup>1</sup>, James Keide<sup>2</sup>, Matthew Lambon Ralph<sup>1</sup>, Karen Sage<sup>1</sup>, Roland Zahn<sup>1</sup>*  
<sup>1</sup>University of Manchester, Manchester, United Kingdom, <sup>2</sup>University of Bangor, Bangor, United Kingdom
- 287 MT Inferior Frontal Gyrus Subserves Context-Dependent Comprehension of Spoken Narrative**  
*Dmitry Smirnov<sup>1</sup>, Enrico Glerian<sup>1</sup>, Juha Lahnakoski<sup>1</sup>, Juha Salmi<sup>1</sup>, Iiro Jääskeläinen<sup>1</sup>, Mikko Sams<sup>1,2</sup>, Lauri Nummenmaa<sup>1,3,4</sup>*  
<sup>1</sup>Brain and Mind Laboratory, BECS, School of Science, Aalto University, Espoo, Finland, <sup>2</sup>Advanced Magnetic Imaging Centre, School of Science, Aalto University, Espoo, Finland, <sup>3</sup>Turku PET Centre, Turku, Finland, <sup>4</sup>Brain Research Unit, O.V.Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland
- 288 MT "Clitic agreement", an ERP study**  
*Jui-Ju Su<sup>1</sup>, Nicola Molinaro<sup>2</sup>, Simona Mancini<sup>3</sup>, Manuel Carreiras<sup>1</sup>*  
<sup>1</sup>Basque Center on Cognition, Brain and Language (BCBL), Donostia-San Sebastian, Spain, <sup>2</sup>Basque center on Cognition, Brain and Language (BCBL), Donostia-San Sebastian, Spain, <sup>3</sup>Basque Center on Cognition, Brain and Language (BCBL), Donostia-San Sebastian, Spain
- 289 MT Recognizing the Emotional Meaning of Person Names: An Event Related Potential Study**  
*Lin Wang<sup>1</sup>, Zude Zhu<sup>2</sup>, Marcel Bastiaansen<sup>3</sup>, Peter Hagoort<sup>4</sup>, Suiping Wang<sup>5</sup>, Yufang Yang<sup>6</sup>*  
<sup>1</sup>Institute of psychology, Chinese academy of sciences, Beijing, China, <sup>2</sup>Department of Psychology, South China Normal University, Guangzhou, China, <sup>3</sup>Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands, <sup>4</sup>Donders Institute, Nijmegen, Netherlands, <sup>5</sup>South China Normal University, Guangzhou, China, <sup>6</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China

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### Language Comprehension and Semantics, continued

- 290 MT An ERP investigation of semantic integration for Chinese noun-noun compounds**  
*Jia xiaofei<sup>1</sup>, Wang Suiping<sup>2</sup>, zhang bao<sup>3</sup>, zhang John X<sup>4</sup>*  
<sup>1</sup>Institute of Higher Education, Shantou University, Shantou, China, <sup>2</sup>Department of Psychology, South China Normal University, Guangzhou, China, <sup>3</sup>Department of Psychology, Guangzhou University, Guangzhou, China, <sup>4</sup>Institute of Higher Education, the Chinese University of Hong Kong, Hong Kong
- 291 MT Effects of topicalization on pronoun interpretation in Mandarin Chinese: An ERP investigation**  
*xiaodong xu<sup>1,2</sup>, Xiaolin Zhou<sup>3</sup>*  
<sup>1</sup>Research Center for Learning Science and Key Laboratory of Child Development, Southeast University, Nanjing, China, <sup>2</sup>School of Foreign Languages & Cultures, Nanjing Normal University, Nanjing, China, <sup>3</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China
- 292 MT Modulation of brain connectivity as a function of orthographic interference**  
*Nan Yan<sup>1</sup>, Sam-Po Law<sup>1</sup>, I-Fan Su<sup>1</sup>*  
<sup>1</sup>University of Hong Kong, Hong Kong, Hong Kong
- 293 MT BOLD responses reveal emotion evaluation in speech depends more on prosody than semantics**  
*Jianfeng Yang<sup>1</sup>, Yuejia Luo<sup>2</sup>, Yufang Yang<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 294 MT Task-modulated processing of intelligible speech within and beyond temporal cortex: an fMRI study**  
*Qiuhai Yue<sup>1</sup>, Linjun Zhang<sup>2</sup>, Guoqing Xu<sup>3</sup>, Xiaoyi Wang<sup>4</sup>, Hua Shu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>College of Chinese Studies, Beijing Language and Culture University, Beijing, China, <sup>3</sup>Department of Psychology, Dalian Medical University, Dalian, China, <sup>4</sup>Department of Radiology, Xuanwu Hospital, Capital Medical University, Beijing, China
- 295 MT Pseudohomophone effect in visual word recognition: An fMRI study of Chinese compound words**  
*Jiayu Zhan<sup>1</sup>, Hongbo Yu<sup>1</sup>, Xiaolin Zhou<sup>1,2,3</sup>*  
<sup>1</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China, <sup>2</sup>Key Laboratory of Machine Perception (Ministry of Education), Peking University, Beijing, China, <sup>3</sup>Key Laboratory of Computational Linguistics (Ministry of Education), Peking University, Beijing, China
- 296 MT The centro-parietal N200: a key neural marker for visual word recognition in Chinese**  
*John Xuexin Zhang<sup>1</sup>, Bao Zhang<sup>2</sup>, Jie Yuan<sup>3</sup>, Xiaofei Jia<sup>4</sup>*  
<sup>1</sup>Chinese Univ. of Hong Kong, Hong Kong, China, <sup>2</sup>Guangzhou University, Guangzhou, China, <sup>3</sup>Tsinghua University, Beijing, China, <sup>4</sup>Shantou University, Shantou, China
- 297 MT Orthographic facilitation in Chinese spoken word recognition: An ERP study**  
*Lijuan Zou<sup>1</sup>, Amy Desroches<sup>2</sup>, Youyi Liu<sup>1</sup>, Zhichao Xia<sup>1</sup>, Hua Shu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Department of Psychology, University of Winnipeg, Winnipeg, Canada

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### Reading and Writing

- 298 MT Evaluating a neural framework for orthographic word representations using fMRI and the HMAX model**  
*Wouter Braet<sup>1</sup>, Jonas Kubilius<sup>1</sup>, Hans Op de Beeck<sup>1</sup>, Johan Wagemans<sup>1</sup>*  
<sup>1</sup>University of Leuven (KULeuven), Leuven, Belgium
- \*299 MT Electrophysiological correlate of pre-literate print sensitivity – a predictor for reading outcome? (O-M3)**  
*Silvia Brem<sup>1,2</sup>, Silvia Bach<sup>1,2</sup>, Heikki Lyytinen<sup>3</sup>, Urs Maurer<sup>4,1</sup>, Ulla Richardson<sup>2</sup>, Daniel Brandeis<sup>5,1,6</sup>*  
<sup>1</sup>Department of Child and Adolescent Psychiatry, University of Zürich, Zürich, Switzerland, <sup>2</sup>Agora Center, University of Jyväskylä, Jyväskylä, Finland, <sup>3</sup>Department of Psychology, University of Jyväskylä, Jyväskylä, Finland, <sup>4</sup>Department of Psychology, University of Zurich, Zurich, Switzerland, <sup>5</sup>Central Institute of Mental Health, Medical Faculty Mannheim/Heidelberg University, Mannheim, Germany, <sup>6</sup>Zurich Center for Integrative Human Physiology, University of Zürich, Zürich, Switzerland
- 300 MT Proficiency does not modulate the brain network of reading in late Chinese-English bilinguals**  
*Fan Cao<sup>1</sup>, Ran Tao<sup>2</sup>, Xiaoyu Lei<sup>3</sup>, Charles Perfetti<sup>3</sup>, James Booth<sup>4</sup>, Li Liu<sup>2</sup>*  
<sup>1</sup>Nanyang Technological University, Singapore, Singapore, <sup>2</sup>Beijing Normal University, Beijing, China, <sup>3</sup>University of Pittsburgh, Pittsburgh, United States, <sup>4</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL
- 301 MT Is the frequency of visual line configurations reflected in the brain?**  
*Hui-Chuan Chang<sup>1</sup>, Kimihiro Nakamura<sup>2,3,4,5</sup>, Antoinette Jobert<sup>2,3,5</sup>, Christophe Pallier<sup>2,3,6,5</sup>, Stanislas Dehaene<sup>2,3,4,5</sup>*  
<sup>1</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, <sup>2</sup>Cognitive Neuroimaging Unit, INSERM, Gif-sur-Yvette, France, <sup>3</sup>CEA, DSV, I2BM, NeuroSpin Center, Paris, France, <sup>4</sup>Collège de France, Paris, France, <sup>5</sup>University Paris-Sud, Paris, France, <sup>6</sup>Centre National de la Recherche Scientifique, Paris, France
- 302 MT The centro-parietal N200 is not affected by semantic priming**  
*Yingchun Du<sup>1</sup>, John.X Zhang<sup>2</sup>, Jie Yuan<sup>3</sup>, Qin Zhang<sup>4</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Psychology, the Chinese University of Hong Kong, Hong Kong, China, <sup>3</sup>Tsinghua University, Beijing, China, <sup>4</sup>Department of Psychology, Capital Normal University, Beijing, China
- 303 MT Temporal Dynamics of Structure and Phonetic Radical Modulation in Chinese Character Pronunciation**  
*Janet H. Hsiao<sup>1</sup>, Zhiguo Zhang<sup>1</sup>, Kit Cheung<sup>1</sup>, Lana Lam<sup>1</sup>, Yong Hu<sup>1</sup>*  
<sup>1</sup>The University of Hong Kong, Hong Kong, China
- 304 MT Two phonological regions show distinct patterns of modulation in an overt reading paradigm**  
*Sarah Ihnen<sup>1</sup>, Steven Petersen<sup>1</sup>, Bradley Schlaggar<sup>1</sup>*  
<sup>1</sup>Washington University School of Medicine, St. Louis, MO, United States
- 305 MT Discriminating the components of the sublexical route during reading**  
*Gael Jobard<sup>1</sup>, Florian Bazin<sup>2</sup>, Emmanuel Mellet<sup>2</sup>, Fabrice Crivello<sup>3</sup>, Laure Zago<sup>1</sup>, Laurent Petit<sup>4</sup>, Pierre-Yves Hervé<sup>2</sup>, Marc Joliot<sup>2</sup>, Bernard Mazoyer<sup>2</sup>, Nathalie Tzourio-Mazoyer<sup>2</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France, <sup>2</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen France, Bordeaux, France, <sup>3</sup>GIN, UMR5296 CNRS-CEA-Bordeaux Segalen University, Bordeaux, France, <sup>4</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen France, BORDEAUX, France
- 306 MT Is ventral occipito-temporal cortex necessary for normal reading?**  
*Keith Kawabata Duncan<sup>1,2,3</sup>, Joseph Devlin<sup>3</sup>, Katsuyuki Sakai<sup>1</sup>*  
<sup>1</sup>Department of Cognitive Neuroscience, University of Tokyo, Tokyo, Japan, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, UCL, London, United Kingdom, <sup>3</sup>Cognitive, Perceptual & Brain Sciences, UCL, London, United Kingdom
- 307 MT The Neural Correlate of the Masked Onset Priming Effect**  
*Michael Klein<sup>1</sup>, Piers Cornelissen<sup>2</sup>, Katherine Wheat<sup>2</sup>, Peter Hansen<sup>3</sup>, Jonathan Grainger<sup>1</sup>*  
<sup>1</sup>CNRS, University of Aix - Marseille, Marseille, France, <sup>2</sup>Department of Psychology, University of York, York, United Kingdom, <sup>3</sup>University of Birmingham, School of Psychology, Birmingham, United Kingdom
- 308 MT Contrasting fMRI activations for second language reading in English and Japanese Kana**  
*Maki Koyama<sup>1,2</sup>, John Stein<sup>2</sup>, Catherine Stoodley<sup>3,2</sup>, Peter Hansen<sup>4,2</sup>*  
<sup>1</sup>Rutgers University, Center for Molecular and Behavioral Neuroscience, Newark, USA, <sup>2</sup>University of Oxford, Department of Physiology, Anatomy, and Genetics, Oxford, United Kingdom, <sup>3</sup>American University, Department of Psychology, Washington, DC, <sup>4</sup>University of Birmingham, School of Psychology, Birmingham, United Kingdom

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Reading and Writing, continued

- 309 MT English word, Chinese character and object processing in young English speaking children**  
*Anthony Krafnick<sup>1</sup>, Megan Luetje<sup>1</sup>, Eileen Napoliello<sup>1</sup>, D Flowers<sup>1</sup>, Li-Hai Tan<sup>2</sup>, Guinevere Eden<sup>1</sup>*  
<sup>1</sup>Georgetown University, Washington, United States, <sup>2</sup>The University of Hong Kong, Hong Kong, China
- 310 MT A Meta-analysis of Functional Neuroimaging Studies of Chinese Dyslexics and Normal Readers**  
*Fu Yu Kwok<sup>1</sup>, Moon-Ho Ho<sup>1</sup>, S.H. Chen<sup>1</sup>*  
<sup>1</sup>Nanyang Technological University, Singapore, Singapore
- 311 MT Large-scale gamma-band amplitude correlations reveal segregation/integration in the reading network**  
*Jean-Philippe Lachaux<sup>1</sup>, Juan Vidal<sup>1</sup>, Samson Freyermuth<sup>2</sup>, Karim Jerbi<sup>1</sup>, Tomas Ossandon<sup>3</sup>, Carlos Hamamé<sup>4</sup>, Olivier Bertrand<sup>1</sup>, Philippe Kahane<sup>5</sup>, Alain Berthoz<sup>6</sup>*  
<sup>1</sup>INSERM, Lyon, France, <sup>2</sup>CNRS, Paris, France, <sup>3</sup>INSERM U1028, CNRS UMR5292, Lyon Neuroscience Research Center, Brain Dynamics and Cognition Team, Ly, Lyon, France, <sup>4</sup>INSERM U1028, CNRS UMR5292, Lyon Neuroscience Research Center, Brain Dynamics and Cognition Team, Lyon, France, <sup>5</sup>INSERM, Grenoble, France, <sup>6</sup>College de France, Paris, France
- 312 MT Functional Brain Activities for Self-reference Effect on Observing Writing Traces**  
*Elisa Mattaloni<sup>1,2</sup>, Horus Huang<sup>3</sup>, Daisy Hung<sup>4</sup>, Walter Gerbino<sup>1,2</sup>, Erik Chang<sup>4</sup>*  
<sup>1</sup>Department of Psychology "Gaetano Kanizsa", University of Trieste, Trieste, Italy, <sup>2</sup>B.R.A.I.N. Center for Neuroscience, University of Trieste, Trieste, Italy, <sup>3</sup>Brain Research Center, National Chiao-Tung University, Hsin-Chu City, Chinese Taipei, <sup>4</sup>Institute of Cognitive Neuroscience, National Central University, Jhongli City, Chinese Taipei
- 313 MT Orthographic transparency modulates the functional asymmetry in the fusiform cortex**  
*Leilei Mei<sup>1</sup>, Chuansheng Chen<sup>2</sup>, Gui Xue<sup>3</sup>, Zhong-lin Lu<sup>4</sup>, Qi Dong<sup>5</sup>*  
<sup>1</sup>University of California, Irvine, Irvine, United States, <sup>2</sup>University of California, Irvine, Irvine, CA, <sup>3</sup>University of Southern California, Los Angeles, CA, <sup>4</sup>Centre for Cognitive Science, Ohio State University, Columbus, OH, <sup>5</sup>Beijing Normal University, Beijing, China
- 314 MT Letter identity in visual word recognition: MEG correlates of relative position priming**  
*Nicola Molinaro<sup>1</sup>, Mikel Lizarazu<sup>1</sup>, Jon Andoni Dunabeitia<sup>1</sup>, Manuel Carreiras<sup>1</sup>*  
<sup>1</sup>BCBL - Basque center on Cognition, Brain and Language, Donostia-San Sebastian, Spain
- 315 MT Development of print tuning during learning to read: effects of behavioral language measures**  
*Aleksandra Moscicka<sup>1</sup>, Lea Jost<sup>1</sup>, Margit Raith<sup>1</sup>, Urs Maurer<sup>1</sup>*  
<sup>1</sup>University of Zurich, Zurich, Switzerland
- 316 MT Right and left hemisphere contributions to reading: evidence from transcranial magnetic stimulation**  
*Chotiga Pattamadilok<sup>1</sup>, Luis Carlo Bulnes<sup>2</sup>, Joseph Devlin<sup>3</sup>, Jose Morais<sup>4</sup>, Regine Kolinsky<sup>5</sup>*  
<sup>1</sup>Laboratoire Parole & Langage, CNRS, Aix-en-Provence, France, <sup>2</sup>Katholieke Universiteit Leuven, Leuven, Belgium, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>Universite Libre de Bruxelles, Brussels, Belgium, <sup>5</sup>Fonds de la Recherche Scientifique-FNRS, Brussels, Belgium
- 317 MT An fMRI investigation of the processing of zero derivation in English**  
*Christos Pliatsikas<sup>1</sup>, Aditi Lahiri<sup>2</sup>, Linda Wheeldon<sup>3</sup>, Peter Hansen<sup>4</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Centre for Linguistics and Philology, University of Oxford, Oxford, United Kingdom, <sup>3</sup>University of Birmingham, Birmingham, United Kingdom, <sup>4</sup>University of Birmingham, School of Psychology, Birmingham, United Kingdom
- 318 MT Shared Neuronal Representations for Spelling and Reading**  
*Jeremy Purcell<sup>1</sup>, Xiong Jiang<sup>2</sup>, Guinevere Eden<sup>1</sup>*  
<sup>1</sup>Georgetown University - Center for the Study of Learning (CSL), Washington, DC, United States, <sup>2</sup>Georgetown University - Department of Neuroscience, Washington, DC, United States
- 319 MT Neural systems for reading in childhood medulloblastoma survivors – an fMRI study**  
*Samina Taherbhoy<sup>1,2</sup>, Ping Stinnett<sup>1</sup>, Chia-ho Hua<sup>1</sup>, Thomas Merchant<sup>1</sup>, Amar Gajjar<sup>1</sup>, Robert Ogg<sup>1</sup>*  
<sup>1</sup>St. Jude Childrens Research Hospital, Memphis, United States, <sup>2</sup>University of Tennessee Health Science Center, Memphis, United States

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### Reading and Writing, continued

- 320 MT Comparing Different Neural Markers of Developmental Dyslexia and Reading Ability**  
*Cheng Wang<sup>1</sup>, Joonkoo Park<sup>2</sup>, Agnes Jasinska<sup>1</sup>, Joanne Carlisle<sup>3</sup>, Holly Craig<sup>3</sup>, Stephanie Hense<sup>4</sup>, Jing Liu<sup>5</sup>, Frederick Morrison<sup>1</sup>, Robert Welsh<sup>6</sup>, Thad Polk<sup>1</sup>*  
<sup>1</sup>Psychology, University of Michigan, Ann Arbor, MI, <sup>2</sup>Center for Cognitive Neuroscience, Duke University, Durham, NC, <sup>3</sup>School of Education, University of Michigan, Ann Arbor, MI, <sup>4</sup>UCDLL, University of Michigan, Ann Arbor, MI, <sup>5</sup>MBNI, University of Michigan, Ann Arbor, MI, <sup>6</sup>Radiology, University of Michigan, Ann Arbor, MI
- 321 MT Overlapping networks for reading and listening to continuous narratives in Chinese**  
*Xiaojuan Wang<sup>1</sup>, W Menc<sup>2</sup>, Jianfeng Yang<sup>3</sup>, Hua Shu<sup>1</sup>, Jason Zevin<sup>2,4</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Haskins Laboratories, New Haven, CT, <sup>3</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Sackler Institute for Developmental Psychobiology, New York, United States
- 322 MT The Somatotopic Representation of Effector Cued and Uncued Chinese Verbs in the Motor Cortex**  
*Haiyan Wu<sup>1</sup>, Honghong Tang<sup>1</sup>, Yue Ge<sup>1</sup>, Yue-jia Luo<sup>1</sup>, Chao Liu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 323 MT Linguistic diversity is constrained by universal mechanisms at visual-form level: an fMRI study**  
*Min Xu<sup>1</sup>, Jizong Zhao<sup>2</sup>, Wai Ting Siok<sup>1</sup>, Li Hai Tan<sup>1</sup>*  
<sup>1</sup>The University of Hong Kong, Hong Kong, China, <sup>2</sup>Tiantan Hospital, Beijing, China
- 324 MT Neural deficits and training-induced neural changes in Chinese developmental dyslexia**  
*Wenping You<sup>1,2</sup>, Li Liu<sup>2</sup>, Qingfang Zhang<sup>1</sup>, Danling Peng<sup>2</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 325 MT Grammatical Class Distinction in Neural Representation of Chinese Word Forms**  
*Xi Yu<sup>1</sup>, Yanchao Bi<sup>2</sup>, Zaizhu Han<sup>2</sup>, Sam-Po Law<sup>3</sup>*  
<sup>1</sup>The University of Hong Kong, Hong Kong, Hong Kong, <sup>2</sup>State Key Lab Laboratory of Cognitive neuroscience and learning, Beijing Normal University, Beijing, Beijing, <sup>3</sup>University of Hong Kong, Hong Kong, Hong Kong

## LANGUAGE

### Speech Perception

- 326 MT Neural correlates of male and female voice perception and differences between men and women**  
*Jessica Bath<sup>1</sup>, Katharina Pauly<sup>1</sup>, Christiane Neuschaefer-Rube<sup>1</sup>, Joseph Neulen<sup>1</sup>, Christian Kohler<sup>2</sup>, Ute Habel<sup>3</sup>*  
<sup>1</sup>RWTH Aachen University, Aachen, Germany, <sup>2</sup>University of Pennsylvania, Philadelphia, PA, <sup>3</sup>University of Aachen, Aachen, Germany
- 327 MT Modulation of speech processing following item repetition**  
*Mirjana Bozic<sup>1,2</sup>, Alexandra Woolgar<sup>3</sup>, Elisabeth Fonteneau<sup>1,2</sup>, Caroline Whiting<sup>1,2</sup>, Li Su<sup>1,2</sup>, Cai Wingfield<sup>2</sup>, William Marslen-Wilson<sup>1,2</sup>*  
<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>MRC CBU, Cambridge, United Kingdom, <sup>3</sup>Macquarie University, Sydney, Australia
- 328 MT The relationship between online and offline measures of phonology in Chinese children: an ERP study**  
*Gao Danqi<sup>1</sup>, James Booth<sup>2</sup>, Amy Desroches<sup>3</sup>, Li Liu<sup>4</sup>, Hua Shu<sup>5</sup>, Ran Tao<sup>4</sup>, Jeff Malins<sup>6</sup>*  
<sup>1</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China, <sup>2</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, Illinois, USA, <sup>3</sup>Department of Psychology, University of Winnipeg, Winnipeg, Canada, <sup>4</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>5</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>6</sup>Department of Psychology & Program in Neuroscience, The University of Western Ontario, London, Canada
- 329 MT Use of spatial information during speech-in-speech perception in dyslexia: an fMRI study**  
*Marjorie Dole<sup>1</sup>, Jean-Luc Anton<sup>2</sup>, Bruno Nazarian<sup>2</sup>, Muriel Roth<sup>2</sup>, Fanny Meunier<sup>1</sup>, Michel Hoen<sup>1</sup>*  
<sup>1</sup>Lyon Neuroscience Research Centre, Lyons, France, <sup>2</sup>Centre IRM Fonctionnelle - IFR 131, Marseille, France
- \*330 MT Distinct Cortical Representations for Intact Audiovisual Speech and the McGurk Effect (O-M3)**  
*Laura Erickson<sup>1</sup>, Amber Leaver<sup>1</sup>, Jennifer Van Lare<sup>1</sup>, Guoying Liu<sup>2</sup>, Brandon Zielinski<sup>3</sup>, Josef Rauschecker<sup>1</sup>*  
<sup>1</sup>Georgetown University, Washington, DC, United States, <sup>2</sup>National Institutes of Health, Bethesda, MD, United States, <sup>3</sup>University of Utah and Primary Children's Medical Center, Salt Lake City, UT, United States

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Speech Perception, continued

- 331 MT Sensitivity to Linguistic Universals at Birth: A fNIRS Study with Newborn Infants**  
*David Gomez*<sup>1,2</sup>, *Silvia Benavides-Varela*<sup>1</sup>, *Ricardo Bion*<sup>3</sup>, *Francesco Macagno*<sup>4</sup>, *Marina Nespor*<sup>1</sup>, *Iris Berent*<sup>5</sup>, *Jacques Mehler*<sup>1</sup>  
<sup>1</sup>International School for Advanced Studies (SISSA), Trieste, Italy, <sup>2</sup>Center for Advanced Research in Education (CIAE), Santiago, Chile, <sup>3</sup>Stanford University, Stanford, CA, <sup>4</sup>Santa Maria della Misericordia Hospital, Udine, Italy, <sup>5</sup>Northeastern University, Boston, MA
- 332 MT Extracting native MMN responses from phonetic details: Chinese vs. English double dissociation study**  
*Chang Gu*<sup>1</sup>, *Yuliya Yoncheva*<sup>1</sup>, *Han Wu*<sup>2</sup>, *Hua Shu*<sup>2</sup>, *Bruce McCandliss*<sup>1</sup>  
<sup>1</sup>Vanderbilt University, Nashville, United States, <sup>2</sup>Beijing Normal University, Beijing, China
- 333 MT Brain-machine interfacing and the motor theory of speech perception**  
*Olga Iljina*<sup>1,2,3</sup>, *Johanna Rüscher*<sup>1,4,5</sup>, *Johanna Derix*<sup>1,4,5</sup>, *Ad Aertsen*<sup>5,4</sup>, *Andreas Schulze-Bonhage*<sup>1</sup>, *Bernd Kortmann*<sup>2,3</sup>, *Tonio Ball*<sup>1,5</sup>  
<sup>1</sup>Epilepsy Center, University Medical Center, Albert-Ludwigs-University, Freiburg, Germany, <sup>2</sup>Hermann Paul School of Language Sciences, Freiburg, Germany, <sup>3</sup>English Department, Albert-Ludwigs-University, Freiburg, Germany, <sup>4</sup>Neurobiology and Biophysics, Institute of Biology III, Faculty of Biology, Albert-Ludwigs-University, Freiburg, Germany, <sup>5</sup>Bernstein Center, Freiburg, Germany
- 334 MT Neural synchronization during face-to-face communication**  
*Jing Jiang*<sup>1</sup>, *Chunming Lu*<sup>2</sup>  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 335 MT Bilateralization of the human brain enhances speech perception? Evidence from functional MRI study**  
*Ho-Jung Kang*<sup>1</sup>, *HanGil Lee*<sup>1</sup>, *Yong-Hwan Kim*<sup>1</sup>, *Dong-Youl Kim*<sup>1</sup>, *Jong-Hwan Lee*<sup>1</sup>  
<sup>1</sup>Korea University, Seoul, Korea, Republic of
- 336 MT Graphical modeling of brain network on fMRI during audiovisual speech task**  
*Heejung Kim*<sup>1</sup>, *Hyekyoung Lee*<sup>2</sup>, *Hyejin Kang*<sup>2</sup>, *Eunjo Kang*<sup>3</sup>, *Dong Soo Lee*<sup>2</sup>  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Seoul National University, College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Kangwon National University, Chuncheon, Korea, Republic of
- 337 MT Cortical activation related to the unmasking effect of perceived separation on speech perception**  
*Huahui Li*<sup>1</sup>, *Lihua Mao*<sup>1</sup>, *Xihong Wu*<sup>1</sup>, *Liang Li*<sup>1</sup>  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China
- 338 MT Online Markers of Phonological Processing in Typically Developing Mandarin-Speaking Children**  
*Jeffrey Malins*<sup>1</sup>, *Danqi Gao*<sup>2</sup>, *Ran Tao*<sup>2</sup>, *James Booth*<sup>3</sup>, *Hua Shu*<sup>2</sup>, *Li Liu*<sup>2</sup>, *Amy Desroches*<sup>4</sup>  
<sup>1</sup>Department of Psychology & Program in Neuroscience, The University of Western Ontario, London, Canada, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>3</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL, <sup>4</sup>Department of Psychology, University of Winnipeg, Winnipeg, Canada
- 339 MT An fMRI Investigation of Mandarin Tonal Processing Using Short-Interval Habituation**  
*Jeffrey Malins*<sup>1</sup>, *Marc Joanisse*<sup>1</sup>  
<sup>1</sup>Department of Psychology & Program in Neuroscience, The University of Western Ontario, London, Canada
- 340 MT Auditory Cortical Responses to Spectrally Degraded Speech: An Intracranial Electrophysiology Study**  
*Kirill Nourski*<sup>1</sup>, *John Brugge*<sup>1,2</sup>, *Mitchell Steinschneider*<sup>3</sup>, *Hiroyuki Oya*<sup>1</sup>, *Hiroto Kawasaki*<sup>1</sup>, *Richard Reale*<sup>1,2</sup>, *Matthew Howard*<sup>1</sup>  
<sup>1</sup>The University of Iowa, Iowa City, IA, USA, <sup>2</sup>University of Wisconsin - Madison, Madison, WI, USA, <sup>3</sup>Albert Einstein College Of Medicine, Bronx, NY, USA
- 341 MT Cognitive load during the perception of degraded speech**  
*Varghese Peter*<sup>1</sup>, *Ronny Ibrahim*<sup>2</sup>, *Catherine McMahon*<sup>2</sup>  
<sup>1</sup>Macquarie University, Sydney, Australia, <sup>2</sup>Macquarie University, Sydney, NSW
- 342 MT Question or surprise? The neural correlates of linguistic and paralinguistic intonation**  
*Brechtje Post*<sup>1</sup>, *Emmanuel Stamatakis*<sup>2</sup>, *Iwo Bohr*<sup>1</sup>, *Francis Nolan*<sup>1</sup>, *Chris Cummins*<sup>1</sup>  
<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Queens' College, Cambridge, Cambridge, United Kingdom

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### Speech Perception, continued

- 343 MT** **Centro-parietal N200 for Encoding of Character Position in Chinese Compound word recognition**  
*Guifang Xu<sup>1</sup>, Lingyue Kong<sup>2</sup>, John.X Zhang<sup>3</sup>*  
<sup>1</sup>*institute of psychology, Chinese Academic of Science, Beijing, China,* <sup>2</sup>*International College for Chinese Language Study, Peking University, Beijing, China,* <sup>3</sup>*Department of Psychology, the Chinese University of Hong Kong, Hong Kong, China*
- 344 MT** **Natural language comprehension in Japanese-English bilinguals**  
*Jie Yang<sup>1</sup>, Jeremy Skipper<sup>2</sup>, Jason Zevin<sup>3</sup>*  
<sup>1</sup>*Sackler Institute of Developmental Psychobiology, New York, United States,* <sup>2</sup>*Department of Psychology, Hamilton College, Clinton, United States,* <sup>3</sup>*Sackler Institute for Developmental Psychobiology, New York, United States*
- 345 MT** **Selective listening of linguistic and paralinguistic information in speech: An MEG study**  
*Yang Zhang<sup>1</sup>, Tess Koerner<sup>1</sup>, Keita Tanaka<sup>2</sup>, Toshiaki Imada<sup>3</sup>*  
<sup>1</sup>*University of Minnesota, Minneapolis, MN,* <sup>2</sup>*Tokyo Denki University, Hiki-gun, Saitama,* <sup>3</sup>*University of Washington, Seattle, WA*

## LANGUAGE

### Speech Production

- \*346 MT** **GABAergic function during speech production (O-M3)**  
*Arash Fazl<sup>1</sup>, Peter Herscovitch<sup>2</sup>, Kristina Simonyan<sup>3</sup>*  
<sup>1</sup>*Mount Sinai Medical School, New York, United States,* <sup>2</sup>*NIH, Bethesda, MD,* <sup>3</sup>*Mount Sinai School of Medicine, New York, United States*
- 347 MT** **Changes in Cortical Thickness Following Intensive Therapy for Childhood Motor Speech Disorders**  
*Darren Kadis<sup>1</sup>, Debra Goshulak<sup>2</sup>, Margit Pukonen<sup>2</sup>, Robert Krol<sup>3</sup>, Luc De Nil<sup>4</sup>, Elizabeth Pang<sup>5</sup>, Jason Lerch<sup>6</sup>*  
<sup>1</sup>*Hospital for Sick Children, Toronto, Canada,* <sup>2</sup>*Speech & Stuttering Institute, Toronto, Ontario,* <sup>3</sup>*Speech and Stuttering Institute, Toronto, Ontario,* <sup>4</sup>*University of Toronto, Toronto, Ontario,* <sup>5</sup>*Hospital for Sick Children, Toronto, OH,* <sup>6</sup>*Hospital for Sick Children, Toronto, Ontario*
- 348 MT** **High gamma time-frequency analysis of MEG cortical responses to voice pitch feedback perturbation**  
*Naomi Kort<sup>1</sup>, John Houde<sup>1</sup>, Srikantan Nagarajan<sup>1</sup>*  
<sup>1</sup>*University of California, San Francisco, San Francisco, United States*
- 349 MT** **Predicting behavioral language performance using a multivariate lesion pattern-based analysis**  
*Yune-Sang Lee<sup>1</sup>, Yung-Kyun Noh<sup>2</sup>, Daniel Kimberg<sup>3</sup>, H Coslett<sup>4</sup>, Myrna Schwartz<sup>4</sup>*  
<sup>1</sup>*Dept. of Psychiatry, Univ. of Pennsylvania, Philadelphia, PA, United States,* <sup>2</sup>*Dept. of Electrical and Systems Engineering, Univ. of Pennsylvania, Philadelphia, PA, United States,* <sup>3</sup>*Dept. of Neurology, Univ. of Pennsylvania, Philadelphia, PA, United States,* <sup>4</sup>*Moss Rehabilitation Research Institute, Philadelphia, PA, United States*
- 350 MT** **Intrinsic word processing neural networks in children and adults during the resting state**  
*ling li<sup>1</sup>, jiangang liu<sup>1</sup>, lu feng<sup>2</sup>, kang lee<sup>3</sup>, jie tian<sup>2</sup>*  
<sup>1</sup>*School of Computer and Information Technology, Beijing Jiaotong University, beijing, China,* <sup>2</sup>*Institute of Automation, Chinese Academy of Sciences, beijing, China,* <sup>3</sup>*Dr. Eric Jackman Institute of Child Study, University of Toronto, Toronto, Canada*
- 351 MT** **Gesturing engages Episodic Memory Network during Overt Speech Production**  
*Lars Marstaller<sup>1</sup>, Hana Burianova<sup>2</sup>*  
<sup>1</sup>*Macquarie University, Sydney, Australia,* <sup>2</sup>*Macquarie University, Sydney, Australia, N/A*

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### Speech Production, continued

- \*352 MT Auditory–motor interactions during speech production in monolingual and bilingual speakers (O-M3)**  
*Ivi Parker Jones<sup>1</sup>, Mohamed Seghier<sup>1</sup>, Keith Kawabata Duncan<sup>2</sup>, Alexander Leff<sup>1</sup>, David Green<sup>1</sup>, Cathy Price<sup>1</sup>*  
<sup>1</sup>University College London, London, United Kingdom, <sup>2</sup>University of Tokyo, Tokyo, Japan
- 353 MT Concurrent fMRI during TMS-Induced Speech Arrest for Exploring Language Networks**  
*Donna Roberts<sup>1</sup>, James Fox<sup>2</sup>, Vibhor Krishna<sup>2</sup>, Donald Barr<sup>2</sup>, Jeffrey Bodle<sup>2</sup>*  
<sup>1</sup>Medical University of South Carolina, Charleston, United States, <sup>2</sup>Medical University of South Carolina, Charleston, SC
- 354 MT Foreign Accent Syndrome in an Elderly Patient**  
*Marco Romano-Silva<sup>1,2</sup>, Maria Bicalho<sup>1</sup>, Fernanda Carvalho<sup>1</sup>, Marco Cintra<sup>1</sup>, Luciana Cunha<sup>1</sup>, Leandro Malloy-Diniz<sup>1</sup>, Daniela Rosa<sup>1</sup>, Lafaiete Moreira<sup>1</sup>, Edgar Moraes<sup>1</sup>, Marcelo Mamede<sup>1</sup>, Debora Miranda<sup>1</sup>*  
<sup>1</sup>Univ. Federal de Minas Gerais (UFMG), Belo Horizonte, Brazil, <sup>2</sup>INCT Medicina Molecular, Belo Horizonte, Brazil
- 355 MT Neural plasticity of stuttering speakers by rhythmical speech training**  
*Akira Toyomura<sup>1</sup>, Tetsunoshin Fujii<sup>2</sup>, Shinya Kuriki<sup>1</sup>*  
<sup>1</sup>Tokyo Denki University, Tokyo, Japan, <sup>2</sup>Hokkaido University, Sapporo, Japan
- 356 MT An fMRI study of spontaneity, autobiography and social content in narrative speech production**  
*Yisheng Xu<sup>1</sup>, Nuria AbdulSabur<sup>1</sup>, Michael Erkkinen<sup>2</sup>, Katherine Swett<sup>1</sup>, Allen Braun<sup>1</sup>*  
<sup>1</sup>National Institutes of Health, Bethesda, MD, United States, <sup>2</sup>Dartmouth Medical School, Dartmouth, NH, United States
- 357 MT The additivity between semantic interference and phonological facilitation: An ERP study**  
*Qingfang Zhang<sup>1</sup>, Xuebing Zhu<sup>1</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 358 MT Language Deficit Prediction Using Brain Lesion Geometry Feature-based Support Vector Regression**  
*Yongsheng Zhang<sup>1,2</sup>, Daniel Kimberg<sup>3</sup>, H Coslett<sup>4</sup>, Myrna Schwartz<sup>5</sup>, Ze Wang<sup>1</sup>*  
<sup>1</sup>Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, <sup>2</sup>Shanghai Jiao Tong University, Shanghai, China, <sup>3</sup>Google Inc, Redwood, CA, <sup>4</sup>University of Pennsylvania, Philadelphia, PA, <sup>5</sup>Moss Rehabilitation Research Institute, Philadelphia, PA
- \*359 MT Representational Similarity Analysis Reveals Heterogeneous Networks Supporting Speech Motor Control (O-M3)**  
*Zane Zheng<sup>1</sup>, Rhodri Cusack<sup>2</sup>, Ingrid Johnsrude<sup>1</sup>, Ewen MacDonald<sup>3</sup>, Kevin Munhall<sup>1</sup>, Alejandro Vicente-Grabovetsky<sup>1</sup>*  
<sup>1</sup>Queen's University, Kingston, Canada, <sup>2</sup>Medical Research Council Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>3</sup>Technical University of Denmark, Lyngby, Denmark

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## MODELING AND ANALYSIS METHODS

### Bayesian Modeling

- 360 MT Bayesian global optimization for model-based neuroimaging**  
*Ekaterina Lomakina*<sup>1,2</sup>, *Alexander Vezhnevets*<sup>1</sup>, *Christoph Mathys*<sup>3</sup>, *Kay H. Brodersen*<sup>1</sup>, *Klaas Enno Stephan*<sup>4</sup>, *Joachim Buhmann*<sup>1</sup>  
<sup>1</sup>ETH Zurich, Zurich, Switzerland, <sup>2</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>3</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>4</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zurich, Switzerland
- 361 MT Variational inversion of a complex hierarchical Bayesian learning model**  
*Christoph Mathys*<sup>1</sup>, *Chaohui Guo*<sup>2</sup>, *Kerstin Preuschoff*<sup>3,4</sup>, *Ernst Fehr*<sup>2</sup>, *Klaas Enno Stephan*<sup>1,5</sup>  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>2</sup>Laboratory for Social and Neural Systems Research, University of Zurich, Zurich, Switzerland, <sup>3</sup>Computational Neuroscience Lab, EPFL, Lausanne, Switzerland, <sup>4</sup>LREN Neuroimaging Research Lab, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland, <sup>5</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom
- 362 MT Parameter estimation in a Bayesian hierarchical model of learning: a comparison of four methods**  
*Christoph Mathys*<sup>1</sup>, *Ekaterina Lomakina*<sup>1,2</sup>, *Jean Daunizeau*<sup>3</sup>, *Sandra Iglesias*<sup>1</sup>, *Klaas Enno Stephan*<sup>1,4</sup>  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>2</sup>Department of Computer Science, ETH Zurich, Zurich, Switzerland, <sup>3</sup>Institut du Cerveau et de la Moelle épinière (ICM), Hôpital Pitié Salpêtrière, Paris, France, <sup>4</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom
- 363 MT Integrating Group Connectivity Prior into fMRI Activation Detection**  
*Bernard Ng*<sup>1</sup>, *Gael Varoquaux*<sup>1</sup>, *Jean Baptiste Poline*<sup>1</sup>, *Bertrand Thirion*<sup>1</sup>  
<sup>1</sup>Parietal Team, INRIA Saclay, Gif-sur-Yvette, France

## MODELING AND ANALYSIS METHODS

### Classification and Predictive Modeling

- 364 MT Support vector machine for one-step group analysis of functional MRI of the human brain**  
*Tibor Auer*<sup>1</sup>, *Dörthe Malzahn*<sup>2</sup>, *Jens Frahm*<sup>1</sup>  
<sup>1</sup>Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany, <sup>2</sup>Department of Genetic Epidemiology, University Medical Center Göttingen, University of Göttingen, Göttingen, Germany
- 365 MT Structured Sparsity Models for Brain Decoding from fMRI data**  
*Luca Baldassarre*<sup>1</sup>, *Janaina Mourao-Miranda*<sup>1</sup>, *Massimiliano Pontil*<sup>1</sup>  
<sup>1</sup>Computer Science Department - University College London, London, United Kingdom
- 366 MT Variational Bayesian mixed-effects inference for classification studies**  
*Kay H. Brodersen*<sup>1,2</sup>, *Jean Daunizeau*<sup>3</sup>, *Christoph Mathys*<sup>1</sup>, *Justin Chumbley*<sup>3</sup>, *Joachim Buhmann*<sup>2</sup>, *Klaas Enno Stephan*<sup>1,4</sup>  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>2</sup>Department of Computer Science, ETH Zurich, Zurich, Switzerland, <sup>3</sup>Institute for Empirical Research in Economics, University of Zurich, Zurich, Switzerland, <sup>4</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom
- 367 MT An Adaptive Autoregressive Fuzzy Model for Brain Activity Detection in Functional MRI**  
*Steren Chabert*<sup>1</sup>, *Rodrigo Salas*<sup>1</sup>, *Juan Vielma*<sup>2</sup>, *Alejandro Veloz*<sup>1</sup>  
<sup>1</sup>Universidad de Valparaíso, Valparaíso, Chile, <sup>2</sup>Hospital Carlos van Buren, Valparaíso, Chile
- 368 MT Brain Age Estimation from Childhood to Elderly Based on MRI Texture Analysis**  
*Che-Wei Chang*<sup>1,2</sup>, *Chien-Chan Ho*<sup>2</sup>, *Jyh-Horng Chen*<sup>2,1</sup>  
<sup>1</sup>Electrical Engineering, National Taiwan University, Taipei, Chinese Taipei, <sup>2</sup>Interdisciplinary MRI/MRS Lab, National Taiwan University, Taipei, Chinese Taipei
- 369 MT Motor Imagery classification with Source Analysis and Network Dynamics for Brain-Computer Interface**  
*Dongwei Chen*<sup>1,2</sup>, *Jie Xiang*<sup>3</sup>, *Hao Guo*<sup>3</sup>, *Hongxia Deng*<sup>3</sup>, *Haifang Li*<sup>3</sup>, *Junjie Chen*<sup>3</sup>  
<sup>1</sup>College of Computer and Software, Taiyuan University of Technology, Taiyuan, China, <sup>2</sup>College of Computer, Beijing Institute of Technology, Zhuhai, Zhuhai China, <sup>3</sup>College of Computer and Software, Taiyuan University of Technology, Taiyuan, China

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- 370 MT Age-Related Surface Regression for Hippocampus via Spherical Harmonic**  
*Xuejiao Chen<sup>1</sup>, Wenjing Li<sup>2</sup>, Jing Hua<sup>3</sup>, Xiaopeng Zhang<sup>4</sup>, Huiguang He<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, CAS, Beijing, China, <sup>2</sup>State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, CAS, Beijing, China, <sup>3</sup>Wayne State University, Detroit, MI, <sup>4</sup>National Laboratory of Pattern Recognition (NLPR), Institute of Automation, CAS, Beijing, China
- 371 MT Decoding Categories under Different Tasks with Identical Visual Stimuli in fMRI**  
*Chia-Yueh Carlton Chu<sup>1</sup>, Nikolaus Kriegeskorte<sup>2</sup>, Wen-Ming Luh<sup>3</sup>, Peter Bandettini<sup>4</sup>*  
<sup>1</sup>Section of Functional Imaging Methods, LBC, NIMH, NIH, Washington, DC, <sup>2</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>3</sup>National Institute of Mental Health, Bethesda, MD, <sup>4</sup>National Institutes of Health, Bethesda, United States
- 372 MT Inter-subject Alignment with Whole Brain Using Kernel Canonical Correlation for fMRI Classification**  
*Chia-Yueh Carlton Chu<sup>1</sup>, Masaya Misaki<sup>2</sup>, Peter Bandettini<sup>3</sup>*  
<sup>1</sup>Section of Functional Imaging Methods, LBC, NIMH, NIH, Washington, DC, <sup>2</sup>NIMH/NIH, Bethesda, United States, <sup>3</sup>National Institutes of Health, Bethesda, United States
- 373 MT ADHD prediction using resting-state functional connectivity**  
*Dai Dai<sup>1</sup>, Jieqiong Wang<sup>1</sup>, Huiguang He<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, CAS, Beijing, China
- 374 MT Multimodal Classification of ADHD: Combining Features Across Domains to Improve Classification**  
*Pamela Douglas<sup>1</sup>, John Colby<sup>2</sup>, Zarrar Shehzad<sup>3</sup>, Jeffrey Rudie<sup>4</sup>, Jesse Brown<sup>5</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States, <sup>2</sup>UCLA, Los Angeles, CA, <sup>3</sup>Yale, New Haven, CT, <sup>4</sup>N/A, United States, <sup>5</sup>University of California - Los Angeles, Los Angeles, CA
- 375 MT Detecting primarily and secondarily activated voxels in fMRI data analysis**  
*Nevio Dubbini<sup>1</sup>, Emiliano Ricciardi<sup>1</sup>, Pietro Pietrini<sup>1</sup>, Stefano Marmi<sup>2</sup>*  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, <sup>2</sup>Scuola Normale Superiore, Pisa, Italy
- 376 MT Identifying fMRI signatures of drug action from past studies for the screening of novel compounds**  
*Eugene Duff<sup>1</sup>, William Vennart<sup>2</sup>, Frederick Wilson<sup>2</sup>, Irene Tracey<sup>1</sup>, Mark Woolrich<sup>3</sup>, Stephen Smith<sup>1</sup>*  
<sup>1</sup>fMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom, <sup>2</sup>Pfizer, Sandwich, Kent, <sup>3</sup>Oxford Centre for Human Brain Activity, University of Oxford, Oxford, United Kingdom
- 377 MT Decoding Sexual Brain Dimorphism using Anatomical and Diffusion MRI Data**  
*Delia-Lisa Feis<sup>1</sup>, Kay Brodersen<sup>2,3</sup>, Marc Tittgemeyer<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>2</sup>Institute for Biomedical Engineering, ETH Zurich, Zurich, Switzerland, <sup>3</sup>Department of Computer Science, ETH Zurich, Zurich, Switzerland
- 378 MT The Decoding Toolbox (TDT): A new fMRI analysis package for SPM and Matlab**  
*Kai Gørgen<sup>1,2,3</sup>, Martin Hebart<sup>1,2,4</sup>, John-Dylan Haynes<sup>1,2,4</sup>*  
<sup>1</sup>Bernstein Center for Computational Neuroscience, Charité Universitätsmedizin, Berlin, Germany, <sup>2</sup>Berlin Center for Advanced Neuroimaging, Berlin, Germany, <sup>3</sup>Berlin Institute of Technology, Berlin, Germany, <sup>4</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany
- 379 MT Beyond brain reading: randomized sparsity and clustering to predict and identify**  
*Alexandre Gramfort<sup>1</sup>, Gael Varoquaux<sup>1</sup>, Bertrand Thirion<sup>1</sup>*  
<sup>1</sup>Parietal Team, INRIA Saclay - Île-de-France, CEA Neurospin, Saclay, France
- 380 MT Manifold Regularizing for Modeling a Sequence of Neural Events Leading to a Decision**  
*Toke Jansen Hansen<sup>1</sup>, Lars Hansen<sup>1</sup>, Hartwig Siebner<sup>2</sup>, Kristoffer Hougaard Madsen<sup>2</sup>*  
<sup>1</sup>Technical University of Denmark, Lyngby, Denmark, <sup>2</sup>Danish Research Centre for Magnetic Resonance, Hvidovre, Denmark
- 381 MT Controlling Global Error Rates in fMRI Data Analysis**  
*Hakmook Kang<sup>1</sup>, David Badre<sup>2</sup>, Jeffrey Blume<sup>1</sup>, Hernando Ombao<sup>3</sup>*  
<sup>1</sup>Vanderbilt University, Nashville, TN, <sup>2</sup>Brown University, Providence, RI, <sup>3</sup>University of California, Irvine, CA
- 382 MT Decoding Sensory Modalities from MEG Signals on the Basis of Spectrospatial Information**  
*Jukka-Pekka Kauppi<sup>1</sup>, Lauri Parkkonen<sup>2</sup>, Riitta Hari<sup>2</sup>, Aapo Hyvärinen<sup>1</sup>*  
<sup>1</sup>University of Helsinki, Helsinki, Finland, <sup>2</sup>Aalto University, Espoo, Finland

- 383 MT FMRI scan-by-scan decoding of cognitive states using functional connectivity graph wavelets**  
*Nora Leonardi<sup>1</sup>, Jonas Richiardi<sup>1</sup>, Hamdi Eryilmaz<sup>2</sup>, Dimitri Van De Ville<sup>1</sup>*  
<sup>1</sup>Ecole Polytechnique Fédérale de Lausanne (EPFL) / University of Geneva, Lausanne, Switzerland, <sup>2</sup>University of Geneva, Geneva, Switzerland
- 384 MT Population Functional Data Analysis of Group ICA-based Connectivity Measures from fMRI**  
*shanshan Li<sup>1</sup>, Ani Eloyan<sup>1</sup>, James Pekar<sup>2</sup>, Suresh Joel<sup>3</sup>, Brian Caffo<sup>1</sup>, Stewart Mostofsky<sup>4</sup>, Susan Basset<sup>5</sup>*  
<sup>1</sup>Johns Hopkins University, Baltimore, United States, <sup>2</sup>Kennedy Krieger Institute, Baltimore, United States, <sup>3</sup>Johns Hopkins University, N/A, <sup>4</sup>Kennedy Krieger Institute, Johns Hopkins, Baltimore, United States, <sup>5</sup>Johns Hopkins University, Baltimore, MD
- 385 MT Joint Estimation of AD Status and Cognitive Performance using VBM Summary Statistics**  
*Taiyong Li<sup>1,2</sup>, Jingwen Yan<sup>3,2</sup>, Hua Wang<sup>4</sup>, Feiping Nie<sup>4</sup>, Heng Huang<sup>4</sup>, Sungeun Kim<sup>2</sup>, Shannon Risacher<sup>2</sup>, Andrew Saykin<sup>2</sup>, Li Shen<sup>2</sup>*  
<sup>1</sup>Southwestern University of Finance and Economics, Chengdu, Sichuan, <sup>2</sup>Indiana University School of Medicine, Indianapolis, IN, <sup>3</sup>Indiana University School of Informatics, Indianapolis, IN, <sup>4</sup>University of Texas at Arlington, Arlington, TX
- \*386 MT Hierarchical Tree-Guided Brain Disease Classification (O-T1)**  
*Manhua Liu<sup>1,2</sup>, Daoqiang Zhang<sup>1,3</sup>, Dinggang Shen<sup>1</sup>*  
<sup>1</sup>IDEA Lab, Department of Radiology and BRIC, University of North Carolina at Chapel Hill, Chapel Hill, United States, <sup>2</sup>Department of Instrument Science and Technology, Shanghai Jiao Tong University, Shanghai, China, <sup>3</sup>Department of Computer Science and Engineering, Nanjing University of Aeronautics & Astronautics, Nanjing, China
- 387 MT Connectivity between visual resting state networks predicts vulnerability to sleep deprivation**  
*Amiya Patanaik<sup>1</sup>, Vitali Zagorodnov<sup>1</sup>*  
<sup>1</sup>Nanyang Technological University, Singapore, Singapore
- 388 MT Novel vector-valued approach to automatic brain tissue MT classification**  
*Nataliya Portman<sup>1</sup>, Alan Evans<sup>2</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Quebec, Canada, <sup>2</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec
- 389 MT Population based pattern classification of emotional brain states using fMRI signals**  
*mohit rana<sup>1</sup>, Sergio Ruiz<sup>2</sup>, Nalin Gupta<sup>3</sup>, Thomas Suslow<sup>4</sup>, Niels Birbaumer<sup>5</sup>, Ranganatha Sitaram<sup>6</sup>*  
<sup>1</sup>institute of medical psychology and behavioural neurobiology, Tuebingen, Germany, <sup>2</sup>N/A, Germany, <sup>3</sup>Indian Institute of technology, Kharagpur, Kharagpur, India, <sup>4</sup>Dept. of Psychiatry, University of Muenster, Muenster, Germany, <sup>5</sup>University of Tübingen, Tübingen, Germany, <sup>6</sup>Institute of medical psychology and behavioral neurobiology, Tuebingen, Germany
- 390 MT Patterns of Brain Activity & Social Decision-Making: An fMRI Study**  
*Filippo Rossi<sup>1</sup>, Luke Chang<sup>1</sup>, Ian Fasel<sup>1</sup>, Alan Sanfey<sup>2</sup>*  
<sup>1</sup>University of Arizona, Tucson, AZ, <sup>2</sup>Radboud University, Nijmegen, Netherlands
- 391 MT PRoNTo: Pattern Recognition for Neuroimaging Toolbox**  
*Jessica Schrouff<sup>1</sup>, Maria Joao Rosa<sup>2</sup>, Andre Marquand<sup>3</sup>, Janaina Mourão-Miranda<sup>2</sup>, Jane Rondina<sup>3</sup>, Chia-Yueh Carlton Chu<sup>4</sup>, John Ashburner<sup>5</sup>, Christophe Phillips<sup>1</sup>, Jonas Richiardi<sup>6</sup>*  
<sup>1</sup>Cyclotron Research Centre, University of Liege, Sart-Tilman, Liege, Belgium, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>King's College London, London, United Kingdom, <sup>4</sup>Section of Functional Imaging Methods, LBC, NIMH, NIH, Washington, DC, <sup>5</sup>Wellcome Trust Centre for Neuroimaging, London, United Kingdom, <sup>6</sup>Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
- 392 MT Soft Null Hypotheses: A Case Study of Image Enhancement Detection in Brain Lesions**  
*Haochang Shou<sup>1</sup>, Russell Shinohara<sup>2,3</sup>, Han Liu<sup>4</sup>, Daniel Reich<sup>3</sup>, Ciprian Crainiceanu<sup>4</sup>*  
<sup>1</sup>Johns Hopkins Bloomberg School of Public Health, BALTIMORE, United States, <sup>2</sup>Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, <sup>3</sup>National Institute of Neurological Disorder and Stroke, National Institutes of Health, Bethesda, MD, <sup>4</sup>Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD
- 393 MT MEG Decoding with Regularized Multinomial Logistic Regression**  
*Jussi Tohka<sup>1</sup>, Tapio Manninen<sup>1</sup>, Jukka-Pekka Kauppi<sup>2</sup>, Heikki Huttunen<sup>1</sup>*  
<sup>1</sup>Tampere University of Technology, Tampere, Finland, <sup>2</sup>University of Helsinki, Finland
- 394 MT Correlates of Pupil Diameter and Single-Trial EEG Variability in an Auditory Oddball Task**  
*Jennifer Walz<sup>1</sup>, Linbi Hong<sup>2</sup>, Paul Sajda<sup>2</sup>*  
<sup>1</sup>Columbia University, New York, United States, <sup>2</sup>Columbia University, New York, NY

## MODELING AND ANALYSIS METHODS

### Classification and Predictive Modeling, continued

- 395 MT Classification of AD and MCI using Hippocampal Subfields: An ADNI Study**  
*Jing Wan<sup>1,2</sup>, Vijay Ramanan<sup>1</sup>, Sungeun Kim<sup>1</sup>, John West<sup>1</sup>, Mohan Boddu<sup>1</sup>, Shannon Risacher<sup>1</sup>, Shiao-fen Fang<sup>2</sup>, Andrew Saykin<sup>1</sup>, Li Shen<sup>1</sup>*  
<sup>1</sup>Indiana University School of Medicine, Indianapolis, IN, <sup>2</sup>Purdue University School of Science, Indianapolis, IN
- 396 MT Clustering Voxel-based Gray Matter Maps for Improved Discrimination: An Amygdala Study in AD**  
*Jingwen Yan<sup>1</sup>, Taiyong Li<sup>2,3</sup>, Heng Huang<sup>4</sup>, Shannon Risacher<sup>3</sup>, John West<sup>3</sup>, Sungeun Kim<sup>3</sup>, Andrew Saykin<sup>3</sup>, Li Shen<sup>3</sup>*  
<sup>1</sup>Indiana University School of Informatics, Indianapolis, IN, <sup>2</sup>Southwestern University of Finance and Economics, Chengdu, Sichuan, <sup>3</sup>Indiana University School of Medicine, Indianapolis, IN, <sup>4</sup>University of Texas at Arlington, Arlington, TX
- 397 MT An Adaptive Immune Feature Selection Method for Classification of Schizophrenia Using SNP and fMRI**  
*Honghui Yang<sup>1</sup>, Jian Dai<sup>1</sup>, Jingyu Liu<sup>2</sup>, Jing Su<sup>2</sup>, Vince Calhoun<sup>2,3,4</sup>*  
<sup>1</sup>Department of Environment Engineering, Northwestern Polytechnical University, Xi'an, China, <sup>2</sup>The Mind Research Network, Albuquerque, NM, United States, <sup>3</sup>Department of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, United States, <sup>4</sup>Department of Psychiatry, Yale University, New Haven, CT, United States
- 398 MT Multivariate Analysis based on Whole-Brain Cortical thickness and Diffusion Tensor Imaging for AD**  
*Jin-Ju Yang<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Jun Sung Park<sup>3</sup>, Duk L. Na<sup>4</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Hanyang University, Seoul, Korea, Republic of, <sup>4</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 399 MT Decoding Multiple Sound Categories in the Human Temporal Cortex Using High Resolution fMRI**  
*Fengqing Zhang<sup>1</sup>, Jiping Wang<sup>1</sup>, Jieun Kim<sup>1</sup>, Francis Wong<sup>1</sup>, Patrick Wong<sup>1</sup>*  
<sup>1</sup>Northwestern University, Evanston, United States

- 400 MT Biomarkers for pattern classification of epilepsy: Functional Integration and Asymmetry of the Brain**  
*Jie Zhang<sup>1</sup>, Wenlian Lu<sup>2</sup>, Guangming Lu<sup>3</sup>, Zhengge Wang<sup>4</sup>, Xuejuan Zhang<sup>5</sup>, Zhiqiang Zhang<sup>3</sup>, Jianfeng Feng<sup>6</sup>*  
<sup>1</sup>Fudan Univ, Shanghai, China, <sup>2</sup>Fudan Univ, Shanghai, China, <sup>3</sup>JinLing Hospital of Nanjing, Nanjing, China, <sup>4</sup>Nanjing Jinling Hospital, Nanjing, China, <sup>5</sup>Zhejiang Normal Univ, Jinhua, China, <sup>6</sup>Department of Computer Science, The University of Warwick, Coventry, United Kingdom

## MODELING AND ANALYSIS METHODS

### Diffusion MRI Modeling and Analysis

- 401 MT Spatial Normalization of DTI Preserves Tract Reconstruction of Major White Matter Pathways**  
*Nagesh Adluru<sup>1</sup>, Do Tromp<sup>1</sup>, Hui Zhang<sup>2</sup>, Andrew Alexander<sup>1</sup>*  
<sup>1</sup>University of Wisconsin, Madison, WI, USA, <sup>2</sup>University College London, London, United Kingdom
- 402 MT The effect of tractography algorithm on human cortical connectome reconstruction by DW-MRI**  
*Matteo Bastiani<sup>1,2</sup>, Rainer Goebel<sup>1</sup>, Alard Roebroeck<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Forschungszentrum Jülich, Jülich, Germany
- 403 MT Whole Brain DWI Multi-Voxel Pattern Analysis of WAIS III IQ scores in the Cuban Population**  
*Maria Bringas<sup>1</sup>, Yaritza Villareal<sup>2</sup>, Gertrudis Hernandez<sup>2</sup>, Yenisleidy Lorenzo-Ceballos<sup>2</sup>, Yasser Iturria<sup>2</sup>, Pedro Valdes-Hernandez<sup>2</sup>, Agustin Lage-Castellanos<sup>2</sup>, Pedro A. Valdes-Sosa<sup>2</sup>*  
<sup>1</sup>International Center for Neurological Restoration, Ciudad Habana, Cuba, <sup>2</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba
- 404 MT Effect of fiber tracking schemes on the variance of constructed structural brain network**  
*Hu Cheng<sup>1</sup>, Ruopeng Wang<sup>2</sup>, Aina Puce<sup>1</sup>*  
<sup>1</sup>Indiana University, Bloomington, IN, <sup>2</sup>Harvard University, Charlestown, MA
- 405 MT Electrical Circuit Model for White Matter Fiber Tracts in Diffusion Tensor Imaging**  
*Moo Chung<sup>1</sup>, Nagesh Adluru<sup>1</sup>, Janet Lainhart<sup>2</sup>, Nicholas Lange<sup>3</sup>, Andrew Alexander<sup>1</sup>*  
<sup>1</sup>University of Wisconsin, Madison, WI, <sup>2</sup>University of Utah, Salt Lake City, UT, <sup>3</sup>Harvard University, Boston, MA

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- 406 MT Anisotropy Preserving Interpolation of Diffusion Tensors**  
*Anne Collard<sup>1</sup>, Silvère Bonnabel<sup>2</sup>, Christophe Phillips<sup>3</sup>, Rodolphe Sepulchre<sup>1</sup>*  
<sup>1</sup>Department of Electrical Engineering and Computer Science, University of Liège, Liège, Belgium, <sup>2</sup>Robotics Center, Mathématiques et Systèmes, Mines Paris Tech, Paris, France, <sup>3</sup>Cyclotron Research Centre, University of Liege, Sart Tilman, Liege, Belgium
- 407 MT A software application for real-time, clustering-based exploration of tractographies**  
*Eleftherios Garyfallidis<sup>1</sup>, Stephan Gerhard<sup>2</sup>, Paolo Avesani<sup>3</sup>, Thien Bao Nguyen<sup>3</sup>, Vassilis Tsiaras<sup>4</sup>, Ian Nimmo-Smith<sup>5</sup>, Emanuele Olivetti<sup>3</sup>*  
<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>University of Zurich and ETH Zurich, Zurich, Switzerland, <sup>3</sup>Bruno Kessler Foundation (FBK) and University of Trento (CIMeC), Trento, Italy, <sup>4</sup>University of Crete, Heraklion, Greece, <sup>5</sup>Medical Research Council, Cognition and Brain Sciences Unit, Cambridge, United Kingdom
- 408 MT Improved Diffusion Tractography with the Funk-Radon and Cosine Transform**  
*Justin Haldar<sup>1</sup>, David Shattuck<sup>2</sup>, Hanna Damasio<sup>1</sup>, Richard Leahy<sup>1</sup>*  
<sup>1</sup>Univ of Southern California, Los Angeles, CA, <sup>2</sup>Univ of California, Los Angeles, CA
- 409 MT Gyral topology-based structural connectivity analysis in the brain with polymicrogyria**  
*Kiho Im<sup>1</sup>, Rudolph Pienaar<sup>1</sup>, Michael Paldino<sup>1</sup>, P. Grant<sup>1</sup>*  
<sup>1</sup>Children's Hospital Boston, Harvard Medical School, Boston, United States
- 410 MT Quantifying the timecourse of recovery from mild traumatic brain injury using DTI**  
*Min Jing<sup>1</sup>, Martin McGinnity<sup>1</sup>, Sonya Coleman<sup>1</sup>, KongFatt Wong-Lin<sup>1</sup>, Armin Fuchs<sup>2</sup>, Fred Steinberg<sup>3</sup>, J.A.Scott Kelso<sup>2</sup>*  
<sup>1</sup>University of Ulster, Londonderry, United Kingdom, <sup>2</sup>Florida Atlantic University, Boca Raton, FL, <sup>3</sup>University MRI & Diagnostic Imaging Centers, Boca Raton, FL
- 411 MT Recovery of Developmental Marker Tracts from Low-resolution Clinical Neonatal DTI Data**  
*Yi Lao<sup>1</sup>, Pierre Fillard<sup>2</sup>, Fernando Yepes<sup>3</sup>, Ashok Panigrahy<sup>4</sup>, Rafael Ceschin<sup>5</sup>, Subhashree Ravichandran<sup>6</sup>, Marvin Nelson<sup>7</sup>, Natasha Lepore<sup>8</sup>*  
<sup>1</sup>Children's Hospital Los Angeles, Los Angeles, United States, <sup>2</sup>Parietal Team, INRIA Saclay-Île-de-France, Saclay, France, <sup>3</sup>Instituto de investigaciones Biomedicas de Barcelona, Barcelona, Spain, <sup>4</sup>Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, <sup>5</sup>Children's Hospital of Pittsburgh Radiology, N/A, <sup>6</sup>Children's Hospital Los Angeles, Los Angeles, CA, <sup>7</sup>University of Southern California and Children's Hospital Los Angeles, Los Angeles, CA, <sup>8</sup>USC, N/A
- 412 MT High-sensitivity and High-specificity of Traumatic Brain Injury diagnostic method using MRI DTI**  
*Keumsil Lee<sup>1</sup>, Varin Tsa<sup>2</sup>, Steven Potkin<sup>2</sup>, Joseph Wu<sup>2</sup>*  
<sup>1</sup>University of California, Irvine, Irvine, CA, United States, <sup>2</sup>University of California, Irvine, Irvine, CA
- 413 MT Realistic Calculation of Maximum Number of Crossing White Matter Fibers Detectable by QBI or DSI**  
*Nicolás Lori<sup>1,2</sup>, Rui Lavrador<sup>1</sup>, Carlos Santos<sup>1</sup>*  
<sup>1</sup>IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal, <sup>2</sup>BINP - Brain Imaging Network in Portugal, Coimbra, Portugal
- 414 MT A Parametric Approach to Assess the Statistical Significance of Pathway Dependent Diffusion Measures**  
*Mark Lowe<sup>1</sup>, Ken Sakaie<sup>1</sup>, Jian Lin<sup>1</sup>, Lael Stone<sup>1</sup>, Micheal Phillips<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH
- 415 MT Detecting Common Connectivity Modules from Complex Brain Networks**  
*Dijun Luo<sup>1</sup>, Yang Wang<sup>2</sup>, Heng Huang<sup>1</sup>, Jinhua Sheng<sup>2</sup>, Hu Cheng<sup>3</sup>, Andrew Saykin<sup>2</sup>, Li Shen<sup>2</sup>*  
<sup>1</sup>University of Texas at Arlington, Arlington, TX, <sup>2</sup>Indiana University School of Medicine, Indianapolis, IN, <sup>3</sup>Indiana University, N/A
- 416 MT Physiological noise correction in DTI using a linear model and peripheral physiological recordings**  
*Siawoosh Mohammadi<sup>1</sup>, Chloe Hutton<sup>1</sup>, Zoltan Nagy<sup>1</sup>, Oliver Josephs<sup>1</sup>, Nikolaus Weiskopf<sup>1</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, University College London, London, United Kingdom

## MODELING AND ANALYSIS METHODS

### Diffusion MRI Modeling and Analysis, continued

- 417 MT Matching and comparison of hierarchical trees for whole-brain connectivity-based cortex parcellation**  
*David Moreno-Dominguez<sup>1</sup>, Alfred Anwander<sup>1</sup>, Thomas Knösche<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 418 MT Neocortical network damage assessment by homotopic lesion mapping on healthy subjects**  
*Emil Nijhuis<sup>1,2</sup>, Douwe Bergsma<sup>3</sup>, Albert van den Berg<sup>3</sup>, Anne-Marie van Cappellen van Walsum<sup>4,2</sup>, David Norris<sup>1,2,5</sup>*  
<sup>1</sup>Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Enschede, Netherlands, <sup>3</sup>Department of Medical Physics and Biophysics, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands, <sup>4</sup>Department of Anatomy, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands, <sup>5</sup>Erwin L Hahn Institute for MRI, Universität Duisburg-Essen, Essen, Germany
- 419 MT Using Cellular Automata to Find Emergent Properties in Normal vs Anormal Connectivity Matrices**  
*Rudolph Pienaar<sup>1</sup>, Kiho Im<sup>1</sup>, Daniel Haehn<sup>2</sup>, Michael Paldino<sup>1</sup>, P. Grant<sup>1</sup>*  
<sup>1</sup>Children's Hospital Boston, Harvard Medical School, Boston, United States, <sup>2</sup>Children's Hospital Boston, Boston, United States
- 420 MT Characterizing properties by fiber bundle parameters derived from the fODF**  
*Till Riffert<sup>1</sup>, Alfred Anwander<sup>1</sup>, Thomas Knösche<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 421 MT Method for Parameterizing Clinical Diffusion Measures Along Probabilistic Fiber Pathways**  
*Ken Sakaie<sup>1</sup>, Jian Lin<sup>1</sup>, Lael Stone<sup>2</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Imaging Institute, The Cleveland Clinic, Cleveland, United States, <sup>2</sup>Mellen Center, The Cleveland Clinic, Cleveland, United States
- 422 MT Framework to evaluate direction dependent micro-structural properties from diffusion MRI**  
*Jan Schreiber<sup>1</sup>, Alfred Anwander<sup>1</sup>, Thomas Knösche<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 423 MT Mapping Microstructural Correlations of White Matter Using Seed Voxel Correlation Analysis of DTI**  
*Charvi Shetty<sup>1</sup>, Yi-Ou Li<sup>1</sup>, Julia Owen<sup>1</sup>, Matthew Cohen<sup>2</sup>, BJ Casey<sup>2</sup>, Pratik Mukherjee<sup>1</sup>*  
<sup>1</sup>University of California, San Francisco, San Francisco, United States, <sup>2</sup>Weill Cornell Medical College, New York, United States
- 424 MT A simple method to improve tractography by including diagonal tract propagation**  
*Paul Taylor<sup>1</sup>, Kuan-Hung Cho<sup>2</sup>, Ching-Po Lin<sup>2</sup>, Bharat Biswal<sup>3</sup>*  
<sup>1</sup>UMDNJ, Newark, United States, <sup>2</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>University of Med. and Dent. of New Jersey, Newark, NJ
- 425 MT A Similarity Metric for Brain Regions based on their Anatomical Connectivity Fingerprints**  
*Rosalia Tungaraza<sup>1</sup>, David Haynor<sup>1</sup>, Linda Shapiro<sup>1</sup>, Thomas Grabowski<sup>1</sup>*  
<sup>1</sup>University of Washington, Seattle, WA
- 426 MT Super-Resolving Diffusion MRI Data Using Local Fiber Information**  
*Pew-Thian Yap<sup>1</sup>, Dinggang Shen<sup>1</sup>*  
<sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, NC
- 427 MT NODDI: practical in vivo neurite orientation dispersion and density imaging of the human brain**  
*Hui Zhang<sup>1</sup>, Torben Schneider<sup>2</sup>, Claudia Wheeler-Kingshott<sup>2</sup>, Daniel Alexander<sup>1</sup>*  
<sup>1</sup>Centre for Medical Image Computing, Department of Computer Science, University College London, London, United Kingdom, <sup>2</sup>Department of Neuroinflammation, UCL Institute of Neurology, University College London, London, United Kingdom
- 428 MT SPatial REgression Analysis of DTI (SPREAD) for longitudinal comparison of disease progression**  
*Tong Zhu<sup>1</sup>, Rui Hu<sup>2</sup>, Xing Qiu<sup>2</sup>, Sven Ekholm<sup>1</sup>, Giovanni Schifitto<sup>3</sup>, Wei Tian<sup>1</sup>, Jianhui Zhong<sup>1</sup>*  
<sup>1</sup>Dept. Imaging Sciences, University of Rochester, Rochester, NY, United States, <sup>2</sup>Dept. Biostatistics and Computational Biology, University of Rochester, Rochester, NY, United States, <sup>3</sup>Dept. Neurology and Imaging Sciences, University of Rochester, Rochester, NY, United States

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## MODELING AND ANALYSIS METHODS

### EEG/MEG Modeling and Analysis

- 429 MT Error analysis for localizing cortical patch-based source activity with single dipoles**  
*Zeynep Akalin Acar<sup>1</sup>, Scott Makeig<sup>2</sup>*  
<sup>1</sup>University of California San Diego, San Diego, United States, <sup>2</sup>Swartz Center for Computational Neuroscience, UCSD, La Jolla, CA
- 430 MT Investigating the effective connectivity of EEG sources**  
*Selene Amaral<sup>1</sup>, Leonardo S. Barbosa<sup>2</sup>, Nestor Caticha<sup>1</sup>, Luiz Baccala<sup>3</sup>*  
<sup>1</sup>University of Sao Paulo, Sao Paulo, Brazil, <sup>2</sup>Ecole Normale Supérieure, Paris, France, <sup>3</sup>University of São Paulo, São Paulo, Brazil
- 431 MT Assessment of Subcortical Source Localization using DBA model: a MEG study**  
*Yohan Attal<sup>1</sup>, Denis Schwartz<sup>2</sup>*  
<sup>1</sup>CNRS - ICM, Paris, France, <sup>2</sup>INSERM - ICM - MEG center, Paris, France
- 432 MT Measure Projection Analysis: A Probabilistic Approach to EEG Independent Component Source Comparison**  
*nima bigdely-shamlou<sup>1</sup>, Tim Mullen<sup>2</sup>, Kennet Kreutz-Delgado<sup>3</sup>, Scott Makeig<sup>2</sup>*  
<sup>1</sup>Swartz Center for Computational Neuroscience, UCSD, San Diego, United States, <sup>2</sup>Swartz Center for Computational Neuroscience, UCSD, La Jolla, CA, <sup>3</sup>ECE Dept, UCSD, La Jolla, CA
- 433 MT Multi-variate Correlation of Power Spectral Density**  
*Sven Dähne<sup>1</sup>, Johannes Höhne<sup>1</sup>, Stefan Haufe<sup>1</sup>, Frank Meinecke<sup>1</sup>, Michael Tangermann<sup>1</sup>, Vadim Nikulin<sup>2</sup>, Klaus-Robert Müller<sup>1</sup>*  
<sup>1</sup>Machine Learning Group, Berlin Institute of Technology, Berlin, Germany, <sup>2</sup>Neurophysics Group, Department of Neurology, Charité – Universitätsmedizin Berlin, Berlin, Germany
- 434 MT Coupled neural fields, neuromodulation and the cost of attentional control**  
*Jean Daunizeau<sup>1</sup>, Dimitris Pinotsis<sup>2</sup>, Karl Friston<sup>2</sup>, Klaas Enno Stephan<sup>1</sup>*  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zurich, Switzerland, <sup>2</sup>University College London, London, United Kingdom
- 435 MT Local protein expression and local neural networks in glioma patients: the hub of the matter**  
*Linda Douw<sup>1,2</sup>, Marjolein De Groot<sup>2,3</sup>, Edwin van Dellen<sup>2</sup>, Eleonora Aronica<sup>3</sup>, Jan Heimans<sup>2</sup>, Martin Klein<sup>2</sup>, Cornelis Stam<sup>4</sup>, Jaap Reijneveld<sup>2,3</sup>, Arjan Hillebrand<sup>2</sup>*  
<sup>1</sup>Martinos center for biomedical imaging, Charlestown, United States, <sup>2</sup>VU University Medical Center, Amsterdam, Netherlands, <sup>3</sup>Academic Medical Center, Amsterdam, Netherlands, <sup>4</sup>Department of Clinical Neurophysiology, VU University Medical Centre, Amsterdam, Netherlands
- 436 MT High-Resolution Forward Modelling using Finite Element Method Head Models based on 7T MRI Data**  
*Lukas Fiederer<sup>1,2,3</sup>, Felix Lucka<sup>4,5</sup>, Shan Yang<sup>6</sup>, Johannes Vorwerk<sup>5</sup>, Matthias Dümpelmann<sup>3</sup>, Delphine Cosandier-Rimélé<sup>2,3</sup>, Andreas Schulze-Bonhage<sup>2,3</sup>, Ad Aertsen<sup>2,1</sup>, Oliver Speck<sup>6</sup>, Carsten Wolters<sup>5</sup>, Tonio Ball<sup>3,2</sup>*  
<sup>1</sup>Neurobiology and Biophysics, Faculty of Biology, University of Freiburg, Freiburg, Germany, <sup>2</sup>Bernstein Center Freiburg, University of Freiburg, Freiburg, Germany, <sup>3</sup>Epilepsy Center, University Hospital Freiburg, Freiburg, Germany, <sup>4</sup>Institute for Computational and Applied Mathematics, University of Münster, Münster, Germany, <sup>5</sup>Institute for Biomagnetism and Biosignalanalysis, University of Münster, Münster, Germany, <sup>6</sup>Department of Biomedical Magnetic Resonance, Institute for Experimental Physics, Faculty of Natural, Magdeburg, Germany
- 437 MT FACET – a “Flexible Artefact Correction and Evaluation Toolbox” for EEG/fMRI data**  
*Johann Glaser<sup>1</sup>, Veronika Schöpfer<sup>2</sup>, Herbert Bauer<sup>1</sup>, Florian Fischmeister<sup>3,2</sup>*  
<sup>1</sup>Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Study Group Clinical fMRI, Department of Neurology, Medical University of Vienna, Vienna, Austria
- 438 MT Reconsidering topographic analyses in Event-Related Potential research: is rescaling legitimate?**  
*Roman Goj<sup>1</sup>, Mark van Rossum<sup>2</sup>, David Donaldson<sup>1</sup>*  
<sup>1</sup>University of Stirling, Stirling, United Kingdom, <sup>2</sup>University of Edinburgh, Edinburgh, United Kingdom
- 439 MT A flexible spatial filtering framework for time series extraction from EEG/MEG data**  
*Olaf Hauk<sup>1</sup>, Matti Stenroos<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- 440 MT **EEG brain source imaging with the Champagne method**  
*Thomas Jochmann<sup>1,2,3,4</sup>, Michael Scherg<sup>5</sup>, Isabella Paul-Jordanov<sup>6</sup>, Jens Haueisen<sup>6</sup>, Srikantan Nagarajan<sup>7</sup>*  
<sup>1</sup>Invitronic GmbH, Jena, Germany, <sup>2</sup>Biomagnetic Imaging Lab, Dept. of Radiology and Biomedical Imaging, University of California, San Francisco, CA, <sup>3</sup>Institute of Biomedical Engineering and Informatics, Ilmenau University of Technology, Ilmenau, Germany, <sup>4</sup>Medical Physics Group, Department of Diagnostic and Interventional Radiology, Jena University Hospital, Jena, Germany, <sup>5</sup>BESA GmbH, Gräfelfing, Germany, <sup>6</sup>Institute of Biomedical Engineering and Informatics, Ilmenau Technical University, Ilmenau, Germany, <sup>7</sup>University of California, San Francisco, San Francisco, CA
- 441 MT **Single-trial EEG Classification of Cross-Modal Attention Shifts**  
*Christian Kothe<sup>1</sup>, Joaquin Rapela<sup>2</sup>, Marissa Westerfield<sup>2</sup>, Jeanne Townsend<sup>3</sup>, Scott Makeig<sup>4</sup>*  
<sup>1</sup>Swartz Center for Computational Neuroscience, UCSD, San Diego, United States, <sup>2</sup>Swartz Center for Computational Neuroscience, UCSD, San Diego, CA, <sup>3</sup>Research on Aging and Development Laboratory, UC San Diego, La Jolla, CA, <sup>4</sup>Swartz Center for Computational Neuroscience, UCSD, La Jolla, CA
- 442 MT **An ERP Study of Successful Episodic Retrieval in Amnesia Mild Cognitive Impairment**  
*Juan Li<sup>1</sup>, xin li<sup>2</sup>*  
<sup>1</sup>Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institute of Psychology CAS, Beijing, China
- 443 MT **Functional Brain Network of Gamma Activity with Emotional Stimuli in Major Depression**  
*Yuan Li<sup>1</sup>, Zhenlan Jin<sup>1</sup>, Zhong Zheng<sup>2</sup>, Ling Li<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>West China School of Medicine, Sichuan University, Chengdu, China
- 444 MT **Introducing transfer entropy for fMRI and graph-based corrections for cascade effects in TRENTOOL2.0**  
*Michael Lindner<sup>1</sup>, Patricia Wollstadt<sup>2</sup>, Raul Vicente<sup>3</sup>, Viola Priesemann<sup>4</sup>, Michael Wibral<sup>5</sup>*  
<sup>1</sup>Center for Economics and Neuroscience, University Bonn, Bonn, Germany, <sup>2</sup>MEG Unit, Brain Imaging Center, Goethe University, Frankfurt, Germany, <sup>3</sup>Dept. Neurophysiology, Max Planck Institute for Brain Research, Frankfurt, Germany, Frankfurt, Germany, <sup>4</sup>Dept. Neural Systems and Coding, Max Planck Institute for Brain Research, Frankfurt, Germany, Frankfurt, Germany, <sup>5</sup>MEG Unit, Brain Imaging Center, Goethe University, Frankfurt, Germany, Frankfurt, Germany
- 445 MT **Convolution Models for Continuous M/EEG Time-Frequency Data**  
*Vladimir Litvak<sup>1</sup>, Ashwani Jha<sup>1</sup>, Guillaume Flandin<sup>1</sup>, Karl Friston<sup>1</sup>*  
<sup>1</sup>UCL Institute of Neurology, London, United Kingdom
- 446 MT **Networks for incoming and outgoing information flow in EEG during wake and sleep**  
*Daniele Marinazzo<sup>1</sup>, Fabrice Jurysta<sup>2</sup>, Jean-Pol Lanquart<sup>2</sup>, Paul Linkowski<sup>2</sup>, Mario Pellicoro<sup>3</sup>, Sebastiano Stramaglia<sup>3</sup>*  
<sup>1</sup>University of Ghent, Gent, Belgium, <sup>2</sup>Sleep Laboratory and Research Laboratory of Psychiatry, Dept of Psychiatry, Erasme Hospital, ULB, Bruxelles, Belgium, <sup>3</sup>University of Bari, Bari, Italy
- 447 MT **Changes in neural traffic during development and face inversion**  
*Bratislav Misisic<sup>1</sup>, Travis Mills<sup>2</sup>, Vasily Vakorin<sup>3</sup>, Margot Taylor<sup>2</sup>, Anthony McIntosh<sup>3</sup>*  
<sup>1</sup>Rotman Research Institute, Toronto, Canada, <sup>2</sup>Hospital for Sick Children, Toronto, ON, <sup>3</sup>Rotman Research Institute, Toronto, ON
- 448 MT **The Source Information Flow Toolbox 1.0 for EEGLAB**  
*Tim Mullen<sup>1,2</sup>, Arnaud Delorme<sup>1</sup>, Scott Makeig<sup>1</sup>*  
<sup>1</sup>Swartz Center for Computational Neuroscience, Institute for Neural Computation, UC San Diego, La Jolla, CA, <sup>2</sup>Department of Cognitive Science, UC San Diego, La Jolla, CA
- 449 MT **Dictionary Learning in Patients with Disorders of Consciousness: a Preliminary EEG Study**  
*Quentin Noirhomme<sup>1</sup>, Andrea Soddu<sup>1</sup>, Rémy Lehenbre<sup>1</sup>, Marie-Aurélié Bruno<sup>1</sup>, Damien Lesenfants<sup>1</sup>, Steven Laureys<sup>1</sup>, Francisco Gómez<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium
- 450 MT **Harmony: EEG/MEG linear inverse source reconstruction in the anatomical basis of spherical harmonics**  
*Yury Petrov<sup>1</sup>*  
<sup>1</sup>Northeastern University, Boston, United States
- 451 MT **Multiple frequency effective connectivity in the hand somatosensory network**  
*Camillo Porcaro<sup>1,2</sup>, Gianluca Coppola<sup>3</sup>, Francesco Pierelli<sup>4</sup>, Leo Tomasevic<sup>2</sup>, Carlo Salustri<sup>5</sup>, Franca Tecchio<sup>2</sup>*  
<sup>1</sup>Newcastle University, Newcastle Upon Tyne, United Kingdom, <sup>2</sup>LET'S ISTC-CNR, Ospedale Fatebenefratelli, Isola Tiberina, Rome, Italy, <sup>3</sup>G.B. Bietti Eye Foundation-IRCCS, Dept of Neurophysiology of Vision and Neurophthalmology, Rome, Italy, <sup>4</sup>Department of Medical and Surgical Sciences and Biotechnologies, 'Sapienza' University of Rome, Rome, Italy, <sup>5</sup>Institute of Cognitive Sciences and Technologies (CNR), Rome, Italy

- 452 MT **A GPU based finite volume method for EEG forward and inverse modelling**  
*Darren Price<sup>1</sup>, Andre Antunes<sup>1</sup>, Thomas Keeling<sup>1</sup>, Karen Julia Mullinger<sup>1</sup>, Paul Glover<sup>1</sup>, Peter Morris<sup>1</sup>, Richard Bowtell<sup>1</sup>, Matthew Brookes<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom
- 453 MT **Brain state estimation using physiologically based corticothalamic neural field theory**  
*Peter Robinson<sup>1</sup>, Romesh Abeysuriya<sup>1</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia
- 454 MT **Neuronal Avalanches in the Resting MEG of the Human Brain**  
*Oren Shriki<sup>1</sup>, Jeff Alstott<sup>1,2</sup>, Frederick Carver<sup>1</sup>, Tom Holroyd<sup>1</sup>, Richard Henson<sup>3</sup>, Marie Smith<sup>4,3</sup>, Richard Coppola<sup>1</sup>, Edward Bullmore<sup>5</sup>, Dietmar Plenz<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Medical Research Council, Cognition & Brain Sciences Unit, Cambridge, United Kingdom, <sup>4</sup>Birkbeck College, University of London, London, United Kingdom, <sup>5</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom
- 455 MT **Dynamic estimation of stationary dipoles in MEG with particle filtering**  
*Alberto Sorrentino<sup>1</sup>, Wilfrid Kendall<sup>1</sup>, Adam Johansen<sup>1</sup>, John Aston<sup>1</sup>, Thomas Nichols<sup>1</sup>*  
<sup>1</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom
- 456 MT **Assessing the performance of linear estimators in MEG/EEG source analysis**  
*Matti Stenroos<sup>1,2</sup>, Olaf Hauk<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Aalto University, BECS, Espoo, Finland
- 457 MT **An MEG study on functional interactions in brain of epilepsy patients**  
*HY Tang<sup>1</sup>, T Wu<sup>2</sup>, K Iramina<sup>3</sup>, P Lin<sup>4</sup>, X Xiao<sup>1</sup>, W Wu<sup>1</sup>, S Ge<sup>1</sup>*  
<sup>1</sup>Nanjing University of Science and Technology, Nanjing, China, <sup>2</sup>Department of Magnetoencephalography, Nanjing Brain Hospital, Nanjing, China, <sup>3</sup>Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan, <sup>4</sup>Key Laboratory of Biomedical Information Engineering of Education Ministry, Xi'an Jiaotong University, Xi'an, China
- 458 MT **Combinatorial clustering of common brain dynamics: Application to WM-related group-study EEG data**  
*Georg Turi<sup>1</sup>, Corinna Haenschel<sup>2</sup>, Wolf Singer<sup>3</sup>, Michael Wibral<sup>4</sup>*  
<sup>1</sup>Cognitive Neuroscience Lab, Department of Psychology, Goethe University, Frankfurt, Germany, <sup>2</sup>Department of Psychology, City University, London, United Kingdom, <sup>3</sup>Max Planck Institute for Brain Research, Frankfurt, Germany, <sup>4</sup>MEG Unit, Brain Imaging Center, Goethe University, Frankfurt, Germany
- 459 MT **Phase-amplitude coupling in human electrocorticography is spatially distributed and phase diverse**  
*Roemer van der Meij<sup>1</sup>, Michael Kahana<sup>2</sup>, Eric Maris<sup>1</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>University of Pennsylvania, Philadelphia, PA
- 460 MT **Visual and cognitive development in premature children: Source Analyses**  
*Phetsamone Vannasing<sup>1</sup>*  
<sup>1</sup>CHU Sainte-Justine, Montreal, Canada
- 461 MT **Modeling Habituation of Auditory Evoked Fields using Neural Mass Models**  
*peng wang<sup>1</sup>, Thomas Knösche<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 462 MT **Effect of blood vessels on  $\mu$ ECoG recordings in minipigs**  
*xi wang<sup>1,2</sup>, Mortimer Gierthmuehlen<sup>3</sup>, Christian Henle<sup>4,2</sup>, Markus Raab<sup>4</sup>, Jörn Ricker<sup>5,4</sup>, Andreas Schulze-Bonhage<sup>1,5</sup>, Ad Aertsen<sup>5,6</sup>, Thomas Stieglitz<sup>5,2,4</sup>, Tonio Ball<sup>1,5,6</sup>*  
<sup>1</sup>Epilepsy Center, University Hospital Freiburg, Freiburg, Germany, <sup>2</sup>Laboratory for Biomedical Microtechnology, Department of Microsystem Engineering (IMTEK), University of Freiburg, Freiburg, Germany, <sup>3</sup>Department of Neurosurgery, University Hospital Freiburg, Freiburg, Germany, <sup>4</sup>CorTec GmbH, Freiburg, Germany, <sup>5</sup>Bernstein Center Freiburg, University of Freiburg, Freiburg, Germany, <sup>6</sup>Neurobiology and Biophysics, Faculty of Biology, University of Freiburg, Freiburg, Germany
- 463 MT **Differences in brain networks between personal and impersonal moral dilemmas**  
*Shaowei Xue<sup>1</sup>, Yan Wang<sup>1</sup>, Yi-Yuan Tang<sup>1,2,3</sup>*  
<sup>1</sup>Dalian University of Technology, Dalian, China, <sup>2</sup>Texas Tech University, Lubbock, TX, <sup>3</sup>University of Oregon, Eugene, OR
- 464 MT **Wavelet-based Sparse Source Imaging using MEG**  
*Min Zhu<sup>1</sup>, Ke Liao<sup>2</sup>, Lei Ding<sup>1</sup>*  
<sup>1</sup>University of Oklahoma, Norman, United States, <sup>2</sup>University of Oklahoma, Norman, OK



## MODELING AND ANALYSIS METHODS

### Exploratory Modeling and Artifact Removal

- 465 MT A Comparison of Nuisance Correction Methods on Resting-State fMRI**  
*Brian Cheung<sup>1</sup>, Chaogan Yan<sup>2</sup>, Qingyang Li<sup>1</sup>, Clare Kelly<sup>3</sup>, Adriana Di Martino<sup>3</sup>, F. Xavier Castellanos<sup>3</sup>, Michael Milham<sup>1</sup>*  
<sup>1</sup>Center for the Developing Brain, Child Mind Institute, New York, United States, <sup>2</sup>The Nathan Kline Institute for Psychiatric Research, New York, United States, <sup>3</sup>Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience, New York, United States
- 466 MT Calibrating BOLD fMRI activations with neuro-vascular and anatomical constraints**  
*Xin Di<sup>1</sup>, Sridhar Kannurpatti<sup>1</sup>, Bart Rypma<sup>2</sup>, Bharat Biswal<sup>1</sup>*  
<sup>1</sup>Department of Radiology, University of Medicine and Dentistry of New Jersey, Newark, NJ, <sup>2</sup>School of Behavioral and Brain Sciences, University of Texas at Dallas, Dallas, TX
- 467 MT Physiological noise correction may help to detect changes in brain activity during mild sedation**  
*Tommaso Gili<sup>1</sup>, Neeraj Saxena<sup>2</sup>, Ana Diukova<sup>3</sup>, Kevin Murphy<sup>4</sup>, Judith Hall<sup>5</sup>, Richard Wise<sup>3</sup>*  
<sup>1</sup>Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, <sup>2</sup>Section of Anaesthetics, Intensive Care and Pain Medicine, Cardiff University School of Medicine, Cardiff, United Kingdom, <sup>3</sup>Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, <sup>4</sup>Cardiff University, Cardiff, United Kingdom
- 468 MT Improving the characterization of the BOLD response to breath-hold challenges**  
*João Jorge<sup>1,2</sup>, Pedro Vilela<sup>3</sup>, Wietske van der Zwaag<sup>4,5</sup>, Patricia Figueiredo<sup>1,2</sup>*  
<sup>1</sup>Institute for Systems and Robotics, Lisbon, Portugal, <sup>2</sup>Department of Bioengineering, Instituto Superior Técnico, Universidade Técnica de Lisboa, Lisbon, Portugal, <sup>3</sup>Imaging Department, Hospital da Luz, Lisbon, Portugal, <sup>4</sup>Laboratory for Functional and Metabolic Imaging, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, <sup>5</sup>Department of Radiology, Université de Lausanne, Lausanne, Switzerland
- 469 MT 3D Clustered Voxels Analysis in Functional MR Imaging**  
*Huanjie Li<sup>1</sup>, Qihong Zou<sup>1</sup>, Jinhu Xiong<sup>2</sup>, Jia-Hong Gao<sup>1,3</sup>*  
<sup>1</sup>Peking University, Beijing, China, <sup>2</sup>University of Iowa, Iowa City, IA, <sup>3</sup>University of Chicago, Chicago, IL
- 470 MT Improved GRAPPA Reconstruction Using a Coefficient Penalized Regularization**  
*Wentao Liu<sup>1,2</sup>, Xin Tang<sup>1,2</sup>, Ya-jun Ma<sup>1,2</sup>, Jia-Hong Gao<sup>1,2,3</sup>*  
<sup>1</sup>Beijing City Key Lab for Medical Physics and Engineering, School of Physics, Peking University, Beijing, China, <sup>2</sup>MRI Research Center, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China, <sup>3</sup>University of Chicago, Chicago, IL
- 471 MT Discriminating Schizophrenia and Bipolar Disorder by Fusion of FMRI and DTI Data**  
*JING SUI<sup>1</sup>, Godfrey Pearlson<sup>2</sup>, Arvind Caprihan<sup>3</sup>, Tulay Adali<sup>4</sup>, Kent Kieh<sup>5</sup>, Vince Calhoun<sup>5</sup>*  
<sup>1</sup>The Mind Research Network, ALBUQUERQUE, United States, <sup>2</sup>Olin Neuropsychiatry Research Center, hartford, CT, <sup>3</sup>The Mind Research Network and LBERI, ALBUQUERQUE, NM, <sup>4</sup>University of Maryland, Baltimore County, Baltimore, MD, <sup>5</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 472 MT An improved analysis and calculation model for the eddy current compensation**  
*Shouyu Zhang<sup>1</sup>, Xin Tang<sup>2</sup>, Zhongde Jiang<sup>2</sup>, Tao Wang<sup>2</sup>, Shanglian Bao<sup>1</sup>*  
<sup>1</sup>Beijing Key Lab of Medical Physics and Engineering, School of Physics, Peking University, Beijing, China, <sup>2</sup>Anke Medical System Company, Suzhou, China

## MODELING AND ANALYSIS METHODS

### fMRI Connectivity and Network Modeling

- 473 MT 6 minutes of fMRI & 12 years of correlated growth: relating functional and maturational connectivity**  
*Aaron F. Alexander-Bloch<sup>1,2</sup>, Armin Raznahan<sup>2</sup>, Edward Bullmore<sup>1</sup>, Jay Giedd<sup>2</sup>*  
<sup>1</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>NIMH, Bethesda, United States
- 474 MT Is network connectivity driven by spontaneous BOLD events?**  
*Thomas Allan<sup>1</sup>, Matthew Brookes<sup>1</sup>, Penny Gowland<sup>1</sup>, Cesar Gaudes<sup>2</sup>, Sue Francis<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom, <sup>2</sup>UniGe, Geneva, Switzerland
- 475 MT Extracting intrinsic functional networks with feature-based group independent component analysis**  
*Elena Allen<sup>1</sup>, Vince Calhoun<sup>2</sup>*  
<sup>1</sup>Mind Research Network, Albuquerque, United States, <sup>2</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- \*476 MT Tracking whole-brain connectivity dynamics in the resting-state (O-M4)**  
*Elena Allen<sup>1</sup>, Eswar Damaraju<sup>2</sup>, Sergey Plis<sup>3</sup>, Erik Erhardt<sup>4</sup>, Tom Eichele<sup>5</sup>, Vince Calhoun<sup>6</sup>*  
<sup>1</sup>Mind Research Network, Albuquerque, United States, <sup>2</sup>Mind Research Network, N/A, <sup>3</sup>The Mind Research Network, N/A, <sup>4</sup>The MIND Research Network, Albuquerque, United States, <sup>5</sup>University of Bergen, N/A, <sup>6</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 477 MT A comparison of maximal information coefficient and linear correlation for functional connectivity**  
*Erik Beall<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, United States
- 478 MT Functional connectivity of fMRI activation clusters projected in resting state-space**  
*Michaël Bernier<sup>1</sup>, Kevin Whittingstall<sup>1</sup>*  
<sup>1</sup>Université de Sherbrooke, Sherbrooke, Canada
- 479 MT Structural determinants of BOLD fMRI to auditory and visual stimuli**  
*Gleb Bezdgin<sup>1</sup>, Tanya Brown<sup>1</sup>, Zainab Fatima<sup>1</sup>, Hongye Wang<sup>1</sup>, Natasa Kovacevic<sup>1</sup>, Anthony McIntosh<sup>1,2</sup>*  
<sup>1</sup>Rotman Research Institute, Toronto, Canada, <sup>2</sup>University of Toronto, Toronto, Canada
- 480 MT Chronotype modulates fMRI derived resting-state connectivity patterns**  
*Janusch Blautzik<sup>1</sup>, Isabella Peres<sup>2</sup>, Celine Vetter<sup>2</sup>, Evgeny Gutyrchik<sup>2</sup>, Daniel Keeser<sup>1</sup>, Albert Berman<sup>1</sup>, Kirsch Valerie<sup>1</sup>, Sophia Mueller<sup>3</sup>, Ernst Poeppel<sup>2</sup>, Till Roenneberg<sup>2</sup>, Maximilian Reiser<sup>1</sup>, Thomas Meindl<sup>1</sup>*  
<sup>1</sup>Ludwig Maximilian University, Institute of Clinical Radiology, Munich, Germany, <sup>2</sup>Ludwig Maximilian University, Institute of Medical Psychology, Munich, Germany, <sup>3</sup>Harvard University, Cambridge, MA
- 481 MT Force-directed edge-bundling for the visualization of functional connectivity**  
*Joachim Böttger<sup>1</sup>, Alexander Schäfer<sup>1</sup>, Gabriele Lohmann<sup>1</sup>, Arno Villringer<sup>1,2</sup>, Daniel Margulies<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Berlin School of Mind and Brain, Berlin, Germany
- 482 MT Functional and Structural Network Determinants of Brain's Functional Variability**  
*Jesse Brown<sup>1</sup>, Jeffrey Rudie<sup>1</sup>, SUSAN Bookheimer<sup>1</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States
- \*483 MT A novel meta-analytic approach: Mining frequent activation patterns in neuroimaging databases (O-W3)**  
*Julian Caspers<sup>1,2,3</sup>, Karl Zilles<sup>1,2,4</sup>, Christoph Beierle<sup>3</sup>, Claudia Rottschy<sup>5,1</sup>, Simon Eickhoff<sup>1,6</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine (INM-1, INM-2), Research Center Jülich, Jülich, Germany, <sup>2</sup>C. & O. Vogt Institute of Brain Research, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany, <sup>3</sup>Department of Computer Science, FernUniversität in Hagen, Hagen, Germany, <sup>4</sup>JARA-BRAIN, Jülich-Aachen Research Alliance, Jülich, Germany, <sup>5</sup>Department of Neurology, University Hospital Aachen, Aachen, Germany, <sup>6</sup>Institute of Clinical Neuroscience and Medical Psychology, University Hospital Düsseldorf, Düsseldorf, Germany
- 484 MT Metaanalytic clustering of the insular cortex**  
*Franco Cauda<sup>1</sup>, Tommaso Costa<sup>2</sup>, Diana Torta<sup>2</sup>, Katuscia Sacco<sup>3</sup>, Federico D'Agata<sup>1</sup>, Sergio Duca<sup>4</sup>, Giuliano Geminiani<sup>2</sup>, Peter Fox<sup>5</sup>, Alessandro Vercelli<sup>3</sup>*  
<sup>1</sup>N/A, Turin, Italy, <sup>2</sup>University of Turin, Department of Psychology, Torino, Italy, <sup>3</sup>University of Turin, Turin, Italy, <sup>4</sup>CCS Koelliker Hospital, Torino, Italy, <sup>5</sup>Research Imaging Institute, San Antonio, TX

- 485 MT Assessing Significance of Modular Structure in Binary Brain Networks**  
*Yu-Teng Chang<sup>1</sup>, Dimitrios Pantazis<sup>2</sup>, Richard M. Leahy<sup>1</sup>*  
<sup>1</sup>University of Southern California, Los Angeles, CA, United States, <sup>2</sup>McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA, United States
- 486 MT Withdrawn**
- 487 MT Resting State Functional Connectivity Decomposition Using ICA and NMF**  
*Bin Chen<sup>1</sup>, Long Meng<sup>1</sup>, Qihong Zou<sup>2</sup>, Geng Li<sup>3</sup>, Jia-Hong Gao<sup>4</sup>*  
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- 488 MT The x-Guided Clustering Method to Detect Functional Connectivity Differences**  
*Gang Chen<sup>1</sup>, B. Douglas Ward<sup>1</sup>, Chunming Xie<sup>1</sup>, Wenjun Li<sup>1</sup>, Guangyu Chen<sup>1</sup>, Joseph Goveas<sup>1</sup>, Piero Antuono<sup>1</sup>, Shi-Jiang Li<sup>1</sup>*  
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- 489 MT Global Signal Regression in Resting-State fMRI Studies: To apply or not?**  
*Gang Chen<sup>1</sup>, Guangyu Chen<sup>1</sup>, Chunming Xie<sup>1</sup>, B. Douglas Ward<sup>1</sup>, Wenjun Li<sup>1</sup>, Piero Antuono<sup>1</sup>, Shi-Jiang Li<sup>1</sup>*  
<sup>1</sup>Medical College of Wisconsin, Milwaukee, WI
- 490 MT Tolcapone modulates the connectivity strength of brain regions in healthy volunteers**  
*Qiang Chen<sup>1,2</sup>, Roberta Rasetti<sup>2</sup>, Christopher J Li<sup>2</sup>, Yunxia Tong<sup>2</sup>, José A Apud<sup>2</sup>, Daniel R Weinberger<sup>1,2</sup>, Venkata S Mattay<sup>1,2</sup>*  
<sup>1</sup>Lieber Institute for Brain Development, Baltimore, MD, <sup>2</sup>CBDB/NIMH/NIH, Bethesda, MD
- 491 MT Noise-related variance of functional networks**  
*Hu Cheng<sup>1</sup>, Aina Puce<sup>1</sup>*  
<sup>1</sup>Indiana University, Bloomington, IN
- 492 MT Evaluation and calibration of functional network modeling methods based on known anatomy**  
*Debra Dawson<sup>1</sup>, Kuwook Cha<sup>1</sup>, Lindsay Lewis<sup>2</sup>, Janine Mendola<sup>2</sup>, Amir Shmuel<sup>1</sup>*  
<sup>1</sup>MNI, McGill University, Montreal, Canada, <sup>2</sup>McGill Vision Research, McGill University, Montreal, Quebec
- 493 MT Stable clusters of age-related changes in resting-state connectivity: a connectome-wide association**  
*Philip Dickinson<sup>1,2</sup>, Guillaume Marrelec<sup>3,4,5</sup>, Christian L Dansereau<sup>6,2</sup>, Pedro Rosa-Neto<sup>1,7</sup>, Michael Milham<sup>8</sup>, Julien Doyon<sup>2,4,9,10</sup>, Pierre Bellec<sup>2,4,10</sup>*  
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- 494 MT Resting-state brain networks in BOLD fMRI and perfusion fMRI**  
*Yuhui Du<sup>1,2</sup>, Lirong Yan<sup>3</sup>, Danny JJ Wang<sup>3</sup>, Yong Fan<sup>4</sup>*  
<sup>1</sup>National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>College of Information and Communication Engineering, North University of China, Taiyuan, China, <sup>3</sup>Department of Neurology, UCLA, Los Angeles, United States, <sup>4</sup>National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 495 MT Co-activation patterns distinguish cortical units, their connectivity and functional differentiation**  
*Simon Eickhoff<sup>1</sup>, Danilo Bzdok<sup>2</sup>, Angela Laird<sup>3</sup>, Christian Roski<sup>4</sup>, Svenja Caspers<sup>5</sup>, Karl Zilles<sup>1</sup>, Peter Fox<sup>6</sup>*  
<sup>1</sup>Research Center Jülich, Jülich, Germany, <sup>2</sup>N/A, Germany, <sup>3</sup>University of Texas Health Science Center San Antonio, San Antonio, United States, <sup>4</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Jülich, Germany, <sup>5</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany, <sup>6</sup>Research Imaging Institute, San Antonio, TX
- 496 MT Assessing Functional Brain Connectivity Changes in Healthy Aging Using R-fMRI and the MIC similarity**  
*Rune Eikeland<sup>1</sup>, Erik Hanson<sup>1</sup>, Erlend Hodneland<sup>1</sup>, Astri Lundervold<sup>1</sup>, Arvid Lundervold<sup>1,2</sup>*  
<sup>1</sup>University of Bergen, Bergen, Norway, <sup>2</sup>Haukeland University Hospital, Bergen, Norway
- 497 MT Finding Spatio-temporal Patterns in the Dynamics of Complex Brain Networks**  
*Matthias Ekman<sup>1</sup>, Jan Derrfuss<sup>1</sup>, Christian Fiebach<sup>2</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands, <sup>2</sup>University of Frankfurt, Frankfurt am Main, Germany

- 498 MT **Finding Communities in Functional Brain Networks**  
*Matthias Ekman<sup>1</sup>, Jan Derrfuss<sup>1</sup>, Christian Fiebach<sup>2,1</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands, <sup>2</sup>University of Frankfurt, Frankfurt am Main, Germany
- \*499 MT **Estimating BOLD Signals of Deep Brain Networks From EEG using Canonical correlation Analysis (O-T1)**  
*Tal El Hay<sup>1</sup>, Sivan Kinreich<sup>2</sup>, Noam Slonim<sup>1</sup>, Ilana Podlipsky<sup>3</sup>, Talma Hendler<sup>4</sup>, Lavi Shpigelman<sup>1</sup>*  
<sup>1</sup>IBM, Haifa, Israel, <sup>2</sup>Tel Aviv University, Israel, N/A, <sup>3</sup>Wohl Institute for Advanced Imaging, Sourasky Medical Center, Tel-Aviv, Israel, <sup>4</sup>The Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel
- 500 MT **Resting-state Functional Connectivity of the Thalamus with Eyes Open and Closed Conditions**  
*Yang Fan<sup>1</sup>, Qihong Zou<sup>1</sup>, Jia-Hong Gao<sup>1,2</sup>*  
<sup>1</sup>Peking University, Beijing, China, <sup>2</sup>University of Chicago, Chicago, IL
- 501 MT **Test-retest reliability of the graph metrics in different rest conditions and sampling rates**  
*Yuanyuan Fan<sup>1</sup>, Pengfei Xu<sup>2</sup>, Xiaoling Peng<sup>1</sup>, Jinhui Wang<sup>2</sup>, Junjing Wang<sup>1</sup>, Xue Wen<sup>1</sup>, Jingjing Ma<sup>1</sup>, Delong Zhang<sup>1</sup>, Ming Liu<sup>1</sup>, Yong He<sup>2</sup>, Ruiwang Huang<sup>1</sup>*  
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- 502 MT **Hidden States of Resting-State Networks**  
*Mark Fiecas<sup>1</sup>, Joseph Tadjuidje<sup>2</sup>*  
<sup>1</sup>Brown University, Providence, United States, <sup>2</sup>Technische Universität Kaiserslautern, Kaiserslautern, Germany
- 503 MT **Cooperation among Large-Scale Functional Networks Indexes Online Cognitive Performance**  
*Wei Gao<sup>1</sup>, John Gilmore<sup>1</sup>, Weili Lin<sup>1</sup>*  
<sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, NC
- 504 MT **Mild sedation alters eigenvector centrality of BOLD FMRI in the thalamus and brainstem**  
*Tommaso Gili<sup>1</sup>, Neeraj Saxena<sup>2</sup>, Ana Diukova<sup>1</sup>, Kevin Murphy<sup>1</sup>, Judith Halp<sup>2</sup>, Richard Wise<sup>1</sup>*  
<sup>1</sup>Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, <sup>2</sup>Section of Anaesthetics, Intensive Care and Pain Medicine, Cardiff University School of Medicine, Cardiff, United Kingdom
- 505 MT **Withdrawn**
- 506 MT **Detection of task transitions on 45min long continuous multi-task runs using whole brain connectivity**  
*Javier Gonzalez-Castillo<sup>1</sup>, Paula Wu<sup>1</sup>, Meghan Robinson<sup>1</sup>, Daniel Handwerker<sup>1</sup>, Souheil Inati<sup>1</sup>, Peter Bandettini<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, United States
- 507 MT **Default mode network is modulated by serotonin-1A receptors**  
*Andreas Hahn<sup>1</sup>, Wolfgang Wadsak<sup>2</sup>, Christian Windischberger<sup>3</sup>, Pia Baldinger<sup>1</sup>, Anna Hoeflich<sup>1</sup>, Jan Losak<sup>1</sup>, Lukas Nics<sup>2</sup>, Johanna Ungersboeck<sup>2</sup>, Georg Kranz<sup>1</sup>, Christoph Kraus<sup>1</sup>, Markus Mitterhauser<sup>2</sup>, Georgios Karanikas<sup>2</sup>, Siegfried Kasper<sup>1</sup>, Rupert Lanzenberger<sup>1</sup>*  
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- 508 MT **Validation of stochastic DCM for network discovery: A simulation study**  
*Martin Havlicek<sup>1</sup>, Kamil Uluda<sup>2</sup>, Karl Friston<sup>3</sup>, Vince Calhoun<sup>4</sup>, Alard Roebroeck<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Maastricht Brain Imaging Centre, Faculty of Psychology & Neuroscience, Maastricht University, Maastricht, Netherlands, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 509 MT **Geometrical Modularity Underlying High Clustering Coefficient in the Cortex**  
*James Henderson<sup>1</sup>, Peter Robinson<sup>2</sup>*  
<sup>1</sup>The University of Sydney, Australia, <sup>2</sup>University of Sydney, Sydney, Australia

- 510 MT Effective Connectivity between OFA and FFA during face perception: DCM of evoked MEG, EEG and fMRI**  
*Richard Henson<sup>1</sup>, Daniel Wakeman<sup>1</sup>, Christophe Phillips<sup>2</sup>, James Rowe<sup>3</sup>*  
<sup>1</sup>MRC CBU, Cambridge, United Kingdom, <sup>2</sup>Cyclotron Research Centre, University of Liege, Sart Tilman, Liege, Belgium, <sup>3</sup>Cambridge University, Cambridge, United Kingdom
- 511 MT Fractal Analysis of Spontaneous Fluctuations of the BOLD Signal**  
*Peter Herman<sup>1</sup>, Basavaraju Sanganahalli<sup>1</sup>, Fahmeed Hyder<sup>1</sup>, Andras Eke<sup>2</sup>*  
<sup>1</sup>Yale University, New Haven, CT, United States, <sup>2</sup>Semmelweis University Budapest, Budapest, Hungary
- 512 MT Causality among fMRI networks: how reliable are common estimators?**  
*Jaroslav Hlinka<sup>1</sup>, David Hartman<sup>1</sup>, Milan Paluš<sup>1</sup>, Martin Vejmelka<sup>1</sup>, Dante Mantini<sup>2</sup>, Maurizio Corbetta<sup>3</sup>*  
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- 513 MT Differences of Intrinsic Functional Connectivity of the Human Brain in Patients with Brain Tumors**  
*Bob Hou<sup>1</sup>, Rachel Lagos<sup>1</sup>, Jeffrey Carpenter<sup>1</sup>*  
<sup>1</sup>Radiology, West Virginia University, Morgantown, WV, United States
- 514 MT Modulation of hypothalamic connectivity by food ingestion**  
*Claudia Huerta<sup>1</sup>, Hsiao-Ying Wey<sup>2</sup>, Timothy Duong<sup>3</sup>*  
<sup>1</sup>UTHSCSA, San Antonio, United States, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH, Charlestown, MA, <sup>3</sup>UT Health Science Center at San Antonio, San Antonio, TX
- 515 MT Pairwise LINGAM finds directionalities even for single subjects in fMRI simulations by Smith et al**  
*Aapo Hyvarinen<sup>1</sup>, Stephen Smith<sup>2</sup>*  
<sup>1</sup>University of Helsinki, Finland, <sup>2</sup>FMRIB, Oxford University, Oxford, United Kingdom
- 516 MT Increased Coupling in the Saliency Network is the main cause/ effect of ADHD**  
*Xiaoxi Ji<sup>1</sup>, Wei Cheng<sup>1</sup>, Jie Zhang<sup>1</sup>, Tian Ge<sup>1,2</sup>, Edmund Rolls<sup>3,2</sup>, Li Sun<sup>4</sup>, Yufeng Wang<sup>4</sup>, Jianfeng Feng<sup>1,2</sup>*  
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- 517 MT Structural Connectivity of the Default Mode Network**  
*Sakh Khalsa<sup>1,2</sup>, Stephen Mayhew<sup>1</sup>, Magdalena Chechlac<sup>1</sup>, Manny Bagary<sup>2</sup>, Andrew Bagshaw<sup>1</sup>*  
<sup>1</sup>School of Psychology, University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Department of Neuropsychiatry, The Barberry National Centre for Mental Health, Birmingham, United Kingdom
- 518 MT Modulating motor connectivity in Cerebral Palsy (CP) patients by dynamic causal modeling(DCM)**  
*Jae-Chang Kim<sup>1,2</sup>, Sunghyon Kyeong<sup>3,1</sup>, Jong Doo Lee<sup>4,1</sup>, Hae-Jeong Park<sup>4,1</sup>*  
<sup>1</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Radiology and Division of Nuclear Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>National Institute for Mathematical Sciences, Daejeon, Korea, Republic of, <sup>4</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 519 MT Increased connectivity to rostral prefrontal cortex leads to poor task performance in MS**  
*Katherine Koenig<sup>1</sup>, Erik Beall<sup>1</sup>, Jian Lin<sup>1</sup>, Blessy Mathew<sup>1</sup>, Lael Stone<sup>1</sup>, Robert Bermel<sup>1</sup>, Stephen Rao<sup>1</sup>, Bruce Trapp<sup>1</sup>, Micheal Phillips<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic Foundation, Cleveland, United States
- 520 MT Endogenous back pain differentially modulates insula connectivity to different brain networks**  
*Jian Kong<sup>1</sup>, Hsiao-Ying Wey<sup>2</sup>, Jieun Kim<sup>2</sup>, Rosa Spaeth<sup>1</sup>, Alexandra Cheetham<sup>1</sup>, Amanda Cook<sup>1</sup>, Karin Jensen<sup>1</sup>, Ying Tan<sup>1</sup>, Marco Loggia<sup>1</sup>, Ajay Wasan<sup>3</sup>, Randy Gollub<sup>4</sup>, Vitaly Napadow<sup>2</sup>*  
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- 521 MT Clustering Algorithm Classification of Resting State Networks**  
*Megan Lee<sup>1</sup>, Carl Hacker<sup>1</sup>, Eric Leuthardt<sup>1</sup>, Abraham Snyder<sup>2</sup>, Dongyang Zhang<sup>1</sup>, Joshua Shimony<sup>1</sup>*  
<sup>1</sup>Washington University School of Medicine, St. Louis, MO, <sup>2</sup>Washington University School of Medicine, St. Louis, MO
- 522 MT Altered Resting Functional and White Matter Tract Connectivity in Stroke Patients with Dysphagia**  
*Shasha Li<sup>1</sup>, Chengqi He<sup>1</sup>, Dong Zhou<sup>1</sup>, Xiaotong Wang<sup>2</sup>*  
<sup>1</sup>West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>the Second Affiliated Hospital of Wenzhou Medical College, Wenzhou, China
- 523 MT Spatial Specificity Change of BOLD Functional Connectivity and EEG Power Correlations**  
*Xiao Liu<sup>1</sup>, Xiao-Hong Zhu<sup>1</sup>, Yi Zhang<sup>1</sup>, Wei Chen<sup>1</sup>*  
<sup>1</sup>University of Minnesota, Minneapolis, MN
- 524 MT A new information theoretic approach to quantify resting-state fMRI synchrony**  
*Yinan Liu<sup>1</sup>, Karl Young<sup>1,2</sup>, Yu Zhang<sup>1,2</sup>, Michael Weiner<sup>1,2</sup>, Norbert Schuff<sup>1,2</sup>*  
<sup>1</sup>Department of Veteran Affairs Medical Center, San Francisco, CA, <sup>2</sup>University of California at San Francisco, San Francisco, CA
- 525 MT Dynamic causal modelling: is the model with the “highest evidence” useful ?**  
*Gabriele Lohmann<sup>1</sup>, Karsten Mueller<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 526 MT Brodmann areas in primary somatosensory cortex using monkey tracing studies & resting-state fMRI**  
*Xiangyu Long<sup>1</sup>, Daniel Margulies<sup>2</sup>, Arno Villringer<sup>3</sup>*  
<sup>1</sup>Max Planck Institute For Human Cognitive And Brain Sciences, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- Moved to 646 MT Goal-dependent modulation of effective connectivity during a two-party bargaining game**  
*Qiang Luo<sup>1</sup>, Meghana Bhatt<sup>2</sup>, Read Montague<sup>3</sup>, Jianfeng Feng<sup>4</sup>*  
<sup>1</sup>National University of Defense Technology, Changsha, China, <sup>2</sup>Beckman Research Institute, City of Hope, CA, <sup>3</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, <sup>4</sup>Department of Computer Science, The University of Warwick, Coventry, United Kingdom
- 528 MT Validation of a new ICA-based method for between-group comparisons in fMRI**  
*Mona Maneshi<sup>1</sup>, Shahabeddin Vahdat<sup>2</sup>, Christophe Grova<sup>3</sup>, Jean Gotman<sup>4</sup>*  
<sup>1</sup>Montreal Neurological Institute and Hospital, McGill University, N/A, <sup>2</sup>Department of Kinesiology and PE, McGill University, Montreal, QC, <sup>3</sup>Biomedical Engineering Department, McGill University, Montreal, QC, <sup>4</sup>Montreal Neurological Institute and Hospital, McGill University, Montreal, QC
- 529 MT The Temperament Dimension Harm Avoidance modulates functional connectivity in the resting brain**  
*Sebastian Markett<sup>1</sup>, Bernd Weber<sup>2</sup>, Gesine Voigt<sup>3</sup>, Christian Montag<sup>1</sup>, Christian Elger<sup>4</sup>, Martin Reuter<sup>1</sup>*  
<sup>1</sup>Department of Psychology, University of Bonn, Bonn, Germany, <sup>2</sup>Department of NeuroCognition Imaging, Life & Brain Center, University of Bonn, Bonn, Germany, <sup>3</sup>Department of Psychology, University of Bonn, Bonn, Germany, <sup>4</sup>Dept. of Epileptology, Univ. of Bonn, Bonn, Germany
- 530 MT CHARTing functional connectivity in depression: a novel data-driven method reveals hyperconnectivity**  
*Susa Merz<sup>1</sup>, Jennifer Perrin<sup>1</sup>, Daniel Bennett<sup>1</sup>, James Currie<sup>1</sup>, Douglas Steele<sup>2</sup>, Ian Reid<sup>1</sup>, Christian Schwarzbauer<sup>1</sup>*  
<sup>1</sup>University of Aberdeen, Aberdeen, United Kingdom, <sup>2</sup>University of Dundee, Dundee, United Kingdom
- 531 MT Intra-subject and Inter-subject Variability of Intrinsic Functional Connectivity**  
*Sophia Mueller<sup>1,2,3</sup>, Jie Lu<sup>4</sup>, Danhong Wang<sup>1</sup>, B. T. Yeo<sup>5,1</sup>, Mert Sabuncu<sup>1</sup>, Jorge Sepulcre<sup>2,6,1</sup>, Michael Fox<sup>7</sup>, Kuncheng Li<sup>4</sup>, Hesheng Liu<sup>1</sup>*  
<sup>1</sup>Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, MGH, Charlestown, MA, <sup>2</sup>Harvard University, Department of Psychology and Center for Brain Science, Cambridge, MA, <sup>3</sup>Ludwig Maximilians University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>4</sup>Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, <sup>5</sup>Duke-NUS Graduate Medical School, Singapore, Singapore, <sup>6</sup>Division of Nuclear Medicine and Molecular Imaging, Department of Radiology, Massachusetts General Hospital and Harvard Medical School, Boston, MA, <sup>7</sup>Department of Neurology, Massachusetts General Hospital, Brigham and Women's Hospital, Boston, MA
- 532 MT A study on the sensitivity of DCM inferences to haemodynamic variability**  
*Teresa Murta<sup>1</sup>, Marco Leite<sup>1</sup>, Patricia Figueiredo<sup>1</sup>*  
<sup>1</sup>Institute for Systems and Robotics / Instituto Superior Técnico, Lisbon, Portugal

- 533 MT Searching for Hubs of Degree and Betweenness in the Connectivity Graph of the Resting-State Networks**  
*Mikaël Naveau<sup>1</sup>, Ludvine Gautier<sup>1</sup>, Nicolas Delcroix<sup>2</sup>, Pierre-Yves Hervé<sup>1</sup>, Laurent Petit<sup>1</sup>, Laure Zago<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Gael Jobard<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Marc Joliot<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen, Bordeaux, France, <sup>2</sup>UMS 3408, GIP Cyceron, Caen, France
- 534 MT Using Bootstrap to Test Statistical Difference Between Two Empirical Structural Equation Models**  
*Xavier Noguès<sup>1</sup>, Aurélie Boucard<sup>2</sup>, Aline Marighetto<sup>1</sup>, Jacques Micheau<sup>3</sup>*  
<sup>1</sup>Neurocentre magendie - Bordeaux University, Bordeaux, France, <sup>2</sup>Bordeaux University, Bordeaux, France, <sup>3</sup>INCLIA - Bordeaux University, Talence, France
- 535 MT Hierarchical organization of Resting State Networks and Verification with DTI**  
*Allison Nugent<sup>1</sup>, Maura Furey<sup>1</sup>, Carlos Zarate, Jr.<sup>1</sup>*  
<sup>1</sup>Experimental Therapeutics and Pathophysiology Branch, NIH/NIMH, Bethesda, MD
- 536 MT DCM Model Selection with Multiple-Model Kalman Filters**  
*Pedro Osório<sup>1</sup>, Paulo Rosa<sup>1</sup>, Patrícia Figueiredo<sup>1</sup>, Carlos Silvestre<sup>1</sup>*  
<sup>1</sup>Institute for Systems and Robotics / Instituto Superior Técnico, Lisbon, Portugal
- 537 MT Artistic style recognition influences on reward processing during aesthetic judgment of paintings**  
*Seongmin Park<sup>1</sup>, Jaeseung Jeong<sup>2</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of, <sup>2</sup>KAIST, Daejeon, Korea, Republic of
- 538 MT Erdős-Rényi Mixture Model for Finding Community Structure in Brain Networks**  
*Dragana Pavlovic<sup>1</sup>, Petra Vertes<sup>2</sup>, Mikail Rubinov<sup>2</sup>, Edward Bullmore<sup>3</sup>, Thomas Nichols<sup>1</sup>*  
<sup>1</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom
- 539 MT Joint inference of functional ROIs and their interaction graph**  
*Sergey Plis<sup>1</sup>, Vamsi K. Potluru<sup>1</sup>, Elena Allen<sup>1</sup>, Eswar Damaraju<sup>1</sup>, Jessica Turner<sup>1</sup>, Vince Calhoun<sup>1</sup>*  
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- 540 MT Cortical and subcortical connectivity during hand movements at different frequencies**  
*Eva-Maria Pool<sup>1</sup>, Anne Rehme<sup>1</sup>, Gereon Fink<sup>2,3</sup>, Simon Eickhoff<sup>3,4,5</sup>, Christian Grefkes<sup>1,2</sup>*  
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- 541 MT Sensitivity Enhancement and Clinical Feasibility of Resting State fMRI using Echo-Volumar-Imaging**  
*Stefan Posse<sup>1</sup>, Elena Ackley<sup>1</sup>, Abhishek Yeruva<sup>1</sup>, Radu Mutihac<sup>2,3</sup>, Muhammad Chohan<sup>4</sup>, Bruce Fisch<sup>1</sup>, Howard Yonas<sup>4</sup>*  
<sup>1</sup>University of New Mexico, Department of Neurology, Albuquerque, NM, <sup>2</sup>Department of Electricity & Biophysics, Faculty of Physics, University of Bucharest, Bucharest, Romania, <sup>3</sup>Division of Psychiatry and Neuroscience, WRAIR, Silver Spring, MD, <sup>4</sup>University of New Mexico, Department of Neurosurgery, Albuquerque, NM
- 542 MT Appraisal and memory for faces: Cortico-limbic network behavior modeled with dynamic causal modeling**  
*Harinder Raj<sup>1</sup>, Sunali Wadehra<sup>1</sup>, Simon Eickhoff<sup>2</sup>, Vaibhav Diwadkar<sup>1</sup>*  
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- 543 MT Converging hub identification: Evidence from resting state graph theory and BrainMap ICA analyses**  
*Kimberly Ray<sup>1</sup>, David Glahn<sup>2</sup>, John Blangero<sup>3</sup>, Angela Laird<sup>4</sup>*  
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- 544 MT Comparing resting-state functional and task-state effective connectivity of cortical motor areas**  
*Anne Rehme<sup>1</sup>, Simon Eickhoff<sup>2</sup>, Christian Grefkes<sup>3</sup>*  
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- 545 MT Predictive modelling of multiple sclerosis based on whole-brain functional connectivity**  
*Jonas Richiardi<sup>1</sup>, Jean-Marie Annoni<sup>1</sup>, Beatrice Greco<sup>2</sup>, Markus Gschwind<sup>3</sup>, Patric Hagmann<sup>3</sup>, Myriam Schluep<sup>3</sup>, Samanta Simioni<sup>3</sup>, Patrik Vuilleumier<sup>1</sup>, Dimitri Van De Ville<sup>4</sup>*  
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- 546 MT Merging computational models and multimodal imaging data using The Virtual Brain**  
*Petra Ritter<sup>1</sup>, Michael Schirner<sup>2</sup>, Matthias Reinacher<sup>2</sup>, Simon Rothmeier<sup>2</sup>, Jonas Schwarz<sup>2</sup>, Anthony McIntosh<sup>3</sup>, Viktor Jirsa<sup>4</sup>*  
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- 547 MT Interrelating Anatomical, Structural, Effective and Functional Connectivity via Neural Field Theory**  
*Peter Robinson<sup>1</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia
- 548 MT Calculation of Structural Connectivity from Functional Connectivity**  
*Peter Robinson<sup>1</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia
- 549 MT Can partial Granger causality really eliminate the effect of confounding variables?**  
*Bjorn Roelstraete<sup>1</sup>, Yves Rosseel<sup>2</sup>*  
<sup>1</sup>Ghent University, Gent, Belgium, <sup>2</sup>Universiteit Gent, Gent, Belgium
- 550 MT Study of Functional Connectivity Networks obtained using EEG related seeds: Preliminary Results**  
*Gonzalo Rojas<sup>1</sup>, Marcelo Galvez<sup>1</sup>*  
<sup>1</sup>Department of Radiology, Las Condes Clinic, Santiago, Chile
- 551 MT Dyslexia Induces Imbalances in Resting State Networks Across Hemispheres: Preliminary Results**  
*Sara Rosset<sup>1</sup>, Carlo Rondinoni<sup>2</sup>, João Ricardo Sato<sup>3</sup>, Livia Freitas<sup>4</sup>, Carlos Salmon<sup>5</sup>, Antonio Santos<sup>6</sup>*  
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- 552 MT Enhancement of functional brain connectivity and semantic priming using real-time fMRI Neurofeedback**  
*Sergio Ruiz<sup>1</sup>, mohit rana<sup>2</sup>, Katharina Sass<sup>3</sup>, Tilo Kircher<sup>4</sup>, Niels Birbaumer<sup>2</sup>, Ranganatha Sitaram<sup>2</sup>*  
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- 553 MT Enhanced Task Related Functional Connectivity in Resting State fMRI following Visuo-motor Learning**  
*Saber Sami<sup>1</sup>, Chris Miall<sup>1</sup>, Neil Albert<sup>2</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>University of Chicago, Chicago, IL
- \*554 MT Network Analysis Could Reveal Local And Global Intelligence Fingerprint In Resting State fMRI Data (O-M4)**  
*Emiliano Santarnecchi<sup>1</sup>, Matteo Feurra<sup>2</sup>, Nicola Polizzotto<sup>3</sup>, Simone Rossi<sup>2</sup>, Alessandro Rossi<sup>2</sup>, Giampaolo Vatt<sup>2</sup>*  
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- 555 MT Integration of BOLD-fMRI cross correlation and context information to measure global connectivity**  
*Saman Sargolzaei<sup>1</sup>, Prantik Kundu<sup>2</sup>, Fatta Nahab<sup>3</sup>*  
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- 556 MT Link Communities in the Human Brain**  
*Alexander Schäfer<sup>1</sup>, Daniel Margulies<sup>2</sup>, Gabriele Lohmann<sup>1</sup>, Arno Villringer<sup>1</sup>*  
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- 557 MT Effects of modafinil on neural correlates of response inhibition in alcohol dependent patients**  
*Lianne Schmaal<sup>1</sup>, Anna Goudriaan<sup>2</sup>, Leen Joos<sup>3</sup>, Wim van den Brink<sup>2</sup>, Dick Veltman<sup>4</sup>*  
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- 558 MT Identifiability of causal models**  
*Benjamin Seeber<sup>1</sup>, Yannick Linke<sup>1</sup>, Elisa Scheller<sup>2</sup>, Stefan Klöppel<sup>3</sup>, Cornelius Weiller<sup>2</sup>, Jens Timmer<sup>4</sup>, Björn Schelter<sup>1</sup>*  
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- 559 MT Resting-state connectivity reflects underlying anatomical structure in the macaque cortex**  
*Kelly Shen<sup>1</sup>, Gleb Bezgin<sup>1</sup>, R. Matthew Hutchison<sup>2,3</sup>, Joseph Gati<sup>3</sup>, Ravi Menon<sup>3</sup>, Anthony McIntosh<sup>1,4</sup>, Stefan Everling<sup>2,3</sup>*  
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- 560 MT Probabilistic Characterization of Brain Network Connectivity**  
*Xilin Shen<sup>1</sup>, Fuyuze Tokoglu<sup>2</sup>, R Constable<sup>3</sup>, Xenophon Papademetris<sup>3</sup>*  
<sup>1</sup>Yale University, New Haven, United States, <sup>2</sup>Yale University, MRRRC, New Haven, CT, <sup>3</sup>Yale University, New Haven, CT
- 561 MT Effective connectivity of motor system in a planning/execution task by DCM in left handed subjects**  
*Elvis Silva<sup>1</sup>, Gabriela Castellano<sup>1</sup>*  
<sup>1</sup>State University of Campinas - UNICAMP, Campinas, Brazil
- 562 MT An exponential random graph modeling approach to creating group-based representative brain networks**  
*Sean Simpson<sup>1</sup>, Paul Laurienti<sup>2</sup>, Malaak Moussa<sup>2</sup>*  
<sup>1</sup>Wake Forest School of Medicine, Winston-Salem, United States, <sup>2</sup>Wake Forest School of Medicine, Winston-Salem, NC
- 563 MT Age-related Differences in Test-retest Reliability in Resting State Brain Functional Connectivity**  
*Jie Song<sup>1</sup>, Alok Desphande<sup>2</sup>, Timothy Meier<sup>3</sup>, Dana Tudorascu<sup>4</sup>, Svyatoslav Vergun<sup>5</sup>, Veena Nair<sup>6</sup>, Bharat Biswal<sup>7</sup>, Mary Meyerand<sup>8</sup>, Rasmus Birn<sup>9</sup>, Vivek Prabhakaran<sup>6</sup>*  
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- 564 MT Average Group Analysis Fails to Capture Complexity in Brain Networks**  
*Qawi Telesford<sup>1</sup>, Matthew Steen<sup>1</sup>, Malaak Moussa<sup>1</sup>, Paul Laurienti<sup>1</sup>, Satoru Hayasaka<sup>1</sup>*  
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- 565 MT Resting state networks generated from twelve second segments of fMRI scans are behaviorally relevant**  
*Garth Thompson<sup>1</sup>, Matthew Magnuson<sup>1</sup>, Michael Merritt<sup>1</sup>, Hillary Schwarb<sup>2</sup>, Wen-Ju Pan<sup>1</sup>, Andrew McKinley<sup>3</sup>, Lloyd Tripp<sup>3</sup>, Eric Schumacher<sup>2</sup>, Shella Keilholz<sup>1</sup>*  
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- 566 MT Direct Anatomical Connectivity in fMRI assessed Functional Connectivity Networks**  
*Balint Varkuti<sup>1</sup>, Sebastian Halder<sup>1</sup>, Colleen Dockery<sup>1</sup>, Markus Schneider<sup>1</sup>, Philipp Keune<sup>2</sup>, Eric Fimbel<sup>3</sup>, Kamil Uluda<sup>4</sup>, Niels Birbaumer<sup>1</sup>, Ranganatha Sitaram<sup>5</sup>*  
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- 567 MT Graphical models for fMRI correlation: is brain functional connectivity small world or decomposable?**  
*Gaël Varoquaux<sup>1</sup>, Alexandre Gramfort<sup>2</sup>, Jean-Baptiste Poline<sup>3</sup>, Bertrand Thirion<sup>4</sup>*  
<sup>1</sup>INRIA, Saclay, France, <sup>2</sup>INRIA - CEA Neurospin, France, <sup>3</sup>CEA, Neurospin, Gif-sur-Yvette, France, <sup>4</sup>Parietal Team, INRIA Saclay - Île-de-France, Saclay, France
- 568 MT Finding fMRI Resting-state Network (RSN) Structures with Help of Graph Hubs And Authorities**  
*Gilson Vieira<sup>1</sup>, João Sato<sup>2</sup>, Edson Amaro Junior<sup>1</sup>, Luiz Baccala<sup>1</sup>*  
<sup>1</sup>University of São Paulo, São Paulo, Brazil, <sup>2</sup>ABC Federal University, Santo André, Brazil
- 569 MT Connectomic fingerprints of human brain function in health and disease**  
*Konrad Wagstyl<sup>1</sup>, Yong Liu<sup>2</sup>, Chunshui Yu<sup>3</sup>, Xinqing Zhang<sup>4</sup>, Tianzi Jiang<sup>2</sup>, Edward Bullmore<sup>1</sup>, Mikail Rubinov<sup>1</sup>*  
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- 570 MT Using functional connectivity patterns to identify conceptual knowledge representations**  
*Jing Wang<sup>1</sup>, Svetlana Shinkareva<sup>1</sup>*  
<sup>1</sup>University of South Carolina, Columbia, United States
- 571 MT Dynamical simplex evolution: A network analysis method to investigate resting-state connectivity**  
*Jing Wang<sup>1</sup>, Vladimir Gudkov<sup>1</sup>, Svetlana Shinkareva<sup>1</sup>*  
<sup>1</sup>University of South Carolina, Columbia, United States
- 572 MT Altered Functional Connectivity and Small-worldness in TLE of Different Focus Locations**  
*Junjing Wang<sup>1</sup>, Shijun Qiu<sup>2</sup>, Yong Xu<sup>1</sup>, Zhenyin Liu<sup>2</sup>, Xue Wen<sup>1</sup>, Wensheng Wang<sup>3</sup>, Yuanyuan Fan<sup>1</sup>, Xiangshu Hu<sup>4</sup>, Xiaoling Peng<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
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- 573 MT Radiation-induced changes of brain functional network of nasopharyngeal carcinoma after radiotherapy**  
*Zengjian Wang<sup>1</sup>, Li Li<sup>2</sup>, Fangfang He<sup>1</sup>, Lizhi Liu<sup>2</sup>, Xue Wen<sup>1</sup>, Xiaoling Peng<sup>1</sup>, Rui Zhong<sup>2</sup>, Shumei Li<sup>1</sup>, Delong Zhang<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
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- 574 MT Robust Detection of Default Networks Using Resting fMRI with ICA and Sparse Signal Representation**  
*Zhishun Wang<sup>1</sup>, Pengwei Wang<sup>2</sup>, Guillermo Horga<sup>2</sup>, Lianghua He<sup>3</sup>, Yuankai Huo<sup>2</sup>, Barbara Graniello<sup>2</sup>, Bradley Peterson<sup>1</sup>*  
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- 575 MT Reproducible Phase Delays in BOLD Time Series Reflect Vascular Anatomy**  
*Taylor Webb<sup>1</sup>, Michael Ferguson<sup>2</sup>, Jared Nielsen<sup>2</sup>, Jeffrey Anderson<sup>2</sup>*  
<sup>1</sup>University of Utah, Salt Lake City, United States, <sup>2</sup>University of Utah, Salt Lake City, UT
- 576 MT Differential Resting State Connectivity in Adolescent Smokers**  
*Karen Weierstall<sup>1</sup>, Robert Whelan<sup>2</sup>, Rowen Morioka<sup>1</sup>, Clare Kelly<sup>3</sup>, Richard Watts<sup>4</sup>, Hugh Garavan<sup>5</sup>*  
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- 577 MT Mapping resting-state functional networks with total interdependence**  
*Xiaotong Wen<sup>1</sup>, Jue Mo<sup>1</sup>, Yijun Liu<sup>2</sup>, Mingzhou Ding<sup>1</sup>*  
<sup>1</sup>University of Florida, Gainesville, FL, United States, <sup>2</sup>Department of Psychiatry & McKnight Brain Institute, University of Florida, Gainesville, FL, United States
- 578 MT Causal influences between task control network and default mode network predict task performance**  
*Xiaotong Wen<sup>1</sup>, Yijun Liu<sup>2</sup>, Mingzhou Ding<sup>1</sup>*  
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- 579 MT Linking BOLD-Level Granger Causality with Neural-Level Granger Causality**  
*Xiaotong Wen<sup>1</sup>, Govindan Rangarajan<sup>2</sup>, Mingzhou Ding<sup>3</sup>*  
<sup>1</sup>University of Florida, GAINESVILLE, United States, <sup>2</sup>Indian Institute of Science, Bangalore, India, <sup>3</sup>University of Florida, Gainesville, FL
- 580 MT An exploratory investigation of Dynamic Causal Modelling model space using a face emotion processing**  
*Joseph Whittaker<sup>1</sup>, Rebecca Elliott<sup>1</sup>, Anna Barnes<sup>2</sup>, Steve Williams<sup>1</sup>, Shane McKie<sup>1</sup>*  
<sup>1</sup>University of Manchester, Manchester, United Kingdom, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom
- 581 MT Evaluating directed connectivity in resting brain: method and application to social anxiety disorder**  
*Guorong Wu<sup>1,2</sup>, Wei Liao<sup>3</sup>, Daniele Marinazzo<sup>1</sup>, Huafu Chen<sup>2</sup>*  
<sup>1</sup>University of Ghent, Ghent, Belgium, <sup>2</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>3</sup>Center for Cognition and Brain Disorders and the Affiliated Hospital, Hangzhou, China
- 582 MT Extensive overlap of functional networks as a basic property of brain functional organization**  
*Jiansong Xu<sup>1</sup>, Marc Potenza<sup>1</sup>*  
<sup>1</sup>Yale University, New Haven, CT
- 583 MT Regional Differences in the Impact of Head Motion on R-fMRI Measures: A Voxelwise Analysis**  
*Chaogan Yan<sup>1</sup>, Brian Cheung<sup>2</sup>, Qingyang Li<sup>2</sup>, Stan Colcombe<sup>1</sup>, R. Cameron Craddock<sup>3</sup>, Clare Kelly<sup>4</sup>, Adriana Di Martino<sup>4</sup>, F. Xavier Castellanos<sup>1,4</sup>, Michael Milham<sup>1,2</sup>*  
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- 584 MT Application of NeuroCIS to study neural architecture in resting state fMRI: empirical evidence**  
*Xiaodan Yan<sup>1,2</sup>*  
<sup>1</sup>Rensselaer Polytechnic Institute, Troy, United States, <sup>2</sup>New York University, New York, NY
- 585 MT Disrupted Correlation between Low Frequency Power and Connectivity Strength in Schizophrenic Brain**  
*Qingbao Yu<sup>1</sup>, Jing Sui<sup>1</sup>, Elena Allen<sup>1</sup>, Kent Kiehl<sup>1,2</sup>, Godfrey Pearson<sup>3,4</sup>, Vince Calhoun<sup>1,5</sup>*  
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- 586 MT Disrupted small-world brain networks in moderate Alzheimer's disease: A resting state fMRI study**  
*Xiaohu Zhao<sup>1</sup>, Yong Liu<sup>2</sup>, Xiangbin Wang<sup>1</sup>, Peijun Wang<sup>1</sup>, Tianzi Jiang<sup>2</sup>*  
<sup>1</sup>Imaging Department of Tongji Hospital of Tongji University, Shanghai, China, <sup>2</sup>Institute Of Automation, Chinese Academy Of Sciences, Beijing, China
- 587 MT Latency between Salient Network and Default Mode Network in Depression Patients**  
*Zhengwei Zhou<sup>1</sup>, Kui Ying<sup>2</sup>, Jingyuan Chen<sup>3</sup>*  
<sup>1</sup>CBIR, Dept. of Biomedical Engineering, Tsinghua University, Beijing, China, <sup>2</sup>Dept. of Engineering Physics, Tsinghua University, Beijing, China, <sup>3</sup>Department of Electrical Engineering, Stanford, Stanford, United States
- 588 MT Connectomics Signatures for Characterization of Schizophrenia**  
*dajiang zhu<sup>1</sup>, Kaiming Li<sup>2</sup>, lei guo<sup>3</sup>, tianming liu<sup>4</sup>*  
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- 589 MT Graphing Resting State Functional Networks**  
*Erik Ziegler<sup>1</sup>, Francisco Gomez<sup>1</sup>, Quentin Noirhomme<sup>1</sup>, Athena Demertzis<sup>2</sup>, Audrey Vanhauzenhuysse<sup>3</sup>, Johan Stender<sup>4</sup>, Sunny Mahajan<sup>1</sup>, Christophe Phillips<sup>5</sup>, Steven Laureys<sup>1</sup>, Andrea Soddu<sup>1</sup>*  
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- 590 MT Towards effective connectivity fMRI neurofeedback: single-block windowed partial correlations**  
*Anna Zilverstand<sup>1</sup>, Bettina Sorger<sup>1</sup>, Jan Zimmermann<sup>1</sup>, Rainer Goebel<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands
- 591 MT Who Is the Best Representative Time Series for Constructing fMRI Network ?**  
*Nianming Zuo<sup>1</sup>, Yuhui Du<sup>2</sup>, Yong Liu<sup>3</sup>, Chunshui Yu<sup>4</sup>, Tianzi Jiang<sup>5</sup>*  
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- 592 MT High-resolution atlas of the human hippocampus from postmortem 9.4T MRI and reconstructed histology**  
*Daniel Adler<sup>1</sup>, Salmon Kadivar<sup>1</sup>, John Pluta<sup>1</sup>, Paul Yushkevich<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, United States
- 593 MT Age-Specific Unbiased Average Head Templates for 6 Month and 12 Month Old Infants**  
*Lisa Akiyama<sup>1</sup>, Todd Richards<sup>1</sup>, Toshiaki Imada<sup>1</sup>, Stephen Dager<sup>1</sup>, John Gilmore<sup>2</sup>, Sarah Short<sup>2</sup>, Patricia Kuhl<sup>1</sup>*  
<sup>1</sup>University of Washington, Seattle, WA, <sup>2</sup>UNC-Chapel Hill, Chapel Hill, NC
- 594 MT Withdrawn**
- 595 MT Combining Brain Structure and Function Improves Intersubject Cortical Alignment**  
*Yi Chen<sup>1,2</sup>, Hui Li<sup>3</sup>, John-Dylan Haynes<sup>1</sup>*  
<sup>1</sup>Bernstein Center for Computational Neuroscience, Charité – Universitätsmedizin, Berlin, Germany, <sup>2</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Institute of Image & Graphics, Department of Computer Science, Sichuan University, Chengdu, China
- 596 MT Modelling morphological variability of hippocampus using manifold learning and large deformations**  
*Claire CURY<sup>1,2,3,4</sup>, Joan GLAUNES<sup>5</sup>, Emilie GERARDIN<sup>1,2,3,4</sup>, Marie CHUPIN<sup>1,2,3,4</sup>, Olivier COLLIOT<sup>1,2,3,4</sup>*  
<sup>1</sup>Université Pierre et Marie Curie-Paris 6, CRICM, UMR-S975, PARIS, France, <sup>2</sup>Inserm, U975, PARIS, France, <sup>3</sup>CNRS, UMR 7225, PARIS, France, <sup>4</sup>ICM – Institut du Cerveau et de la Moëlle épinière, PARIS, France, <sup>5</sup>MAP5, CNRS, Université Paris Descartes, PARIS, France
- 597 MT Large Deformation Diffeomorphic Metric Mapping of Orientation Distribution Functions**  
*Jia Du<sup>1</sup>, Alvina Goh<sup>2</sup>, anqi qiu<sup>1,3,4</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>2</sup>Department of Mathematics, National University of Singapore, Singapore, Singapore, <sup>3</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore, <sup>4</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore

- 598 MT Bayesian Atlas Estimation for High Angular Resolution Diffusion Imaging**  
*Jia Du<sup>1</sup>, Alvina Goh<sup>2</sup>, anqi qiu<sup>3,4,5</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>2</sup>Department of Mathematics, National University of Singapore, Singapore, Singapore, <sup>3</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>4</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore, <sup>5</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore
- 599 MT Brain size and folding complexity: a new approach using Spectral analysis of gyrification (Spangy)**  
*David Germanaud<sup>1,2,3</sup>, Julien Lefèvre<sup>4</sup>, Roberto Toro<sup>5</sup>, Clara Fischer<sup>6</sup>, Jessica Dubois<sup>7,3</sup>, Lucie Hertz-Pannier<sup>1,2,3</sup>, Jean-François Mangin<sup>6,3</sup>*  
<sup>1</sup>INSERM - Paris Descartes Univ., UMR663, Paris, France, <sup>2</sup>CEA, DSV, I2BM, NeuroSpin, LBIOM, Gif/Yvette, France, <sup>3</sup>IFR49, Paris, France, <sup>4</sup>CNRS - Aix-Marseille Univ., LSIS, UMR6168, Marseille, France, <sup>5</sup>CNRS URA 2182 'Genes, synapses and cognition', Institut Pasteur, Paris, France, <sup>6</sup>CEA, DSV, I2BM, NeuroSpin, LNAO, Gif/Yvette, France, <sup>7</sup>INSERM, U992, NeuroSpin, Gif/Yvette, France
- 600 MT Empowering Anatomical Shape Analysis with Medial Curves and 1-D Group-Wise Registration**  
*Boris Gutman<sup>1</sup>, Yalin Wang<sup>2</sup>, Priya Rajagopalan<sup>3</sup>, Arthur Toga<sup>4</sup>, Paul Thompson<sup>5</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States, <sup>2</sup>Arizona State University, Mesa, AZ, <sup>3</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>4</sup>UCLA, Los Angeles, CA, <sup>5</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 601 MT Improved Power and Robustness of Tensor-Based Morphometry for Tracking Mild Cognitive Impairment**  
*Xue Hua<sup>1</sup>, Derrek Hibar<sup>1</sup>, Arthur Toga<sup>1</sup>, Clifford Jack<sup>2</sup>, Michael Weiner<sup>3,4,5,6,7</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, School of Medicine, University of California, Los Angeles, CA, <sup>2</sup>Mayo Clinic, Rochester, MN, <sup>3</sup>Department of Veterans Affairs Medical Center, Center for Imaging of Neurodegenerative Diseases, San Francisco, CA, <sup>4</sup>Department of Radiology, University of California, San Francisco, CA, <sup>5</sup>Department of Medicine, University of California, San Francisco, CA, <sup>6</sup>Department of Psychiatry, University of California, San Francisco, CA, <sup>7</sup>Department of Neurology, University of California, San Francisco, CA
- 602 MT Refinement of Automated Cortical Surface Registration and Labelling using Gradient Curvature Flow**  
*Anand Joshi<sup>1</sup>, David Shattuck<sup>2</sup>, Richard Leahy<sup>1</sup>*  
<sup>1</sup>Univ of Southern California, Los Angeles, CA, <sup>2</sup>Univ of California, Los Angeles, CA
- 603 MT Multi-structure LDDMM brain registration: applications in confidence-based morphometry**  
*Ali Khan<sup>1</sup>, Lei Wang<sup>2</sup>, Mirza Faisal Beg<sup>3</sup>*  
<sup>1</sup>Robarts Research Institute, London, Canada, <sup>2</sup>Northwestern University, Chicago, IL, <sup>3</sup>Simon Fraser University, Burnaby, Canada
- 604 MT Statistical Power Maps for Sparse Representation of Subcortical Brain Structures**  
*Seung-Goo Kim<sup>1</sup>, Stacey Schaefer<sup>2</sup>, Moo Chung<sup>3</sup>, Carien van Reekum<sup>4</sup>, Richard Davidson<sup>2</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>University of Wisconsin-Madison, Madison, WI, <sup>3</sup>University of Wisconsin, Madison, WI, <sup>4</sup>University of Reading, Reading, United Kingdom
- 605 MT Development of an automatic system for the quantification of brain activation in functional MRI**  
*Tae-Hoon Kim<sup>1</sup>, Byeong-Chae Kim<sup>2</sup>, Jenny Jeong<sup>3</sup>, Heoung-Keun Kang<sup>4</sup>, Gwang-Woo Jeong<sup>4</sup>*  
<sup>1</sup>Chonnam National University, Gwang-Ju, Korea, Republic of, <sup>2</sup>Chonnam National University Hospital, Gwang-Ju, Korea, Republic of, <sup>3</sup>Ewha Womans University, Seoul, Korea, Republic of, <sup>4</sup>Chonnam National University Medical School, Gwang-Ju, Korea, Republic of
- 606 MT Regional Cortical Thickness Analysis in Alzheimer's Subjects**  
*Evgeniy Lebed<sup>1</sup>, Mirza Faisal Beg<sup>1</sup>, Alain Trounev<sup>2</sup>*  
<sup>1</sup>Simon Fraser University, Burnaby, Canada, <sup>2</sup>École Normale Supérieure de Cachan, Paris, France

## MODELING AND ANALYSIS METHODS

### Image Registration and Computational Anatomy, continued

- 607 MT Seed-Voxel Determination in Resting State Functional Connectivity by Using Non-Rigid Registration**  
*Mingyi Li<sup>1</sup>, Katherine Koenig<sup>1</sup>, Michael Phillips<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH
- 608 MT Improved methodology to transform to Talairach space using modified template**  
*Blessy Mathew<sup>1</sup>, Katherine Koenig<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH, United States
- 609 MT Registration of Histology and MRI using Blockface as Intermediate Space**  
*Martin Reuter<sup>1,2,3</sup>, Peter Sand<sup>2</sup>, Kristen Huber<sup>2</sup>, Khoa Nguyen<sup>2</sup>, Zeynep Saygin<sup>4</sup>, H. Diana Rosas<sup>1,2</sup>, Jean Augustinack<sup>5,2</sup>, Bruce Fischl<sup>5,2,3</sup>*  
<sup>1</sup>Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, <sup>3</sup>CSAIL, Massachusetts Institute of Technology, Cambridge, MA, <sup>4</sup>Brain and Cognitive Sciences/McGovern Institute, Massachusetts Institute of Technology, Cambridge, MA, <sup>5</sup>Radiology, Massachusetts General Hospital, Harvard Medical School, Boston, MA
- 610 MT Robust and Accurate Contralateral Registration for Pose Normalization and Tumor Segmentation**  
*Martin Reuter<sup>1</sup>, H. Diana Rosas<sup>1</sup>, Bruce Fischl<sup>1</sup>*  
<sup>1</sup>Massachusetts General Hospital, Harvard Medical School, Boston, MA
- 611 MT Availability of Euclidean distance and cosine similarity in deformation based morphometry**  
*Kazunori Sato<sup>1</sup>, Shigeo Kinomura<sup>1</sup>, Kai Wu<sup>1</sup>, Yasuyuki Taki<sup>1</sup>, Ryoji Goto<sup>1</sup>, Kentaro Inoue<sup>1</sup>, Ken Okada<sup>1</sup>, Ryuta Kawashima<sup>1</sup>, Hiroshi Fukuda<sup>1</sup>*  
<sup>1</sup>Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan
- 612 MT Joint T1 and Brain Fiber Diffeomorphic Registration Using the Demons**  
*Viviana Sillescu<sup>1,2</sup>, Pamela Guevara<sup>3,2</sup>, Xavier Pennec<sup>4</sup>, Bertrand Thirion<sup>1,2</sup>, Pierre Fillard<sup>1</sup>*  
<sup>1</sup>Parietal Team, INRIA Saclay-Île-de-France, Saclay, France, <sup>2</sup>CEA, DSV, I<sup>2</sup>BM, Neurospin bât 145, 91191 Gif-Sur-Yvette, France, PA, <sup>3</sup>University of Concepción, Concepción, Chile, <sup>4</sup>Asclepios Team, INRIA Sophia Antipolis Méditerranée, Sophia Antipolis, France

- 613 MT FMRI Group Analysis in a Morphological Manifold**  
*Zhong Yi Sun<sup>1</sup>, Philippe Pine<sup>2</sup>, Antonio Moreno<sup>2</sup>, Matthieu Perrot<sup>1</sup>, Stanislas Dehaene<sup>2</sup>, Denis Rivière<sup>1</sup>, Jean-François Mangin<sup>1</sup>*  
<sup>1</sup>LNAO, Neurospin, CEA, Gif-sur-Yvette, France, <sup>2</sup>Unicog, INSERM-CEA, Neurospin, Gif-sur-Yvette, France

- 614 MT S-HAMMER: Hierarchical Attribute-Guided Symmetric Diffeomorphic Registration**  
*Guorong Wu<sup>1</sup>, Minjeong Kim<sup>1</sup>, Qian Wang<sup>1</sup>, Dinggang Shen<sup>1</sup>*  
<sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, United States

## MODELING AND ANALYSIS METHODS

### Motion Correction and Preprocessing

- 615 MT Iterative method for motion correction of diffusion weighted images**  
*Elodie André<sup>1</sup>, Anne Collard<sup>1</sup>, Christophe Phillips<sup>1</sup>, Evelyne Balteau<sup>1</sup>*  
<sup>1</sup>Cyclotron Research Centre, University of Liège, Liège, Belgium
- 616 MT An index for large head motion on resting state fMRI**  
*Katherine Baquero<sup>1</sup>, Francisco Gomez<sup>2</sup>, Audrey Vanhauzenhuyse<sup>2</sup>, Athena Demertzis<sup>2</sup>, Luaba Tshibanda<sup>2</sup>, Olivia Gosseries<sup>2</sup>, Quentin Noirhomme<sup>2</sup>, Steven Laureys<sup>2</sup>, Eduardo Romero<sup>1</sup>, Andrea Soddu<sup>2</sup>*  
<sup>1</sup>Bioingenium Research Group, Universidad Nacional de Colombia, Bogotá, Colombia, <sup>2</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium
- 617 MT Time- and SNR-efficient EPI pulse sequence module for active marker motion correction acquisition**  
*Erik Beall<sup>1</sup>, Mark Lowe<sup>2</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, United States, <sup>2</sup>Cleveland Clinic, Cleveland, OH
- 618 MT Optimization of White-Matter Nuisance Regressors in fMRI analysis**  
*Emrah Kacar<sup>1</sup>, Jacqueline Atanelov<sup>1</sup>, Ronald Sladky<sup>1</sup>, Jasmin Tröstl<sup>1</sup>, Rupert Lanzenberger<sup>2</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>MR Centre Of Excellence, Medical University Of Vienna, Vienna, Austria, <sup>2</sup>Medical University of Vienna, Wien, Austria
- 619 MT Functional MRI Localization of Awake Cat Visual Cortex Facilitated by Partial Volume Registration**  
*Manxiu Ma<sup>1</sup>, Yanxia Li<sup>1</sup>, Zuxiang Liu<sup>1</sup>, Chencan Qian<sup>1</sup>, Zhentao Zuo<sup>1</sup>*  
<sup>1</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China

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## MODELING AND ANALYSIS METHODS

### Motion Correction and Preprocessing, continued

- 620 MT Reference Cross-Modality Pediatric Image Database and Its Representative Templates**  
*Nataliya Portman*<sup>1</sup>, *Alan Evans*<sup>2</sup>  
<sup>1</sup>*Montreal Neurological Institute, Montreal, Canada,* <sup>2</sup>*McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec*
- 621 MT The Effect of Head Motion Regression on Regional Homogeneity of Resting State fMRI Signal**  
*Zhao Qing*<sup>1</sup>, *Zhangye Dong*<sup>1</sup>, *Chaogan Yan*<sup>2</sup>, *Yufeng Zang*<sup>1,3</sup>, *Xindi Wang*<sup>1</sup>, *Dongqiang Liu*<sup>3</sup>  
<sup>1</sup>*National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China,* <sup>2</sup>*Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, New York, United States,* <sup>3</sup>*Center for Cognition and Brain Disorders, Affiliated Hospital, Hangzhou Normal University, Hangzhou, China*
- 622 MT Correction for T1 effect incorporating flip angle estimated by Kalman filter in cardiac-gated fMRI**  
*Jaemin Shin*<sup>1</sup>, *Xiaoping Hu*<sup>1</sup>  
<sup>1</sup>*Georgia Tech/Emory University, Atlanta, United States*
- 623 MT Retrospective Motion Correction of fMRI Data Using Motion Artifacts in Simultaneous EEG**  
*Vadim Zotev*<sup>1</sup>, *Han Yuan*<sup>1</sup>, *Raquel Phillips*<sup>1</sup>, *Jerzy Bodurka*<sup>1</sup>  
<sup>1</sup>*Laureate Institute for Brain Research, Tulsa, OK*

## MODELING AND ANALYSIS METHODS

### Multivariate Modeling

- 624 MT Withdrawn**
- \*625 MT Model-Based Clustering Using Generative Embedding (O-T1)**  
*Kay H. Brodersen*<sup>1,2</sup>, *Zhihao Lin*<sup>2</sup>, *Ajita Gupta*<sup>2</sup>, *William Penny*<sup>3</sup>, *Alexander Leff*<sup>3</sup>, *Morteza Chehreghani*<sup>2</sup>, *Alberto Busetto*<sup>2</sup>, *Joachim Buhmann*<sup>2</sup>, *Klaas Enno Stephan*<sup>1,4</sup>  
<sup>1</sup>*Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland,* <sup>2</sup>*Department of Computer Science, ETH Zurich, Zurich, Switzerland,* <sup>3</sup>*University College London, London, United Kingdom,* <sup>4</sup>*Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom*
- 626 MT Outlier Detection in Neuroimaging Data Sets**  
*Virgile Fritsch*<sup>1</sup>, *Gael Varoquaux*<sup>2</sup>, *Benjamin Thyreau*<sup>3</sup>, *Jean-Baptiste Poline*<sup>4</sup>, *Bertrand Thirion*<sup>5</sup>  
<sup>1</sup>*Inria, Gif-sur-Yvette, France,* <sup>2</sup>*N/A, Gif-sur-Yvette, France,* <sup>3</sup>*N/A, Paris, France,* <sup>4</sup>*CEA, Neurospin, Gif-sur-Yvette, France,* <sup>5</sup>*Parietal Team, INRIA Saclay - Île-de-France, Saclay, France*
- 627 MT Evaluation of Machine Learning Methods for Classification on Resting State fMRI Data**  
*Wolfgang Huf*<sup>1,2,3</sup>, *Klaudius Kalcher*<sup>1,2,3</sup>, *Roland Boubela*<sup>1,2,3</sup>, *Peter Filzmoser*<sup>3</sup>, *Siegfried Kasper*<sup>2</sup>, *Ewald Moser*<sup>1</sup>, *Christian Windischberger*<sup>1</sup>  
<sup>1</sup>*Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria,* <sup>2</sup>*Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria,* <sup>3</sup>*Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria*
- 628 MT Elevated Normal Movement Network Activity in Parkinson's Disease in the Absence of Movement**  
*Ji Hyun Ko*<sup>1</sup>, *Chris Chengke Tang*<sup>1</sup>, *Yilong Ma*<sup>1</sup>, *Hideo Mure*<sup>1</sup>, *Phoebe Spetsieris*<sup>1</sup>, *Vijay Dhawan*<sup>1</sup>, *David Eidelberg*<sup>1</sup>  
<sup>1</sup>*Feinstein Institute for Medical Research, Manhasset, NY*

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- 629 MT Projection Regression Models (PRM) for High Dimensional Imaging Responses**  
*Ja-An Lin<sup>1</sup>, Hongtu Zhu<sup>1,2</sup>, Rebecca Knickmeyer<sup>3</sup>, Martin Styner<sup>4</sup>, John Gilmore<sup>3</sup>, Joseph Ibrahim<sup>1</sup>*  
<sup>1</sup>Department of Biostatistics, The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, <sup>2</sup>Biomedical Research Imaging Center, Chapel Hill, NC, United States, <sup>3</sup>Department of Psychiatry, The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, <sup>4</sup>Department of Computer Science, The University of North Carolina at Chapel Hill, Chapel Hill, NC, United States
- 630 MT Analyzing community structure in fMRI data using non-negative matrix factorization**  
*Gabriele Lohmann<sup>1</sup>, Daniel Margulies<sup>1</sup>, Alexander Schaefer<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 631 MT The optimal spatial resolution for decoding analysis in visual cortex with orientation columns**  
*Seungkyu Nam<sup>1</sup>, Misun Kim<sup>1</sup>, Dae-Shik Kim<sup>2</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of, <sup>2</sup>Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of
- \*632 MT Capturing high-order interactions in neuroimaging data (O-T1)**  
*Sergey Plis<sup>1</sup>, Jing Sui<sup>1</sup>, Terran Lane<sup>2</sup>, Sushmita Roy<sup>3</sup>, Vince Clark<sup>1</sup>, Vamsi K. Potluru<sup>1</sup>, Andrew Michael<sup>1</sup>, Michael Weisend<sup>1</sup>, Vince Calhoun<sup>1</sup>*  
<sup>1</sup>The Mind Research Network, Albuquerque, NM, USA, <sup>2</sup>Computer Science Dept. UNM, NM, USA, <sup>3</sup>Dept. of Biostatistics and Medical Informatics, University of Wisconsin, Madison, WI, USA
- 633 MT Visualising the distribution of subjects using t-distributed stochastic neighbour embedding (t-SNE)**  
*Gerard Ridgway<sup>1</sup>, John Ashburner<sup>1</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, London, United Kingdom
- 634 MT An Assessment of the Limitations of Joint ICA in Multimodal Data Fusion**  
*Rogers Silva<sup>1</sup>, Vince Calhoun<sup>2</sup>*  
<sup>1</sup>Mind Research Network, Albuquerque, NM, <sup>2</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 635 MT Real-time fMRI using ICA: optimization study for defining a target IC from a functional localizer**  
*nicola soldati<sup>1</sup>, Lorenzo Bruzzone<sup>2</sup>, Jorge Jovicich<sup>1</sup>, Vince Calhoun<sup>3</sup>*  
<sup>1</sup>CIMeC Center for Mind/Brain Science, University of Trento, Trento, Italy, <sup>2</sup>Department of Information Engineering and Computer Science, University of Trento, Trento, Italy, <sup>3</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 636 MT Real-time fMRI with ICA: optimizing dynamically monitoring of an IC with a priori information**  
*nicola soldati<sup>1</sup>, Vince Calhoun<sup>2</sup>, Lorenzo Bruzzone<sup>3</sup>, Jorge Jovicich<sup>1</sup>*  
<sup>1</sup>CIMeC Center for Mind/Brain Science, University of Trento, Trento, Italy, <sup>2</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM, <sup>3</sup>Department of Information Engineering and Computer Science, University of Trento, Trento, Italy
- 637 MT Optimising Searchlight Representational Similarity Analysis (RSA) for EMEG**  
*Li Su<sup>1</sup>, Alexandra Woolgar<sup>2</sup>, Caroline Whiting<sup>1</sup>, Elisabeth Fonteneau<sup>1</sup>, Mirjana Bozic<sup>1</sup>, William Marslen-Wilson<sup>1</sup>*  
<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Macquarie University, Sydney, Australia
- 638 MT A Novel N-Way Brain Imaging Data Fusion Model And Its Application to Schizophrenia**  
*JING SUI<sup>1</sup>, Hao He<sup>2</sup>, Qingbao Yu<sup>3</sup>, Tulay Adali<sup>4</sup>, Godfrey Pearlson<sup>5</sup>, Vince Calhoun<sup>6</sup>*  
<sup>1</sup>The Mind Research Network and Lovelace Biomedical and Environmental Research Institute, ALBUQUERQUE, United States, <sup>2</sup>University of New Mexico, ALBUQUERQUE, NM, <sup>3</sup>The Mind Research Network, Albuquerque, United States, <sup>4</sup>University of Maryland, Baltimore County, Baltimore, MD, <sup>5</sup>Olin Neuropsychiatry Research Center, hartford, CT, <sup>6</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 639 MT Two-compartment model of Transverse Relaxation Time using Multi-echo Planar Imaging for Human Brain**  
*Kevin Tsai<sup>1</sup>, Wen-Jui Kuo<sup>2</sup>, Fa-Hsuan Lin<sup>1,3</sup>*  
<sup>1</sup>Institute of Biomedical Engineering, National Taiwan University, Taipei, <sup>2</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA



## MODELING AND ANALYSIS METHODS

### Multivariate Modeling, continued

- 640 MT Shared and Specific Independent Components Analysis for Between Groups Comparison**  
*shahabeddin vahdat<sup>1</sup>, Mona Maneshi<sup>1</sup>, Christophe Grova<sup>2</sup>, Jean Gotman<sup>3</sup>, Theodore Milner<sup>1</sup>*  
<sup>1</sup>McGill, Montreal, Canada, <sup>2</sup>Biomedical Engineering Department, McGill University, Montreal, QC, <sup>3</sup>Montreal Neurological Institute and Hospital, McGill University, Montreal, QC
- 641 MT More repetitions or more items? The effect of repeating stimuli on MVPA for fMRI and E/MEG**  
*Alexandra Woolgar<sup>1</sup>, Mirjana Bozic<sup>2</sup>, Caroline Whiting<sup>2</sup>, Elisabeth Fonteneau<sup>2</sup>, Li Su<sup>2</sup>, Cai Wingfield<sup>3</sup>, William Marslen-Wilson<sup>2</sup>*  
<sup>1</sup>Macquarie University, Sydney, Australia, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>MRC-CBU, Cambridge, United Kingdom
- 642 MT Gaussian Confidence Maps for Detection of Structural Alterations on the Single Subject Level**  
*Gabriel Ziegler<sup>1</sup>, Robert Dahnke<sup>1</sup>, Christian Gaser<sup>2</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Jena University Hospital, Jena, Germany, <sup>2</sup>Structural Brain Mapping Group, Department of Psychiatry, University of Jena, Jena, Germany

## MODELING AND ANALYSIS METHODS

### Other Methods

- 643 MT Data visualization in the neurosciences: overcoming the curse of dimensionality**  
*Elena Allen<sup>1</sup>, Erik Erhardt<sup>2</sup>, Vince Calhoun<sup>3</sup>*  
<sup>1</sup>Mind Research Network, Albuquerque, United States, <sup>2</sup>The MIND Research Network, Albuquerque, United States, <sup>3</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 644 MT An iterative two-threshold analysis for single-subject functional MRI of the human brain**  
*Tibor Auer<sup>1</sup>, Renate Schweizer<sup>1</sup>, Jens Frahm<sup>1</sup>*  
<sup>1</sup>Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany
- 645 MT Sensory processing during viewing of cinematographic material: hypothesis- vs data-driven analyses**  
*Cécile Bordier<sup>1</sup>, Francesco Pujia<sup>1</sup>, Emiliano Macaluso<sup>1</sup>*  
<sup>1</sup>Santa Lucia Foundation, Roma, Italy
- 646 MT Goal-dependent modulation of effective connectivity during a two-party bargaining game**  
*Qiang Luo<sup>1</sup>, Meghana Bhatt<sup>2</sup>, Read Montague<sup>3</sup>, Jianfeng Feng<sup>4</sup>*  
<sup>1</sup>National University of Defense Technology, Changsha, China, <sup>2</sup>Beckman Research Institute, City of Hope, CA, <sup>3</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, <sup>4</sup>Department of Computer Science, The University of Warwick, Coventry, United Kingdom
- 647 MT Bidirectional BOLD activation depiction by jointly using the MR magnitude and phase response maps**  
*zikuan chen<sup>1</sup>, Jingyu Liu<sup>1</sup>, Vince Calhoun<sup>2</sup>*  
<sup>1</sup>The Mind Research Network, Albuquerque, NM, <sup>2</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- \*648 MT Real-time tracking and biofeedback of the default mode network (O-T1)**  
*R. Cameron Craddock<sup>1</sup>, Jonathan Lisinski<sup>1</sup>, Pearl Chiu<sup>1</sup>, Helen Mayberg<sup>2</sup>, Stephen LaConte<sup>1</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, USA, <sup>2</sup>Emory University, Atlanta, GA
- 649 MT Single trials Based Multimodal Casual Connectivity: An Simultaneous EEG-fMRI simulation study**  
*Li Dong<sup>1</sup>, Xu Le<sup>2,1</sup>, Peng Xu<sup>1</sup>, Cheng Luo<sup>1</sup>, dezhong yao<sup>1</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of MOE, School of Life Science and Technology, UESTC, ChengDu, China, <sup>2</sup>School of Psychology, Southwest University, ChongQing, China

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- 650 MT Temporal Kernel Canonical Correlation Analysis: Deconvolving EEG/fMRI in Space and Time**  
*Pamela Douglas<sup>1</sup>, Daniel Moyer<sup>2</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States, <sup>2</sup>UCLA, Los Angeles, CA
- 651 MT Comparison of MRI and Physical Sections to Estimate Cortical Surface Area in Eight PostMortem Brains**  
*Carolyn Furlong<sup>1</sup>, Marta García-Fiñana<sup>2</sup>, Bunyamin Sahin<sup>3</sup>, Anna Anderson<sup>1</sup>, Katrine Fabricius<sup>4</sup>, Nina Eriksen<sup>4</sup>, Bente Pakkenberg<sup>4</sup>, Neil Roberts<sup>5</sup>*  
<sup>1</sup>Magnetic Resonance and Image Analysis Research Centre (MARIARC), University of Liverpool, Liverpool, UK, <sup>2</sup>Centre for Medical Statistics and Health Evaluation, University of Liverpool, University of Liverpool, Liverpool, UK, <sup>3</sup>Department of Anatomy, Medical School, Ondokuz Mayıs University, Samsun, Turkey, <sup>4</sup>Research Laboratory for Stereology and Neuroscience, Bispebjerg University Hospital, Copenhagen, Denmark, <sup>5</sup>Clinical Research Imaging Centre (CRIC), College of Medicine and Veterinary Medicine, University of Edinburgh, UK
- 652 MT Detection of Brain Metabolites with Less Contamination in 2D Localized Correlation Spectroscopy**  
*Meijin Lin<sup>1</sup>, Anand Kumar<sup>1</sup>, Shaolin Yang<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, United States
- 653 MT A Better Approach to Identify Non-Linear Associations in Datasets**  
*Andrew Michael<sup>1</sup>, Sahitya Konda<sup>2</sup>, Sergei Plis<sup>3</sup>, Elena Allen<sup>4</sup>, Arvind Caprihan<sup>5</sup>, Vince Calhoun<sup>6</sup>*  
<sup>1</sup>The Mind Research Network, N/A, <sup>2</sup>The Mind Research Network, NM, Albuquerque, NM, <sup>3</sup>The Mind Research Network, Albuquerque, NM, <sup>4</sup>Mind Research Network, Albuquerque, United States, <sup>5</sup>The Mind Research Network and LBERI, ALBUQUERQUE, NM, <sup>6</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 654 MT Single-shot EPI with Nyquist ghost compensation: Interleaved Dual-Echo with Acceleration (IDEA) EPI**  
*Benedikt Poser<sup>1,2</sup>, Markus Barth<sup>2,3</sup>, Pål Erik Goa<sup>4</sup>, Weiran Deng<sup>1</sup>, V Andrew Stenger<sup>1</sup>*  
<sup>1</sup>University of Hawaii, Honolulu, United States, <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands, <sup>3</sup>Erwin L Hahn Institute, University Duisburg-Essen, Essen, Germany, <sup>4</sup>Department of Medical Imaging, St. Olavs Hospital, Trondheim, Norway
- 655 MT A Model-Based Comparison of Visual Field Mapping Approaches**  
*Mario Senden<sup>1</sup>, Rainer Goebel<sup>1,2</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Netherlands Institute for Neuroscience, Amsterdam, Netherlands
- 656 MT Test-retest Reliability of the Hemodynamic Response Function in fMRI**  
*Zuyao Shan<sup>1</sup>, Katie McMahon<sup>1</sup>, Greig Zubicaray<sup>2</sup>, Paul Thompson<sup>3</sup>, Nicholas Martin<sup>4</sup>, Margaret Wright<sup>4</sup>, David Reutens<sup>1</sup>*  
<sup>1</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>2</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>3</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, <sup>4</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia
- 657 MT Comparison of Field mapping and two phase encoding method to correct EPI distortion**  
*Wanyong Shin<sup>1</sup>, Erik Beall<sup>1</sup>, Ken Sakaie<sup>1</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH
- 658 MT Comparison of region-of-interest (ROI) single-value summary measurements of BOLD response**  
*Yunxia Tong<sup>1</sup>, Qiang Chen<sup>2,1</sup>, Roberta Rasetti<sup>1</sup>, Thomas Nichols<sup>3</sup>, Joseph Callicott<sup>1</sup>, Venkata Mattay<sup>2,1</sup>, Daniel Weinberger<sup>2,1</sup>*  
<sup>1</sup>CBDB/NIMH/NIH, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Johns Hopkins University, Baltimore, MD, <sup>3</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom
- 659 MT Left-handers present a right shift of their motor, verbal and spatial functional lateralization**  
*Nathalie Tzourio-Mazoyer<sup>1</sup>, Laurent Petit<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Gael Jobard<sup>1</sup>, Laure Zago<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Marc Joliot<sup>1</sup>, Bernard Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France
- 660 MT Quantitative susceptibility mapping of human brain using MR phase gradients**  
*Luning Wang<sup>1</sup>, Jason Langle<sup>2</sup>, Qun Zhao<sup>1</sup>*  
<sup>1</sup>University of Georgia, Athens, GA, <sup>2</sup>Emory University, Atlanta, GA
- 661 MT Estimating Hemodynamic Response across Subjects with Subject-Specific Hemodynamic Response Model**  
*Jia-Yi Yeh<sup>1</sup>, Keh-Shih Chuang<sup>1</sup>, Jim-Chao Chuang<sup>2</sup>, Hsin-Hon Lin<sup>3</sup>, Shang-Lun Tung<sup>1</sup>, Sharon Chia-Ju Chen<sup>4</sup>*  
<sup>1</sup>Department of Biomedical Engineering and Environmental Sciences, National Tsing-Hua University, Hsin-Chu, <sup>2</sup>Department of Medical Imaging and Radiology, Chung Shan Medical University, Tai-Chung, <sup>3</sup>Department of Biomedical Engineering and Environmental Sciences, National Tsing-Hua University, Hsin-Chu, Chinese Taipei, <sup>4</sup>Kaohsiung Medical University, Kaohsiung

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## MODELING AND ANALYSIS METHODS

### Other Methods, continued

- 662 MT Intuitive Computation of Sulcal Depth using Adaptive Distance Transform**  
*Hyuk Jin Yun<sup>1</sup>, Kiho Im<sup>2</sup>, Uicheul Yoon<sup>3</sup>, Jin-Ju Yang<sup>1</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Children's Hospital Boston, Harvard Medical School, N/A, <sup>3</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of

## MODELING AND ANALYSIS METHODS

### PET Modeling and Analysis

- 663 MT Cortical Thickness-Based Partial Volume Correction for High Resolution PET**  
*Thomas Funck<sup>1</sup>, Peter Zepper<sup>2</sup>, Alan Evans<sup>3</sup>, Alexander Thiel<sup>1</sup>*  
<sup>1</sup>McGill University, Montreal, Canada, <sup>2</sup>SMBD Jewish General Hospital, Montreal, Quebec, <sup>3</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec
- 664 MT Serotonin-1A receptor quantification with image-derived and venous input functions**  
*Andreas Hahn<sup>1</sup>, Lukas Nics<sup>2</sup>, Pia Baldinger<sup>1</sup>, Johanna Ungersboeck<sup>2</sup>, Peter Dolliner<sup>2</sup>, Richard Frey<sup>1</sup>, Wolfgang Birkfellner<sup>3</sup>, Markus Mitterhauser<sup>2</sup>, Wolfgang Wadsak<sup>2</sup>, Georgios Karanikas<sup>2</sup>, Siegfried Kasper<sup>1</sup>, Rupert Lanzenberger<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Nuclear Medicine, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Center of Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria
- \*665 MT Edge selection preserving the topological features of brain network (O-M4)**  
*Hyekeyoung Lee<sup>1</sup>, Moo Chung<sup>2</sup>, Hyejin Kang<sup>3</sup>, Bung-Nyun Kim<sup>4</sup>, Dong Soo Lee<sup>5</sup>*  
<sup>1</sup>SNUH, Seoul, Korea, Republic of, <sup>2</sup>University of Wisconsin, Madison, WI, <sup>3</sup>Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Seoul National University, Seoul, Korea, Republic of, <sup>5</sup>Seoul Natl University, Seoul

## MODELING AND ANALYSIS METHODS

### Segmentation and Parcellation

- 666 MT Comparative Analysis of Atlas-Based and Manual Prefrontal Brain Parcellation in an Ageing Cohort**  
*Benjamin Aribisala<sup>1</sup>, Simon Cox<sup>1</sup>, Sarah MacPherson<sup>2</sup>, Alasdair MacLulich<sup>3</sup>, Karen Ferguson<sup>4</sup>, Maria Valdez Hernandez<sup>1</sup>, Natalie Royle<sup>1</sup>, Mark Bastin<sup>1</sup>, Ian Deary<sup>2</sup>, Joanna Wardlaw<sup>1</sup>*  
<sup>1</sup>Brain Imag. Research Centre, Centre for Cogn. Ageing and Cog. Epidemiology, University of Edinburgh, Edinburgh, United Kingdom, <sup>2</sup>Department of Psychology, Centre for Cogn. Ageing and Cog. Epidemiology, University of Edinburgh, Edinburgh, United Kingdom, <sup>3</sup>Department of Psychology, Endocrinology Unit, Geriatric Medicine, University of Edinburgh, Edinburgh, United Kingdom, <sup>4</sup>Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom
- 667 MT The LOCUS software suite for MR brain scan segmentation**  
*Senan Doyle<sup>1</sup>, Florence Forbes<sup>1</sup>, Michel Dojat<sup>2</sup>*  
<sup>1</sup>INRIA Rhone-Alpes, Grenoble, France, <sup>2</sup>INSERM, GIN, Grenoble, France
- 668 MT Superresolution improves MRI cortical segmentation with FACE**  
*Simon Eskildsen<sup>1,2</sup>, Jose Manjon<sup>3</sup>, Pierrick Coupe<sup>4,2</sup>, Vladimir Fonov<sup>2</sup>, D. Louis Collins<sup>2</sup>*  
<sup>1</sup>Center of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark, <sup>2</sup>McConnell Brain Imaging Centre, Montréal Neurological Institute, McGill University, Montréal, Canada, <sup>3</sup>ITACA, Universidad Politécnic de Valencia, Valencia, Spain, <sup>4</sup>LaBRI UMR CNRS 5800, Talence, France
- 669 MT Segmentation of white matter hyperintensities: a comparison of automatic methods on multicentre data**  
*Ludovic Fillon<sup>1,2,3,4</sup>, Thomas Samaille<sup>1,2,3,4</sup>, Eric Jouvent<sup>5</sup>, Hugues Chabriet<sup>6</sup>, Didier Dormont<sup>1,2,3,4,6</sup>, Olivier COLLIOT<sup>1,2,3,4</sup>, Marie CHUPIN<sup>1,2,3,4</sup>*  
<sup>1</sup>Université Pierre et Marie Curie-Paris 6, CRICM, UMR-S975, Paris, France, <sup>2</sup>Inserm, U975, Paris, France, <sup>3</sup>CNRS, UMR 7225, Paris, France, <sup>4</sup>ICM – Institut du Cerveau et de la Moëlle épinière, Paris, France, <sup>5</sup>CHU Lariboisière, Paris, France, <sup>6</sup>Department of Neuroradiology, GH Pitié-Salpêtrière, AP-HP, Paris, France
- 670 MT Morphologist 2012: the new morphological pipeline of BrainVISA**  
*Clara Fischer<sup>1,2</sup>, Grégory Operto<sup>1,2</sup>, Soizic Laguitton<sup>1,2</sup>, Matthieu Perrot<sup>3,2</sup>, Isabelle Degenhien<sup>1,4</sup>, Denis Rivière<sup>1,2</sup>, Jean-François Mangin<sup>1,2</sup>*  
<sup>1</sup>LNAO, Neurospin, CEA, Gif-sur-Yvette, France, <sup>2</sup>CATI, Alzheimer Plan, Paris, France, <sup>3</sup>LNAO, Neurospin, CEA, Paris, France, <sup>4</sup>IFR 49, Gif-sur-Yvette, France

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- 671 MT Automatic lateral ventricle segmentation in infant population with high risk of autism**  
*Vladimir Fonov<sup>1</sup>, Pierrick Coupe<sup>2</sup>, Martin Styner<sup>3</sup>, D. Louis Collins<sup>4</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Canada, <sup>2</sup>LaBRI UMR CNRS 5800, Talence, France, <sup>3</sup>Department of Computer Science, The University of North Carolina at Chapel Hill, Chapel Hill, NC, <sup>4</sup>McConnell Brain Imaging Centre, Montréal Neurological Institute, McGill University, Montréal, Québec
- 672 MT Local Histogram Equalization to Improve Segmentation of Low Contrast Structures**  
*Christian Gaser<sup>1,2</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Department of Psychiatry, University of Jena, Jena, Germany, <sup>2</sup>Department of Neurology, University of Jena, Jena, Germany
- 673 MT Automated segmentation of hippocampus using graph-cuts algorithm and morphological opening**  
*Kichang Kwak<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Dong-Kyun Lee<sup>1</sup>, Geon Ha Kim<sup>3</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Hack-Joon Shim<sup>4</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of, <sup>4</sup>TI Medical Systems, Seoul, Korea, Republic of
- 674 MT Automatic segmentation of cerebellum and brainstem region using intensity and atlas based method**  
*Dong-Kyun Lee<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 675 MT Automatic Multi-Resolution EMS based MS Lesion Segmentation**  
*Felix Ruiz de Arcaute<sup>1</sup>, Wim Van Hecke<sup>1</sup>, Dirk Loeckx<sup>1</sup>*  
<sup>1</sup>icoMetrix, Leuven, Belgium
- 676 MT A spatio-temporal parcellation method for segmenting brain regions using resting state fMRI**  
*Srikanth Ryali<sup>1</sup>, Tianwen Chen<sup>1</sup>, Vinod Menon<sup>1</sup>*  
<sup>1</sup>Stanford University School of Medicine, Palo Alto, CA, United States
- 677 MT Robust cortical reconstruction and mapping tools using intrinsic analysis of geometry and topology**  
*Yonggang Shi<sup>1</sup>, Rongjie La<sup>2</sup>, Arthur Toga<sup>1</sup>, The ADNI<sup>3</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA, <sup>2</sup>University of Southern California, Los Angeles, CA, <sup>3</sup>The Alzheimer's Disease Neuroimaging Initiative, San Francisco, United States
- 678 MT Automated Segmentation of Subcortical Structures via Large Deformation Diffeomorphic Metric Mapping**  
*Xiaoying Tang<sup>1</sup>, Michael Miller<sup>1</sup>, Susumu Mori<sup>2</sup>, Tilak Ratnanather<sup>1</sup>*  
<sup>1</sup>Center for Imaging Science, Johns Hopkins University, Baltimore, United States, <sup>2</sup>Radiology, Johns Hopkins University, Baltimore, United States
- 679 MT Parcellation of the cingulate cortex when involved in active tasks: a meta-analytic clustering study**  
*Diana Torta<sup>1</sup>, Tommaso Costa<sup>1</sup>, Giuliano Geminiani<sup>1</sup>, Peter Fox<sup>2</sup>, Franco Cauda<sup>1</sup>*  
<sup>1</sup>University of Turin, Department of Psychology, Torino, Italy, <sup>2</sup>Research Imaging Institute, San Antonio, TX
- 680 MT Template-free Brain Parcellation with an Optimal Number of Equal Area Nodes**  
*Olga Tymofiyeva<sup>1</sup>, Etay Ziv<sup>1</sup>, Christopher Hess<sup>1</sup>, Donna Ferriero<sup>1</sup>, A Barkovich<sup>1</sup>, Duan Xu<sup>1</sup>*  
<sup>1</sup>University of California, San Francisco, San Francisco, CA
- 681 MT Scan-Rescan Reliability of Automated Segmentation of Cerebral Cortex at Multiple Scales**  
*Yang Wang<sup>1</sup>, Li Shen<sup>1</sup>, Yishi Guo<sup>2</sup>, Mohan Boddu<sup>1</sup>, John West<sup>1</sup>, Sungeun Kim<sup>1</sup>, Tom Hummer<sup>1</sup>, William Kronenberger<sup>1</sup>, Vincent Mathews<sup>1</sup>, Andrew Saykin<sup>1</sup>*  
<sup>1</sup>Indiana University School of Medicine, Indianapolis, IN, <sup>2</sup>School of Software, Sun Yat-Sen University, Guangzhou, Guangdong
- 682 MT Cortical surface reconstruction from high-resolution 7 Tesla MP2RAGE data using a level set method**  
*Marcel Weiss<sup>1</sup>, Pierre-Louis Bazin<sup>1</sup>, Gabriele Lohmann<sup>1</sup>, Gerik Scheuermann<sup>2</sup>, Robert Turner<sup>3</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Institute of Computer Science, University of Leipzig, Leipzig, Germany, <sup>3</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 683 MT Multi-contrast brain template for segmenting deep brain nuclei**  
*Yiming Xiao<sup>1</sup>, Silvain Beriault<sup>1</sup>, Abbas Sadikot<sup>2</sup>, G. Bruce Pike<sup>1</sup>, D. Louis Collins<sup>1</sup>*  
<sup>1</sup>McConnell Brain Imaging Centre, Montréal Neurological Institute, McGill University, Montréal, Canada, <sup>2</sup>Division of Neurosurgery, McGill University, Montréal, Canada

## MODELING AND ANALYSIS METHODS

### Segmentation and Parcellation, continued

- 684 MT New similarity measures for functional connectivity-based brain parcellation**  
*Yu Zhang<sup>1</sup>, Lingzhong Fan<sup>1</sup>, Jiaojian Wang<sup>2</sup>, Yonghui Li<sup>1</sup>, Tianzi Jiang<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing 100190, P. R. China, <sup>2</sup>Electronic science and technology of China, Chengdu, China

## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis

- 685 MT Dual clustering analysis of individual differences in resting state connectivity: beyond anxiety**  
*Janine Bijsterbosch<sup>1</sup>, Stephen Smith<sup>1</sup>, Sophie Forster<sup>2</sup>, Sonia Bishop<sup>1,2</sup>*  
<sup>1</sup>FMRIB Centre, Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom, <sup>2</sup>Department of Psychology and Helen Wills Neuroscience Institute, UC Berkeley, Berkeley, United States
- 686 MT Resting-state functional connectivity in adolescence is correlated with early childhood HPA activity**  
*Cory Burghy<sup>1</sup>, Diane Stodola<sup>1</sup>, Erin Molloy<sup>1</sup>, Jonathan Oler<sup>1</sup>, Richard Davidson<sup>1</sup>, Marilyn Essex<sup>1</sup>, Rasmus Birn<sup>1</sup>*  
<sup>1</sup>University of Wisconsin-Madison, Madison, WI
- 687 MT The Variation of Resting-State fMRI Time Series in Regions of Interest using AAL Atlas**  
*Jungho Cha<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Hang Joon Jo<sup>3</sup>, Sang Won Seo<sup>4</sup>, Duk L. Na<sup>4</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>National Institute of Mental Health, Bethesda, United States, <sup>4</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of

- 688 MT Dynamics of resting-state functional connectivity associated with heart rate variability**  
*Catie Chang<sup>1</sup>, Coraline Metzger<sup>2</sup>, Gary Glover<sup>3</sup>, Martin Walter<sup>4</sup>*  
<sup>1</sup>NINDS/NIH, Bethesda, MD, <sup>2</sup>Clinical Affective Neuroimaging Laboratory, Department of Psychiatry, Otto-von-Guericke University, Magdeburg, Germany, <sup>3</sup>Stanford University, Palo Alto, CA, <sup>4</sup>Clinical Affective Neuroimaging Laboratory, Magdeburg, Germany
- 689 MT Dependence of fMRI scale-free dynamics on cognitive load and temporal preprocessing**  
*Catie Chang<sup>1</sup>, Biyu He<sup>1</sup>, Jeff Duyn<sup>2</sup>*  
<sup>1</sup>NINDS/NIH, Bethesda, MD, <sup>2</sup>National Institute of Neurological Disorders and Stroke, NIH, Bethesda, United States
- 690 MT Estimation of resting-state functional connectivity using random subspace partial correlation method**  
*Tianwen Chen<sup>1</sup>, Srikanth Ryal<sup>2</sup>, Shaozheng Qin<sup>3</sup>, Vinod Menon<sup>4</sup>*  
<sup>1</sup>Stanford University, Palo Alto, CA, <sup>2</sup>Stanford University School of Medicine, Palo Alto, United States, <sup>3</sup>Stanford University, Stanford, United States, <sup>4</sup>Stanford school of medicine, Palo Alto, CA
- 691 MT Withdrawn**
- 692 MT Aberrant Resting State Connectivity associated with Chronic Hallucinations**  
*Mareike Cios<sup>1</sup>, Simon Eickhoff<sup>1</sup>, Anne Lotte Meijering<sup>2</sup>, Kelly Diederer<sup>2</sup>, Iris Sommer<sup>2</sup>*  
<sup>1</sup>Research Center Jülich, Jülich, Germany, <sup>2</sup>UMC Utrecht, Utrecht, Netherlands
- 693 MT Functional connectivity at rest in patients with disorders of consciousness: Evaluation of 4 methods**  
*Julia Sophia Crone<sup>1,2</sup>, Matthias Schurz<sup>2</sup>, Eugen Trinka<sup>3</sup>, Stefan Golaszewski<sup>3</sup>, Martin Kronbichler<sup>1,2</sup>*  
<sup>1</sup>Neuroscience Institute, Christian Doppler Clinic, Salzburg, Salzburg, Austria, <sup>2</sup>University of Salzburg, Salzburg, Austria, <sup>3</sup>Department of Neurology, Christian Doppler Clinic, Salzburg, Austria
- 694 MT Improved resting-state mapping of the default mode activity in OFC using volume-selective z-shimming**  
*Manish Dalwani<sup>1</sup>, Dietmar Cordes<sup>1</sup>, Jason Tregellas<sup>2</sup>, Ibrahim Hamza<sup>2</sup>, Yiping Du<sup>2</sup>*  
<sup>1</sup>University of Colorado Denver Anschutz Medical Campus, Aurora, CO, United States, <sup>2</sup>University of Colorado Denver Anschutz Medical Campus, Aurora, CO, United States

- 695 MT Searching for patient-specific residual functional connectivity with independent component analysis**  
*Athena Demertzis<sup>1</sup>, Francisco Gómez<sup>1</sup>, Audrey Vanhauzenhuysse<sup>1</sup>, Luaba Tshibanda<sup>2</sup>, Marie Thonnard<sup>1</sup>, Vanessa Charland<sup>1</sup>, Murielle Kirsch<sup>3</sup>, Olivia Gosseries<sup>1</sup>, Steven Laureys<sup>1</sup>, Andrea Soddu<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>2</sup>Department of Radiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>3</sup>Department of Anaesthesiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium
- 696 MT Glx related pgACC entropy alters between eyes open and eyes closed rest**  
*Niall Duncan<sup>1</sup>, Defeng Wang<sup>2</sup>, Christine Wiebking<sup>1</sup>, Oliver Lyttelton<sup>1</sup>, Georg Northoff<sup>1</sup>*  
<sup>1</sup>Institute of Mental Health Research, University of Ottawa, Ottawa, Canada, <sup>2</sup>Chinese University of Hong Kong, Hong Kong, Hong Kong
- 697 MT Differential Modulation of Distinct Resting-State Networks**  
*Yan Fan<sup>1,2,3</sup>, Marie Dietz<sup>1,2,3</sup>, Matti Gärtner<sup>1,2,3</sup>, Simone Grimm<sup>1,2,3,4</sup>, Malek Bajbouj<sup>1,2,3</sup>*  
<sup>1</sup>Cluster of Excellence 'Languages of Emotion', Freie Universität Berlin, Berlin, Germany, <sup>2</sup>Dahlem Institute for Neuroimaging of Emotion, Freie Universität Berlin, Berlin, Germany, <sup>3</sup>Department of Psychiatry, Charité, CBF, Berlin, Germany, <sup>4</sup>Department of Psychiatry, University Zurich, Zurich, Switzerland
- 698 MT MEG imaging reveals phase-amplitude coupling of ongoing neural oscillations in the resting state**  
*Esther Florin<sup>1</sup>, Sylvain Baillet<sup>1</sup>*  
<sup>1</sup>McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, Canada
- 699 MT Cross-frequency coupling of ongoing neural oscillations predicts resting-state BOLD fluctuations**  
*Esther Florin<sup>1</sup>, Sylvain Baillet<sup>1</sup>*  
<sup>1</sup>McConnell Brain Imaging Center, Montreal Neurological Institute, McGill University, Montreal, Canada
- 700 MT The structural – functional correspondence of resting state networks**  
*Martin Frost<sup>1</sup>, Fabrizio Esposito<sup>2</sup>, Rainer Goebel<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>University of Naples "Federico II", Naples, Italy
- 701 MT Frontostriatal Functional Connectivity Is Sensitive to DAT1 Genotype and Predicts Working Memory**  
*Evan Gordon<sup>1</sup>, Stephanie Bean<sup>1</sup>, Chandan Vaidya<sup>1</sup>*  
<sup>1</sup>Georgetown University, Washington, DC
- 702 MT One-year test-retest reliability of intrinsic connectivity network fMRI in older adults**  
*Christine Guo<sup>1</sup>, Florian Kurth<sup>2</sup>, Juan Zhou<sup>3</sup>, Emeran Mayer<sup>2</sup>, Simon Eickhoff<sup>4</sup>, Joel Kramer<sup>5</sup>, William Seeley<sup>6</sup>*  
<sup>1</sup>University of California San Francisco, San Francisco, United States, <sup>2</sup>UCLA, Los Angeles, CA, <sup>3</sup>University of California San Francisco, San Francisco, CA, <sup>4</sup>Research Center Jülich, Jülich, Germany, <sup>5</sup>University of California San Francisco, San Francisco, CA, <sup>6</sup>University of California San Francisco, San Francisco, United States
- 703 MT Analyze resting-state fMRI using multivariate empirical mode decomposition**  
*Lanjin Guo<sup>1,1</sup>, Peng Xu<sup>1</sup>, Chunyang Tian<sup>1</sup>, Zhenyu Wang<sup>1</sup>, Peiyang Li<sup>1</sup>, Tiejun Liu<sup>1</sup>, dezhong yao<sup>1</sup>*  
<sup>1</sup>The Key Laboratory for NeuroInformation of Ministry of Education, School of Life Science and Technology, University of Electronic Science and Technology of China, chengdu, China
- 704 MT Sensor-space connectivity analysis of the human alpha rhythm - influence of the reference electrode**  
*Stefan Hauke<sup>1,2</sup>, Klaus-Robert Müller<sup>3,2</sup>, Guido Nolte<sup>4</sup>, Vadim Nikulin<sup>5,6</sup>*  
<sup>1</sup>Berlin Institute of Technology, Berlin, Germany, <sup>2</sup>Bernstein Focus Neurotechnology, Berlin, Germany, <sup>3</sup>Technische Universität Berlin, Berlin, Germany, <sup>4</sup>Fraunhofer Institute FIRST, Berlin, Germany, <sup>5</sup>Charité, Berlin, Germany, <sup>6</sup>Bernstein Center for Computational Neuroscience, Berlin, Germany
- 705 MT Source of inter-subject variation of resting state low frequency fluctuation power**  
*Hongjian He<sup>1,2</sup>, Nantu Hu<sup>2</sup>, Heshan Zhou<sup>3</sup>, Huafeng Liu<sup>1</sup>, Feiyan Chen<sup>2</sup>*  
<sup>1</sup>State Key Lab of Modern Optical Instrumentation, Zhejiang University, Hangzhou, China, <sup>2</sup>Bio-X Laboratory, Department of Physics, Zhejiang University, Hangzhou, China, <sup>3</sup>Hangzhou First People's Hospital, Hangzhou, China
- 706 MT State-Dependent Resting-State Transfer Functions: Coherence between Neural Activity and Blood Flow**  
*Peter Herman<sup>1</sup>, Yuguo Yu<sup>1,2</sup>, Robert Sachdev<sup>1</sup>, Basavaraju Sanganahalli<sup>1</sup>, David McCormick<sup>1</sup>, Fahmeed Hyder<sup>1</sup>*  
<sup>1</sup>Yale University, New Haven, CT, <sup>2</sup>Fudan University, Shanghai, China

## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis, continued

- 707 MT** **Computationally efficient group ICA for large groups**  
*Aapo Hyvarinen<sup>1</sup>, Stephen Smith<sup>2</sup>*  
<sup>1</sup>University of Helsinki, Finland, <sup>2</sup>FMRIB, Oxford University, Oxford, United Kingdom
- 708 MT** **Structural Correlates of “Resting” Brain Functional Homogeneity**  
*Lili Jiang<sup>1,2,3</sup>, Zhi Yang<sup>2,3</sup>, Daniel Margulies<sup>4</sup>, Yong He<sup>5</sup>, F. Xavier Castellanos<sup>6,7</sup>, Michael Milham<sup>7,8</sup>, Yu-Feng Zang<sup>9</sup>, Xi-Nian Zuo<sup>1,2,3</sup>*  
<sup>1</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>2</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>5</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China, <sup>6</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, NYU Langone Medical Center, New York, NY, <sup>7</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, <sup>8</sup>Center for the Developing Brain, Child Mind Institute, New York, NY, <sup>9</sup>Center for Cognition and Brain Disorders and The Affiliated Hospital, Hangzhou Normal University, Hangzhou, China
- 709 MT** **Brain source networks of MEG in resting states**  
*Seung-Hyun Jin<sup>1</sup>, June Sic Kim<sup>1</sup>, Chun Kee Chung<sup>1,2</sup>*  
<sup>1</sup>MEG Center, Department of Neurosurgery, Seoul National University Hospital, Seoul, Korea, Republic of, <sup>2</sup>Seoul National University College of Medicine, Seoul, Korea, Republic of
- 710 MT** **Amplitude of Low Frequency Fluctuations in Resting-state fMRI Predicts Magnitude of Task Activation**  
*Klaudius Kalcher<sup>1,2,3</sup>, Roland Boubela<sup>1,2,3</sup>, Wolfgang Huf<sup>1,2,3</sup>, Siegfried Kasper<sup>2</sup>, Ewald Moser<sup>1</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria
- 711 MT** **Fully Exploratory Network Independent Component Analysis of the 1000 Functional Connectomes Database**  
*Klaudius Kalcher<sup>1,2,3</sup>, Wolfgang Huf<sup>1,2,3</sup>, Roland Boubela<sup>1,2,3</sup>, Peter Filzmoser<sup>3</sup>, Siegfried Kasper<sup>2</sup>, Ewald Moser<sup>1</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria
- 712 MT** **Total Activation: A New Spatiotemporal Regularization Technique to Analyze Spontaneous Brain Activity**  
*Fikret Isik Karahanoglu<sup>1,2</sup>, Cesar Gaudes<sup>2</sup>, Dimitri Van De Ville<sup>1,2</sup>*  
<sup>1</sup>Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland, <sup>2</sup>University of Geneva, Geneva, Switzerland
- 713 MT** **Surface based functional parcellation of medial frontal cortex in resting brain**  
*Han Soo Kim<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Jun Sung Park<sup>1</sup>, Jungho Cha<sup>1</sup>, Sook Hui Kim<sup>3</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 714 MT** **Does brightness matter during rest? Evidence from the resting-state functional MRI data analysis**  
*Yong-Hwan Kim<sup>1</sup>, Jong-Hwan Lee<sup>1</sup>*  
<sup>1</sup>Korea University, Seoul, Korea, Republic of
- 715 MT** **Anterior-Posterior Dissociation of the Default Mode Network in Dogs**  
*Sreenath Pruthviraj Kyathanahally<sup>1</sup>, Oleg Mykolajovych Pustovyy<sup>2</sup>, Paul Waggoner<sup>3</sup>, Ronald Beyers<sup>1</sup>, John Schumacher<sup>4</sup>, Jay Barrett<sup>6</sup>, Edward Morrison<sup>2</sup>, Robert Gillette<sup>4</sup>, Thomas Denney<sup>1</sup>, Vitaly Vodyanoy<sup>5</sup>, Gopikrishna Deshpande<sup>1</sup>*  
<sup>1</sup>AU MRI Research center, Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, <sup>2</sup>Department of Anatomy, Physiology & Pharmacology, Auburn University, Auburn, AL, <sup>3</sup>Canine Detection Research Institute, Auburn University, Auburn, AL, <sup>4</sup>Dept. of Clinical Sciences, Auburn University, Auburn, AL, <sup>5</sup>College of Veterinary Medicine, Auburn University, Auburn, AL

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis, continued

- 716 MT Resting-State Networks at Higher Frequencies with MREG and ICA: Group Analysis**  
*Hsu-Lei Lee<sup>1</sup>, Benjamin Zahneisen<sup>2,1</sup>, Thimo Hugger<sup>1</sup>, Pierre LeVan<sup>1</sup>, Jürgen Hennig<sup>1</sup>*  
<sup>1</sup>University Medical Center Freiburg, Freiburg, Germany, <sup>2</sup>Neuroscience and MR Research Program Department of Medicine, Honolulu, United States
- 717 MT Intrinsic functional connectivity in language networks**  
*Elise Lesage<sup>1</sup>, Chris Miall<sup>1</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom
- 718 MT The Correlation between Functional Connectivity and Cerebral Blood Flow and its Reliability**  
*Zhengjun Li<sup>1</sup>, John Pluta<sup>2</sup>, Anna Childress<sup>3</sup>, Ze Wang<sup>3</sup>*  
<sup>1</sup>Dept. of Biomedical Engineering, Shanghai Jiao Tong University, Shanghai, China, <sup>2</sup>Department of Neurology, University of Pennsylvania, Philadelphia, PA, <sup>3</sup>Department of Psychiatry, University of Pennsylvania, Philadelphia, PA
- \*719 MT Metabolic and Hemodynamic Differences Among Resting-State Brain Networks (O-W4)**  
*Ai-Ling Lin<sup>1</sup>, Angela Laird<sup>1</sup>, Amy Ramage<sup>1</sup>, Timothy Duong<sup>1</sup>, Peter Fox<sup>1</sup>*  
<sup>1</sup>Research Imaging Institute, San Antonio, TX, United States
- 720 MT Frequency specific regional homogeneity of resting state fMRI signal can be differentially modulated**  
*Dong-Qiang Liu<sup>1</sup>, Jue Wang<sup>1,2</sup>, Yu-Feng Zang<sup>1,2</sup>*  
<sup>1</sup>Center for Cognition and Brain Disorders, Affiliated Hospital, Hangzhou Normal University, Hangzhou, China, <sup>2</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 721 MT Identification of frequency specific regional homogeneity of resting state fMRI signal**  
*Dong-Qiang Liu<sup>1</sup>, Su-Fang Li<sup>2</sup>, Yu-Feng Zang<sup>1,2</sup>*  
<sup>1</sup>Center for Cognition and Brain Disorders, Affiliated Hospital, Hangzhou Normal University, Hangzhou, China, <sup>2</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 722 MT Distinct resting-state functional connectivity and effective connectivity by cortical stimulation**  
*Hanbing Lu<sup>1</sup>, César Quiroz<sup>1</sup>, William Rea<sup>1</sup>, Elliot Stein<sup>1</sup>, Sergi Ferré<sup>1</sup>, Yihong Yang<sup>1</sup>*  
<sup>1</sup>National Inst on Drug Abuse, NIH, Baltimore, United States
- 723 MT Observing resting state networks at short echo times**  
*John McGonigle<sup>1,2</sup>, Laurence Reed<sup>1</sup>, Louise Paterson<sup>1</sup>, Rexford Newbould<sup>3</sup>, Anne Lingford-Hughes<sup>1</sup>, David Nutt<sup>1</sup>, The ICCAM Collaboration<sup>4</sup>*  
<sup>1</sup>Imperial College London, London, United Kingdom, <sup>2</sup>University of Bristol, Bristol, United Kingdom, <sup>3</sup>Imanova, London, United Kingdom, <sup>4</sup>Imperial College London, University of Cambridge, University of Manchester, London, Cambridge, Manchester, United Kingdom
- 724 MT Consistent cortical networks in resting-state EEG: Spatial topography and temporal dynamics**  
*Saeid Mehrkanoon<sup>1</sup>, Michael Breakspear<sup>2</sup>, Tjeerd Boonstra<sup>1</sup>*  
<sup>1</sup>The University of New South Wales, Sydney, Australia, <sup>2</sup>The University of New South Wales, Sydney, NSW
- 725 MT A Comparison of RETROICOR, RVHRCOR and CompCor in Removing Physiological Noise**  
*Xinyuan Miao<sup>1</sup>, Catie Chang<sup>2</sup>, Yihong Yang<sup>3</sup>, Yan Zhuo<sup>1</sup>*  
<sup>1</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>NINDS/NIH, Bethesda, MD, <sup>3</sup>NIDA/NIH, Baltimore, MD
- 726 MT Increased functional connectivity in resting-state networks of adults with ADHD**  
*Jeanette Mostert<sup>1,2</sup>, Elena Shumskaya<sup>1</sup>, Marten Onnink<sup>3</sup>, Martine Hoogman<sup>3</sup>, Jan Buitelaar<sup>3</sup>, David Norris<sup>1</sup>, Barbara Franke<sup>2</sup>*  
<sup>1</sup>Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>Genetics, University Medical Center, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>3</sup>Psychiatry, University Medical Center, Radboud University Nijmegen, Nijmegen, Netherlands
- 727 MT MICCA: Multi-Scale Independent Component Clustering Algorithm**  
*Mikaël Naveau<sup>1</sup>, Nicolas Delcroix<sup>2</sup>, Pierre-Yves Hervé<sup>1</sup>, Laurent Petit<sup>1</sup>, Laure Zago<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Gael Jobard<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Marc Joliot<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen, Bordeaux, France, <sup>2</sup>UMS3408 GIP Cyceron, Caen, France
- 728 MT Intersubject Correlation in fMRI: Method Validation Against General Linear Model**  
*Juha Pajula<sup>1</sup>, Jukka-Pekka Kauppi<sup>2</sup>, Jussi Tohka<sup>1</sup>*  
<sup>1</sup>Tampere University of Technology, Tampere, Finland, <sup>2</sup>University of Helsinki, Finland



## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis, continued

- 729 MT Altered patterns of ReHo in children with auditory processing disorder: resting-state fMRI study**  
*Agnieszka Pluta<sup>1</sup>, Tomasz Wolak<sup>1</sup>, Mateusz Rusiniak<sup>1</sup>, Monika Lewandowska<sup>1</sup>, Natalia Czajka<sup>1</sup>, Diana Grudzien<sup>1</sup>, Lech Liwa<sup>1</sup>, Henryk Skar y ski<sup>1</sup>*  
<sup>1</sup>The Institute of Physiology and Pathology of Hearing, Warsaw, Poland
- 730 MT Cognitive implications of component fractionation across BrainMap task-based ICA networks**  
*Kimberly Ray<sup>1</sup>, Reese McKay<sup>2</sup>, Mickie Fox<sup>3</sup>, Christian Beckmann<sup>4</sup>, Stephen Smith<sup>5</sup>, Peter Fox<sup>6</sup>, Angela Laird<sup>7</sup>*  
<sup>1</sup>Research Imaging Institute, San Antonio, Tx, <sup>2</sup>Research Imaging Institute, San Antonio, United States, <sup>3</sup>UTHSCSA, San Antonio, TX, <sup>4</sup>University of Twente, Enschede, Netherlands, <sup>5</sup>FMRIB, Oxford University, Oxford, United Kingdom, <sup>6</sup>Research Imaging Institute, San Antonio, TX, <sup>7</sup>University of Texas Health Science Center San Antonio, San Antonio, United States
- 731 MT Global Signal Regression Can Cause False Inferences in RS-fMRI, Not Just Negative-Correlations**  
*Ziad Saad<sup>1</sup>, Stephen Gotts<sup>2</sup>, Kevin Murphy<sup>3</sup>, Gang Chen<sup>4</sup>, Hang Joon Jo<sup>5</sup>, Alex Martin<sup>2</sup>, Robert Cox<sup>2</sup>*  
<sup>1</sup>National Institutes of Health, Bethesda, MD, <sup>2</sup>National Institute of Mental Health, Bethesda, MD, <sup>3</sup>Cardiff University, Cardiff, United Kingdom, <sup>4</sup>SSCC/DIRP/NIMH, National Institutes of Health, USA, N/A, <sup>5</sup>National Institute of Mental Health, Bethesda, United States
- 732 MT Effect of anxiety and gender on EEG in eyes open and close conditions**  
*Alexander Savostyanov<sup>1</sup>, Gennady Knyazev<sup>1</sup>, Evgeny Levin<sup>1</sup>, Arthur Tsai<sup>2</sup>*  
<sup>1</sup>Institute of Physiology of SB RAMS, Novosibirsk, Russian Federation, <sup>2</sup>Research Institute of Statistical Science Academia Sinica, Taipei, Chinese Taipei
- 733 MT Localized Independent Component Analysis (LICA) for Mapping Motor Networks**  
*William Sohn<sup>1</sup>, Kwangsun Yoo<sup>1</sup>, Yong Jeong<sup>1</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of
- 734 MT Temporally varying connectivity between ICA default-mode sub-networks - ASD vs. controls**  
*Tuomo Starck<sup>1,2</sup>, Juha Nikkinen<sup>2</sup>, Jukka Remes<sup>2</sup>, Jukka Rahko<sup>3</sup>, Irma Moilanen<sup>3</sup>, Osmo Tervonen<sup>1,2</sup>, Vesa Kiviniemi<sup>1,2</sup>*  
<sup>1</sup>Department of Diagnostic Radiology, Oulu University, Oulu, Finland, <sup>2</sup>Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, <sup>3</sup>Department of Child Psychiatry, Institute of Clinical Medicine, Oulu University and Hospital, Oulu, Finland
- 735 MT Investigation of vascular effects on resting-state BOLD fluctuations with simultaneous ASL and fMRI**  
*Sungho Tak<sup>1</sup>, J. Jean Chen<sup>1,2</sup>*  
<sup>1</sup>The Rotman Research Institute of Baycrest, Toronto, Ontario, Canada, <sup>2</sup>Department of Medical Biophysics, University of Toronto, Toronto, Ontario, Canada
- 736 MT Functional covariance networks from intersubject variability reflect resting state networks**  
*Paul Taylor<sup>1</sup>, Suril GoheP, Xin Di<sup>3</sup>, Martin Walter<sup>4</sup>, Bharat Biswa<sup>5</sup>*  
<sup>1</sup>UMDNJ, Newark, United States, <sup>2</sup>UMDNJ, Newark, NJ, <sup>3</sup>University of Medicine and Dentistry of New Jersey, Newark, United States, <sup>4</sup>Canlab, Magdeburg, Germany, <sup>5</sup>University of Med. and Dent. of New Jersey, Newark, NJ
- 737 MT Pre-surgical Language Mapping using Movie-Watching fMRI**  
*Yanmei Tie<sup>1</sup>, Laura Rigolo<sup>1</sup>, Alexandra Golby<sup>1</sup>*  
<sup>1</sup>Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States
- 738 MT Investigating the establishment of thalamocortical connectivity in neonates using resting state fMRI**  
*Hilary Toulmin<sup>1</sup>, Christian Beckmann<sup>2</sup>, Ioannis Gousias<sup>3</sup>, Phumza Nongena<sup>3</sup>, Ash Ederies<sup>3</sup>, A. David Edwards<sup>1,3</sup>*  
<sup>1</sup>Kings College, London, United Kingdom, <sup>2</sup>University of Twente, Enschede, Netherlands, <sup>3</sup>Imperial College, London, United Kingdom
- \*739 MT Resting state networks are characterized by high frequency BOLD fluctuations (O-M4)**  
*Erik van Oort<sup>1</sup>, David Norris<sup>2</sup>, Stephen Smith<sup>3</sup>, Christian Beckmann<sup>1</sup>*  
<sup>1</sup>MIRA Institute, University of Twente, Donders Institute, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>3</sup>FMRIB, Oxford University, Oxford, United Kingdom

## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis, continued

- 740 MT Learning an atlas of brain spontaneous activity with multi-subject dictionary learning**  
*Gael Varoquaux<sup>1</sup>, Vincent Michel<sup>2</sup>, Fabian Pedregosa<sup>2</sup>, Alexandre Gramfort<sup>3</sup>, Bertrand Thirion<sup>4</sup>*  
<sup>1</sup>N/A, Gif-sur-Yvette, France, <sup>2</sup>INRIA Parietal, Saclay, France, <sup>3</sup>INRIA - CEA Neurospin, France, <sup>4</sup>Parietal Team, INRIA Saclay - Île-de-France, Saclay, France
- 741 MT Link between function and structure in the resting-state brain: an fMRI and VBM study**  
*Nicolas Vigneau-Roy<sup>1</sup>, Maxime Descoteaux<sup>1</sup>, Kevin Whittingstall<sup>1</sup>*  
<sup>1</sup>Université de Sherbrooke, Sherbrooke, Canada
- 742 MT Multiscale Changes in Brain Signal Variability in Pre-versus Post-task Eyes-open Resting Conditions**  
*Hongye Wang<sup>1</sup>, Natasa Kovacevic<sup>1</sup>, Maria Karachalios<sup>1</sup>, Andrea Protzner<sup>2</sup>, Anthony McIntosh<sup>1</sup>*  
<sup>1</sup>Rotman Research Institute, Toronto, Canada, <sup>2</sup>University of Calgary, Calgary, Canada
- 743 MT Characterizing Resting Brain Information using Voxel-based Brain Information Mapping (BIM)**  
*Ze Wang<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, N/A
- 744 MT Generalized RAICAR: An exploratory tool for mining reproducibility of the ICNs in multiple subjects**  
*Zhi Yang<sup>1,2</sup>, Xi-Nian Zuo<sup>3,2</sup>, Peipei Wang<sup>4</sup>, Zhihao Li<sup>5</sup>, Stephen LaConte<sup>6</sup>, Xuchu Weng<sup>7</sup>, Xiaoping Hu<sup>8</sup>*  
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- 745 MT Direct correlation analysis between neural activity and blood flow signals**  
*Yuguo Yu<sup>1</sup>, Peter Herman<sup>2</sup>, Robert Sachdev<sup>2</sup>, Basavaraju Sangangahall<sup>2</sup>, Fahmeed Hyder<sup>2</sup>, David McCormick<sup>2</sup>*  
<sup>1</sup>Fudan University, Shanghai, China, <sup>2</sup>Yale University, New Haven, CT
- 746 MT Exploring EEG Microstates as Electrophysiological Signatures of BOLD Resting State Networks**  
*Han Yuan<sup>1</sup>, Vadim Zotev<sup>1</sup>, Raquel Phillips<sup>1</sup>, Wayne Drevets<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK, United States
- 747 MT Correlated Fluctuations in Respiration, EEG, and BOLD: What is the Origin of Physiological Noise?**  
*Han Yuan<sup>1</sup>, Vadim Zotev<sup>1</sup>, Raquel Phillips<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK, United States
- 748 MT Alterations in regional homogeneity of resting-state brain activity in posttraumatic stress disorder**  
*Ye Zhang<sup>1</sup>, mingguo qiu<sup>1</sup>, Jingna Zhang<sup>1</sup>, Bing Xie<sup>2</sup>, Linqiong Sang<sup>1</sup>, Li Wang<sup>1</sup>, Min Li<sup>3</sup>*  
<sup>1</sup>Department of medical informatics and medical image, Third Military Medical University, ChongQing, China, <sup>2</sup>Department of Radiology, Southwest Hospital, ChongQing, China, <sup>3</sup>Department of Psychology, Third Military Medical University, ChongQing, China
- 749 MT Intrinsic Resting-State Activity Predicts Working Memory Brain Activation and Behavioral Performance**  
*Qihong Zou<sup>1,2,3</sup>, Thomas Ross<sup>1</sup>, Hong Gu<sup>1</sup>, Xiujuan Geng<sup>1</sup>, Xi-Nian Zuo<sup>4</sup>, Elliot Hong<sup>5</sup>, Jia-Hong Gao<sup>2,6</sup>, Elliot Stein<sup>1</sup>, Yu-Feng Zang<sup>3,7</sup>, Yihong Yang<sup>1</sup>*  
<sup>1</sup>NIDA/NIH, Baltimore, MD, <sup>2</sup>Peking University, Beijing, China, <sup>3</sup>Beijing Normal University, Beijing, China, <sup>4</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>5</sup>Department of Psychiatry, University of Maryland School of Medicine, Baltimore, MD, <sup>6</sup>University of Chicago, Chicago, IL, <sup>7</sup>Hangzhou Normal University, Hangzhou, China
- 750 MT Functional Connectome Computation on Volume and Surface: 1. Seed-based Correlation Analysis**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Daniel Margulies<sup>4</sup>, Maarten Mennes<sup>5,6</sup>, Clare Kelly<sup>7</sup>, F. Xavier Castellanos<sup>8,9</sup>, Michael Milham<sup>9,10</sup>*  
<sup>1</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>2</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>5</sup>Donders Institute for Brain, Cognition and Behavior, Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, <sup>6</sup>Department of Cognitive Neuroscience, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, <sup>7</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, NYU Langone Medical Center, New York, NY, <sup>8</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, NYU Langone Medical Center, New York, NY, <sup>9</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, <sup>10</sup>Center for the Developing Brain, Child Mind Institute, New York, NY

- 751 MT Lifespan Trajectory of Human Brain Functional Connectome: 1. Amplitude**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Xiao-Yan Cao<sup>1,4</sup>, Lili Jiang<sup>1,2,3</sup>, Feng-Mei Fan<sup>1,5</sup>, Xiao-Wei Song<sup>6</sup>, Maarten Mennes<sup>7,8</sup>, Yong He<sup>9</sup>, Yu-Feng Zang<sup>4</sup>, F. Xavier Castellanos<sup>10,11</sup>, Michael Milham<sup>11,12</sup>*  
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- 752 MT Lifespan Trajectory of Human Brain Functional Connectome: 2. Regional Homogeneity**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Xiao-Yan Cao<sup>1,4</sup>, Lili Jiang<sup>1,2,3</sup>, Feng-Mei Fan<sup>1,5</sup>, Xiao-Wei Song<sup>6</sup>, Maarten Mennes<sup>7,8</sup>, Yong He<sup>9</sup>, Yu-Feng Zang<sup>4</sup>, F. Xavier Castellanos<sup>10,11</sup>, Michael Milham<sup>11,12</sup>*  
<sup>1</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>2</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Center for Cognition and Brain Disorders and The Affiliated Hospital, Hangzhou Normal University, Hangzhou, China, <sup>5</sup>Psychiatry Research Center, Beijing Huilongguan Hospital, Beijing, China, <sup>6</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, <sup>7</sup>Donders Institute for Brain, Cognition and Behavior, Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, <sup>8</sup>Department of Cognitive Neuroscience, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, <sup>9</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China, <sup>10</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, NYU Langone Medical Center, New York, NY, <sup>11</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, <sup>12</sup>Center for the Developing Brain, Child Mind Institute, New York, NY

- 753 MT Lifespan Trajectory of Human Brain Functional Connectome: 3. Network Centrality**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Xiao-Yan Cao<sup>1,4</sup>, Lili Jiang<sup>1,2,3</sup>, Feng-Mei Fan<sup>1,5</sup>, Xiao-Wei Song<sup>6</sup>, Maarten Mennes<sup>7,8</sup>, Yong He<sup>9</sup>, Yu-Feng Zang<sup>4</sup>, F. Xavier Castellanos<sup>10,11</sup>, Michael Milham<sup>11,12</sup>*  
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- 754 MT Reliable Functional Connectome Computation on Volume and Surface: 2. Amplitude**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Xiao-Yan Cao<sup>1,4</sup>, Adriana Di Martino<sup>5</sup>, Maarten Mennes<sup>6,7</sup>, F. Xavier Castellanos<sup>8,9</sup>, Michael Milham<sup>9,10</sup>, Yu-Feng Zang<sup>4</sup>*  
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## MODELING AND ANALYSIS METHODS

### Task-Independent and Resting-State Analysis, continued

- 755 MT Reliable Functional Connectome Computation on Volume and Surface: 3. Regional Homogeneity**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Xiao-Yan Cao<sup>1,4</sup>, Yong He<sup>5</sup>, Bharat Biswal<sup>6</sup>, Michael Milham<sup>7,8</sup>, F. Xavier Castellanos<sup>8,9</sup>, Yu-Feng Zang<sup>4</sup>*  
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- 756 MT Reliable Functional Connectome Computation on Volume and Surface: 4. Network Centrality**  
*Xi-Nian Zuo<sup>1,2,3</sup>, Daniel Margulies<sup>4</sup>, Olaf Sporns<sup>5</sup>, F. Xavier Castellanos<sup>6,7</sup>, Michael Milham<sup>7,8</sup>*  
<sup>1</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>2</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>5</sup>Department of Psychological and Brain Sciences, Indiana University, Bloomington, United States, <sup>6</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, NYU Langone Medical Center, New York, NY, <sup>7</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, NY, <sup>8</sup>Center for the Developing Brain, Child Mind Institute, New York, NY
- 757 MT Altered relations between brain complexity and within-between-module diversity in ADHD patients**  
*Liu Xuxiang<sup>1</sup>, Manxiu Ma<sup>2</sup>*  
<sup>1</sup>State Key Laboratory of Brain and Cognitive Science, Institute of Biophysics, CAS, Beijing, China, <sup>2</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China

## MODELING AND ANALYSIS METHODS

### Univariate Modeling

- 758 MT Flaws in fMRI: Demise of the Double Gamma**  
*Ben Cassidy<sup>1</sup>, Victor Solo<sup>2</sup>*  
<sup>1</sup>The University of New South Wales, Sydney, Australia, <sup>2</sup>University of New South Wales, Sydney, Australia
- 759 MT FMRI Group Analysis with Linear Mixed-Effect Modeling (LME) Approach**  
*Gang Chen<sup>1</sup>, Jennifer Britton<sup>2</sup>, Daniel Pine<sup>2</sup>, Ziad Saad<sup>3</sup>, Robert Cox<sup>4</sup>*  
<sup>1</sup>SSCC/DIRP/NIMH, National Institutes of Health, USA, N/A, <sup>2</sup>Section on Development and Affective Neuroscience, NIMH, National Institutes of Health, Bethesda, MD, <sup>3</sup>National Institutes of Health, Bethesda, MD, <sup>4</sup>National Institute of Mental Health, Bethesda, MD
- \*760 MT Fast and accurate modelling of longitudinal neuroimaging data (O-T1)**  
*Bryan Guillaume<sup>1,2</sup>, Thomas Nichols<sup>1</sup>, Lourens Waldorp<sup>3</sup>*  
<sup>1</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom, <sup>2</sup>University of Liège, Liège, Belgium, <sup>3</sup>University of Amsterdam, Amsterdam, Netherlands
- 761 MT Comparing fMRI data processing approaches with respect to missing responses in fMRI data**  
*Michal Mikl<sup>1</sup>, Radek Marecek<sup>1</sup>, Milan Brázdil<sup>2</sup>*  
<sup>1</sup>CEITEC, Masaryk University, Brno, Czech Republic, <sup>2</sup>Behavioral and Social Neuroscience Research Group, CEITEC-Central European Institute of Technology, Brno, Czech Republic
- 762 MT Time Correlation of Echo-Planar versus Real-Time fMRI Time Series**  
*Radu Mutihac<sup>1,2</sup>, Allen Braun<sup>3</sup>, Thomas Balkin<sup>2</sup>, Stefan Posse<sup>4</sup>*  
<sup>1</sup>Department of Physics, University of Bucharest, Bucharest, Romania, <sup>2</sup>Department of Behavioral Biology, Walter Reed Army Institute of Research, Silver Spring, MD, <sup>3</sup>Language Section, National Institutes of Health / NIDCD, Bethesda, MD, <sup>4</sup>Department of Neurology, University of New Mexico, Albuquerque, NM
- 763 MT How to Smooth your fMRI Data? A Comparison between Gaussian and Adaptive Smoothing**  
*Marijke Welvaert<sup>1</sup>, Yves Rosseel<sup>1</sup>, Karsten Tabelow<sup>2</sup>*  
<sup>1</sup>Ghent University, Gent, Belgium, <sup>2</sup>WIAS, Berlin, Germany

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

## MOTOR BEHAVIOR

### Brain Machine Interface

- 764 MT Predicting the success of neurofeedback training based on fMRI of imaginary movement**  
*Tibor Auer<sup>1</sup>, Renate Schweizer<sup>2</sup>, Jens Frahm<sup>2</sup>*  
<sup>1</sup>Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Göttingen, Germany, <sup>2</sup>Biomedizinische NMR Forschungs GmbH am Max-Planck-Institut für biophysikalische Chemie, Goettingen, Germany
- 765 MT Biphasic stimulation in an SSVEP-based brain computer interface system**  
*Hsiang-Chih Chang<sup>1</sup>, Po-Lei Lee<sup>1</sup>, Yi-Lin Chen<sup>2</sup>, Chi-Hsun Wu<sup>1</sup>*  
<sup>1</sup>National Central University, Jhongli, Chinese Taipei, <sup>2</sup>National Ilan University, Yilan, Chinese Taipei
- 766 MT Controlling an Avatar by Thought using Real-time Functional Magnetic Resonance Imaging**  
*Ori Cohen<sup>1</sup>, Avi Mendelsohn<sup>2</sup>, Rafael Malach<sup>2</sup>, Doron Friedman<sup>1</sup>*  
<sup>1</sup>IDC, Herzliya, Israel, <sup>2</sup>WIS, Rehovot, Israel
- 767 MT Decoding Spatial Attention in High Order Visual Areas**  
*Jinendra Ekanayake<sup>1</sup>, Chloe Hutton<sup>1</sup>, Gerard Ridgway<sup>1</sup>, Dietrich Samuel Schwarzkopf<sup>1</sup>, Frank Scharnowski<sup>1</sup>, Geraint Rees<sup>2</sup>, Nikolaus Weiskopf<sup>1</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom, <sup>2</sup>Institute of Cognitive Neuroscience, University College London, London, United Kingdom
- 768 MT Real-time EEG mapping for Brain-Computer Interface based stroke rehabilitation**  
*Christoph Guger<sup>1</sup>, Rupert Ortner<sup>2</sup>*  
<sup>1</sup>g.tec Guger Technologies OG, Graz, Austria, <sup>2</sup>g.tec Guger Technologies OG, Schiedlberg, Austria
- 769 MT Optimization of connectivity measures with spatial filtering**  
*Sebastian Halder<sup>1</sup>, Manuela Müller<sup>1</sup>, Martin Spüler<sup>1</sup>, Niels Birbaumer<sup>1</sup>*  
<sup>1</sup>University of Tübingen, Tübingen, Germany
- 770 MT A new dual-frequency stimulation method for SSVEP-based BCI and its application to a mental keypad**  
*Han-Jeong Hwang<sup>1</sup>, Chang-Hwan Im<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Republic of Korea
- 771 MT A spatial auditory P300-BCI using headphones: Towards communication in total paralysis**  
*Ivo Käthner<sup>1</sup>, Emanuele Pasqualotto<sup>2,3</sup>, Carolin Ruf<sup>4</sup>, Christoph Braun<sup>5,6</sup>, Niels Birbaumer<sup>7,8</sup>, Sebastian Halder<sup>7</sup>*  
<sup>1</sup>Institute of Medical Psychology and Behavioral Neurobiology, Eberhard Karls University, Tuebingen, Germany, <sup>2</sup>Institute of Medical Psychology and Behavioral Neurobiology - Eberhard-Karls-University, Tuebingen, Germany, <sup>3</sup>Werner Reichardt Centre for Integrative Neuroscience, Eberhard Karls University Tuebingen, Tuebingen, Germany, <sup>4</sup>Institute of Medical Psychology and Behavioral Neurobiology, Eberhard Karls University Tuebingen, Tuebingen, Germany, <sup>5</sup>MEG Center, University of Tübingen, Tuebingen, Germany, <sup>6</sup>CIMeC - Center for Mind/Brain Sciences, University of Trento, Trento, Italy, <sup>7</sup>University of Tübingen, Tübingen, Germany, <sup>8</sup>IRCCS Ospedale San Camillo, Istituto di Ricovero e Cura a Carattere Scientifico, Venezia Lido, Italy
- 772 MT Preliminary results on P300 detection using machine learning when modulating task reaction time**  
*Su Kim<sup>1</sup>, Elsa Andrea Kirchner<sup>1</sup>*  
<sup>1</sup>University of Bremen, Bremen, Germany
- 773 MT EEG in Dual-Task Human-Machine Interaction: Target Recognition and Prospective Memory**  
*Elsa Andrea Kirchner<sup>1,2</sup>, Su Kim<sup>1,2</sup>*  
<sup>1</sup>University of Bremen, Bremen, Germany, <sup>2</sup>DFKI-Robotic Innovation Center, Bremen, Germany
- 774 MT A survey on paralyzed patient's needs: positive attitudes on invasive BMI treatment options**  
*Jacob Lahr<sup>1</sup>, Christina Schwartz<sup>2,3</sup>, Bernhard Heimbach<sup>4</sup>, Ulla König-Cardanobile<sup>3</sup>, Darcey Terris<sup>5</sup>, Ad Aertsen<sup>3</sup>, Cornelius Weiller<sup>4</sup>, Tonio Ball<sup>1,3</sup>, Jörn Rickert<sup>2,3</sup>*  
<sup>1</sup>Epilepsy Center, Freiburg, Germany, <sup>2</sup>CorTec GmbH, Freiburg, Germany, <sup>3</sup>Bernstein Center, Freiburg, Germany, <sup>4</sup>Department of Neurology, University Medical Center, Freiburg, Germany, <sup>5</sup>Mannheim Institute of Public Health, Mannheim, Germany
- 775 MT Classifying single-trial ECoG signals preceding voluntary movements**  
*Sang Hun Lee<sup>1</sup>, June Sic Kim<sup>2</sup>, Chun Kee Chung<sup>1</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of

- 776 MT Combining brain state classification and classical conditioning for basic BCI communication**  
*Giulia Liberati<sup>1,2</sup>, Linda van der Heiden<sup>3,2</sup>, Ralf Veit<sup>2</sup>, Josué Dalboni da Rocha<sup>4,5</sup>, Sunjung Kim<sup>2</sup>, Antonino Raffone<sup>6,1</sup>, Niels Birbaumer<sup>2</sup>, Marta Olivetti Belardinelli<sup>1,6</sup>, Ranganatha Sitaram<sup>2,7</sup>*  
<sup>1</sup>Interuniversity Centre for Research on Cognitive Processing in Natural and Artificial Systems, Rome, Italy, <sup>2</sup>Institute of Medical Psychology and Behavioral Neurobiology, Eberhard Karls-University, Tübingen, Germany, <sup>3</sup>Department of Cognitive Psychology, University of Finance and Management, Warsaw, Poland, <sup>4</sup>Institute of Medical Psychology and Behavioral Neurobiology, Eberhard Karls-University, Tübingen, Germany, <sup>5</sup>Graduate Training Centre of Neuroscience, International Max Planck Research School, Tübingen, Germany, <sup>6</sup>Department of Psychology, University "Sapienza", Rome, Italy, <sup>7</sup>Department of Biomedical Engineering, University of Florida, Gainesville, FL
- 777 MT Implementation of a stand-alone mental spelling system based on steady-state visual evoked potential**  
*Jeong-Hwan Lim<sup>1</sup>, Han-Jeong Hwang<sup>1</sup>, Chang-Hwan Im<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 778 MT High gamma oscillations in ECoG allow for pre-movement decoding of rapid dexterous finger movements**  
*Fanny Quandt<sup>1,2</sup>, Stefan Dürschmid<sup>1,3</sup>, Hermann Hinrichs<sup>1</sup>, Robert Knight<sup>2,4</sup>, Jochem Rieger<sup>1,3,2</sup>*  
<sup>1</sup>University of Magdeburg, Dep. of Neurology, Magdeburg, Germany, <sup>2</sup>Helen Wills Neuroscience Institute, Berkeley, CA, <sup>3</sup>University of Oldenburg, Institute of Psychology, Oldenburg, Germany, <sup>4</sup>Department of Psychology, Berkeley, CA
- 779 MT Self-regulation of differential visual cortex activity with real-time fMRI neurofeedback,**  
*Fabien Robineau<sup>1</sup>, SWANN PICHON<sup>1</sup>, Christophe Mermoud<sup>1</sup>, Dimitri Van De Ville<sup>2</sup>, Patrik Vuilleumier<sup>3</sup>, Frank Scharnowski<sup>4</sup>*  
<sup>1</sup>University of Geneva, GENEVE, Switzerland, <sup>2</sup>UniGE/EPFL, Lausanne, Switzerland, <sup>3</sup>University of Geneva, Geneva, Switzerland, <sup>4</sup>EPFL, GENEVA, Switzerland
- 780 MT Mapping Cortical Response of Visual Motion for Subdural Brain Computer Interface**  
*Huaying Song<sup>1</sup>, Dan Zhang<sup>1</sup>, Zhipei Ling<sup>2</sup>, Huancong Zuo<sup>3</sup>, Bo Hong<sup>1</sup>*  
<sup>1</sup>Dept. of Biomedical Engineering, School of Medicine, Tsinghua University, Beijing, China, <sup>2</sup>Dept. of Neurosurgery, General Hospital of People's Liberation Army, Beijing, China, <sup>3</sup>Dept. of Neurosurgery, Yuquan Hospital, Tsinghua University, Beijing, China
- 781 MT Automatic Identification of Independent Components Representing Sensorimotor Mu Rhythms**  
*Yijun Wang<sup>1</sup>, Tzzy-Ping Jung<sup>1</sup>*  
<sup>1</sup>University of California, San Diego, California, United States
- 782 MT Measuring Steady-state Visual Evoked Potentials from Non-hair-bearing Areas**  
*Yu-Te Wang<sup>1</sup>, Yijun Wang<sup>1</sup>, Tzzy-Ping Jung<sup>1</sup>*  
<sup>1</sup>University of California, San Diego, California, United States
- 783 MT Ensemble empirical mode decomposition for brainwave-actuated remote-controlled car**  
*chi-hsun wu<sup>1</sup>, Kuo-Kai Shyu<sup>1</sup>, Po-Lei Lee<sup>1</sup>, Hsiang-Chih Chang<sup>2</sup>*  
<sup>1</sup>National Central University, Jhongli, Chinese Taipei, <sup>2</sup>National Central University, Jhongli, Chinese Taipei
- \*784 MT Estimation of three-dimensional movement trajectory from MEG signals (O-T2)**  
*Hong Gi Yeom<sup>1</sup>, June Sic Kim<sup>2</sup>, Chun Kee Chung<sup>2</sup>*  
<sup>1</sup>Interdisciplinary Program in Neuroscience, Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of

## MOTOR BEHAVIOR

### Mirror System

- 785 MT Muscle-specific modulations of PMv-M1 connections during movement observation and predictive coding**  
*Toon de Beukelaar<sup>1</sup>, Kaat Alaerts<sup>1</sup>, Nicole Wenderoth<sup>1</sup>*  
<sup>1</sup>Department of Kinesiology - Movement Control and Neuroplasticity Research Group - KU Leuven, Leuven, Belgium
- \*786 MT Neuronal network coherent with the kinematics of observed hand movement (O-T2)**  
*Xavier De Tiège<sup>1</sup>, Mathieu Bourguignon<sup>1</sup>, Marc Op de beeck<sup>1</sup>, Patrick Van Bogaert<sup>1</sup>, Serge Goldman<sup>1</sup>, Veikko Jousmäki<sup>2</sup>, Riitta Hari<sup>2</sup>*  
<sup>1</sup>Laboratoire de Cartographie fonctionnelle du Cerveau, Université Libre de Bruxelles, Brussels, Belgium, <sup>2</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland
- 787 MT Agency Detection in Action**  
*Roei Gilron<sup>1</sup>, Roy Mukamel<sup>1</sup>*  
<sup>1</sup>Tel Aviv University, Tel Aviv, Israel
- 788 MT Embodied Language - The differential role of canonical and mirror neurons in the processing of words**  
*Houpan Horoufchin<sup>1</sup>, Anna Borgh<sup>2</sup>, Hong Chen<sup>1</sup>, André Knops<sup>3</sup>, Rainer Goebel<sup>4</sup>, Ferdinand Binkofski<sup>5</sup>*  
<sup>1</sup>Department for Neurology, Section for Clinical and Cognitive Neuroscience, RWTH Aachen University, Aachen, Germany, <sup>2</sup>Bologna University, Dipartimento di Psicologia, Bologna, Italy, <sup>3</sup>Department of Neurology, Section Neuropsychology, RWTH Aachen University, Aachen, Germany, <sup>4</sup>Maastricht University, Maastricht, Netherlands, <sup>5</sup>RWTH Aachen, Aachen, Germany
- 789 MT Simulation of (Untrained) Actions supports Ensemble Synchronization. A double-pulse TMS study**  
*Giacomo Novembre<sup>1</sup>, Luca Ticini<sup>1</sup>, Simone Schütz-Bosbach<sup>1</sup>, Peter Keller<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 790 MT Mental Simulation of Natural Movements Synchronizes Action Observation Circuits Across Individuals**  
*Lauri Nummenmaa<sup>1,2,3,4</sup>, Dmitry Smirnov<sup>2</sup>, Juha Lahnakoski<sup>2</sup>, Enrico Glerean<sup>2</sup>, Iiro Jääskeläinen<sup>2</sup>, Mikko Sams<sup>2</sup>, Riitta Hari<sup>1</sup>*  
<sup>1</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland, <sup>2</sup>Department of Biomedical Engineering and Computational Science, School of Science, Aalto University, Espoo, Finland, <sup>3</sup>Turku PET Centre, Turku, Finland, <sup>4</sup>AMI Centre, School of Science, Aalto University, Espoo, Finland
- 791 MT The different mechanisms involved in action recognition as revealed by MEG**  
*Anastasia Pavlidou<sup>1</sup>, Alfons Schnitzler<sup>1</sup>, Joachim Lange<sup>1</sup>*  
<sup>1</sup>Institute of Clinical Neuroscience and Medical Psychology, Düsseldorf, Germany
- 792 MT Somatosensory cortex in action observation, a combined fMRI and cTBS study**  
*Nikola Valchev<sup>1</sup>, Alessio Avenanti<sup>2</sup>, Christian Keysers<sup>3</sup>, Valeria Gazzola<sup>4</sup>*  
<sup>1</sup>University of Groningen, Groningen, Netherlands, <sup>2</sup>University of Bologna, Cesena, Italy, <sup>3</sup>Netherlands Institute for Neuroscience, Royal Netherlands Academy for Arts and Sciences, Amsterdam, Netherlands, <sup>4</sup>University Medical Center Groningen, Netherlands Institute for Neuroscience, Amsterdam, Netherlands

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>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

## MOTOR BEHAVIOR

### Motor Planning and Execution

- 793 MT Corticokinematic coherence during active and passive finger movements**  
*Mathieu Bourguignon*<sup>1,2</sup>, *Harri Piitulainen*<sup>2</sup>, *Xavier De Tiège*<sup>1</sup>, *Riitta Harj*<sup>2,3</sup>, *Veikko Jousmäki*<sup>2</sup>  
<sup>1</sup>Laboratoire de Cartographie Fonctionnelle du Cerveau, ULB-hôpital Erasme, Brussels, Belgium, <sup>2</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland, <sup>3</sup>Advanced Magnetic Imaging Centre, School of Science, Aalto University, Espoo, Finland
- 794 MT Online Control in Reaching and Grasping: Functional Specificity of Neural Correlates**  
*Sonja Cornelissen*<sup>1</sup>, *Marc Himmelbach*<sup>2</sup>, *Axel Thielscher*<sup>3</sup>  
<sup>1</sup>Max Planck, Tuebingen, Germany, <sup>2</sup>Hertie Institut, Tuebingen, Germany, <sup>3</sup>MPI Biol Cybernetics, Tübingen, Germany
- 795 MT A combined EEG and kinematic study of the reach to grasp movement**  
*Teresa De Sanctis*<sup>1</sup>, *Vincenza Tarantino*<sup>1</sup>, *Chiara Begliomini*<sup>1</sup>, *Elisa Stralino*<sup>1</sup>, *Umberto Castiello*<sup>1</sup>  
<sup>1</sup>Dept. of General Psychology - University of Padova, Padova, Italy
- 796 MT Natural statistics of hand use predicts multivariate activity patterns for finger movements in M1**  
*Joern Diedrichsen*<sup>1</sup>, *Sebastian Telgen*<sup>1</sup>, *Tobias Wiestler*<sup>1</sup>  
<sup>1</sup>University College London, London, United Kingdom
- 797 MT Motor control mechanisms during finger tapping in adolescents revealed by dynamic causal modeling**  
*Vaibhav Diwadkar*<sup>1</sup>, *Neil Bakshi*<sup>2</sup>, *Simon Eickhoff*<sup>3</sup>  
<sup>1</sup>Wayne State University School of Medicine, Detroit, United States, <sup>2</sup>University of Michigan, Ann Arbor, MI, <sup>3</sup>Research Center Jülich, Jülich, Germany
- 798 MT A high-resolution EEG study of motor potential and beta ERS/ERD scalp topographies**  
*Jurij Dreo*<sup>1</sup>, *Nataša Bizovičar*<sup>2</sup>, *Simon Brezovar*<sup>1</sup>, *Barbara Dolenc*<sup>1</sup>, *Jurij Bon*<sup>1</sup>, *Dejan Georgiev*<sup>1</sup>, *Rok Berlot*<sup>1</sup>, *Blaž Koritnik*<sup>2</sup>, *Zvezdan Pirtošek*<sup>1</sup>  
<sup>1</sup>Laboratory for Cognitive Neuroscience, Department of Neurology, University Medical Centre, Ljubljana, Slovenia, <sup>2</sup>Institute of Clinical Neurophysiology, University Medical Centre, Ljubljana, Slovenia
- 799 MT Functional Electrical Stimulation: fMRI study of the mechanism of action in healthy subjects**  
*Marta Gandolla*<sup>1</sup>, *Alessandra Pedrocchi*<sup>1</sup>, *Simona Ferrante*<sup>1</sup>, *Eleonora Guanzirol*<sup>2</sup>, *Alberto Martegani*<sup>3</sup>, *Giancarlo Ferrigno*<sup>1</sup>, *Franco Molteni*<sup>2</sup>, *Nick Ward*<sup>4</sup>  
<sup>1</sup>Politecnico di Milano, Bioeng. Dept., Nearlab, Milano, Italy, <sup>2</sup>Villa Beretta Rehabilitation Centre, Costamasnaga (LC), Italy, <sup>3</sup>Valduce Hospital, Como, Italy, <sup>4</sup>UCL Institute of Neurology, London, United Kingdom
- 800 MT Somatotopic Mapping of Primary Motor Cortex in Mouth and Forehead Movement Using fMRI**  
*Siti Hajar Salim*<sup>1</sup>, *Changjin Jung*<sup>1</sup>, *Jeungchan Lee*<sup>1</sup>, *Sanghoon Lee*<sup>2</sup>, *Woosuk Choi*<sup>3</sup>, *Kyungmo Park*<sup>1</sup>  
<sup>1</sup>Department of Biomedical Engineering, Kyung Hee University, Yongin-si, Korea, Republic of, <sup>2</sup>Department of Radiology, Kyung Hee East-West Neo Medical Center, Seoul, Korea, Republic of, <sup>3</sup>Department of Radiology, Kyung Hee University Medical Center, Seoul, Korea, Republic of
- 801 MT The timing of pre-supplementary motor area involvement in countermanding responses**  
*Ashwani Jha*<sup>1</sup>, *Parashkev Nachev*<sup>1</sup>, *Gareth Barnes*<sup>1</sup>, *Masud Husain*<sup>1</sup>, *Peter Brown*<sup>2</sup>, *Vladimir Litvak*<sup>1</sup>  
<sup>1</sup>UCL Institute of Neurology, London, United Kingdom, <sup>2</sup>University of Oxford, Oxford, United Kingdom
- 802 MT Increased cortico-subcortical functional connectivity during muscle fatigue**  
*Zhiguo Jiang*<sup>1</sup>, *Xiao-Feng Wang*<sup>2</sup>, *Guang Yue*<sup>3,4</sup>  
<sup>1</sup>Center for Neurobiology of Stress, University of California, Los Angeles, Los Angeles, United States, <sup>2</sup>Department of Quantitative Health Science, Cleveland Clinic, Cleveland, OH, <sup>3</sup>Department of Biomedical Engineering, and Physical Medicine & Rehabilitation Cleveland Clinic, Cleveland, OH, <sup>4</sup>Kessler Foundation Research Center, West Orange, NJ
- 803 MT Greater cortical signal is associated with fast than slow knee extensor activation and deactivation**  
*Katarzyna Kisiel-Sajewicz*<sup>1,2</sup>, *Vlodek Siemionow*<sup>2,3</sup>, *Alexandria Wyant*<sup>2</sup>, *Luduan Zhang*<sup>2</sup>, *Yin Fang*<sup>2</sup>, *Jarosław Marusiak*<sup>1</sup>, *Anna Jaskólska*<sup>1</sup>, *Artur Jaskólski*<sup>1</sup>, *Guang Yue*<sup>2,3,4</sup>  
<sup>1</sup>Department of Kinesiology, Faculty of Physiotherapy, University School of Physical Education, Wrocław, Poland, <sup>2</sup>Department of Biomedical Engineering, Cleveland Clinic, Cleveland, OH, <sup>3</sup>Department of Physical Medicine and Rehabilitation, Cleveland Clinic, Cleveland, OH, <sup>4</sup>Kessler Foundation Research Center, West Orange, NJ



## MOTOR BEHAVIOR

### Motor Planning and Execution, continued

- 804 MT Callosal correlates of hand motor performance in healthy right-handed children and adolescents**  
*Florian Kurth<sup>1</sup>, Emeran Mayer<sup>1</sup>, Arthur Toga<sup>2</sup>, Paul Thompson<sup>2</sup>, Eileen Luders<sup>2</sup>*  
<sup>1</sup>Center for Neurobiology of Stress, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>Laboratory of Neuro Imaging, UCLA School of Medicine, Los Angeles, CA
- 805 MT Effects of Tempo on Sensorimotor Synchronization**  
*Yongxiu Lai<sup>1</sup>, Jinnan Gong<sup>1</sup>, Cheng Luo<sup>1</sup>, Yin Tian<sup>1</sup>, Dezhong Yao<sup>1</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of MOE, School of Life Science and Technology, UESTC, ChengDu, China
- 806 MT Directional information flow between sensorimotor cortex and finger muscle during steady contraction**  
*Manyoel Lim<sup>1</sup>, June Sic Kim<sup>2</sup>, Chun Kee Chung<sup>3</sup>*  
<sup>1</sup>MEG Center, Seoul National University Hospital, Seoul, Korea, Republic of, <sup>2</sup>MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Seoul National University, Seoul, Korea, Republic of
- 807 MT Neuronal correlates of ankle movement: effects of laterality and age in 102 healthy individuals**  
*Patricia Linortner<sup>1</sup>, Christian Enzinger<sup>1</sup>, Franz Fazekas<sup>1</sup>, Margit Jehna<sup>1</sup>*  
<sup>1</sup>Medical University of Graz, Graz, Austria
- 808 MT Differential sensorimotor representation between two aspects of food intake: swallowing & occlusion**  
*Glad Mihai<sup>1</sup>, martin lotze<sup>1</sup>*  
<sup>1</sup>University of Greifswald, Greifswald, Germany
- 809 MT Hand posture influences the laterality judgments of rotated body pictures: A fMRI study**  
*Fangbing Qu<sup>1</sup>, Dequan Su<sup>1</sup>, Kena Wang<sup>1</sup>, Maoxue Wang<sup>2</sup>, Lianfang Shen<sup>2</sup>, Yuan Zhong<sup>1</sup>, Haosheng Ye<sup>3</sup>*  
<sup>1</sup>Department of Psychology, Nanjing Normal University, Nanjing, China, <sup>2</sup>Department of Medical Imaging, Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China, <sup>3</sup>School of Education, Guangzhou University, Guangzhou, Guangdong
- 810 MT Praxis and speech are co-lateralized in individuals with typical and atypical language dominance**  
*Guy Vingerhoets<sup>1</sup>, Ann-Sofie Alderweireldt<sup>1</sup>, Pieter Vandemaele<sup>1</sup>, Qing Cai<sup>1</sup>, Lise Van der Haegen<sup>1</sup>, Marc Brysbaert<sup>1</sup>, Eric Achten<sup>1</sup>*  
<sup>1</sup>Ghent University, Ghent, Belgium
- 811 MT Motor function after surgery: correlation between outcome and motor network connectivity**  
*Yukihiro Yamao<sup>1</sup>, Nobukatsu Sawamoto<sup>2</sup>, Takeharu Kunieda<sup>1</sup>, Sumiya Shibata<sup>1</sup>, Takayuki Kikuchi<sup>1</sup>, Riki Matsumoto<sup>3</sup>, Akio Ikeda<sup>3</sup>, Hidenao Fukuyama<sup>2</sup>, Susumu Miyamoto<sup>1</sup>*  
<sup>1</sup>Department of Neurosurgery, Graduate School of Medicine, Kyoto University, Kyoto, Japan, <sup>2</sup>Human Brain Research Center, Graduate School of Medicine, Kyoto University, Kyoto, Japan, <sup>3</sup>Department of Neurology, Graduate School of Medicine, Kyoto University, Kyoto, Japan
- 812 MT Behavioral entropy: low-frequency fluctuations in randomness of human action selection**  
*Jiaxiang Zhang<sup>1</sup>, Laura Hughes<sup>1,2</sup>, James Rowe<sup>1,2</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Cambridge University, Cambridge, United Kingdom

## MOTOR BEHAVIOR

### Visuo-Motor Functions

- 813 MT Multi-Voxel Pattern Analysis of the Ocular System during Saccades, Pursuit, Blinks, and Fixation**  
*Arian Ashourvan<sup>1</sup>, Nicholas Port<sup>1</sup>*  
<sup>1</sup>Indiana University, Bloomington, IN
- \*814 MT Ventral and Dorsal Stream Dissociation During Action Recognition in the Human Brain (O-T2)**  
*Giacomo Handjaras<sup>1</sup>, Giulio Bernardi<sup>1</sup>, Francesca Benuzzi<sup>2</sup>, Micaela Zucchelli<sup>2</sup>, Paolo Nichelli<sup>2</sup>, Pietro Pietrini<sup>1</sup>, Emiliano Ricciardi<sup>1</sup>*  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa Medical School, Pisa, Italy, <sup>2</sup>Department of Neurosciences, University of Modena and Reggio Emilia, Modena, Italy
- 815 MT Brain activation related to balancing objects on the feet — a pilot study**  
*Lukas Jaeger<sup>1,2</sup>, Christoph Hollnagel<sup>2</sup>, Severin Summermatter<sup>3</sup>, Laura Marchal-Crespo<sup>2</sup>, Lars Michels<sup>1,4</sup>, Robert Riener<sup>2,5</sup>, Spyros Kollias<sup>1</sup>*  
<sup>1</sup>Clinic for Neuroradiology, University Hospital Zurich, Zurich, Switzerland, <sup>2</sup>Sensory-Motor Systems Lab, Department of Health Sciences and Technology, ETH Zurich, Zurich, Switzerland, <sup>3</sup>Department for Information Technology and Electrical Engineering, ETH Zurich, Zurich, Switzerland, <sup>4</sup>Center of MR-Research, University Children's Hospital, Zurich, Switzerland, <sup>5</sup>Spinal Cord Injury Center, Balgrist University Hospital, Zurich, Switzerland
- 816 MT Hemispheric functional asymmetry in saccades and eyedness contribute to the 'leftie advantage'**  
*Laurent Petit<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Laure Zago<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Gael Jobard<sup>1</sup>, Marc Joliot<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France

## NEUROANATOMY

### Anatomy and Function Motor Behavior

- 817 MT High resolution retinotopic mapping of the visual cortex at 7 Tesla**  
*Jacqueline Atanelov<sup>1</sup>, Marion Munk<sup>2</sup>, Christopher Kiss<sup>2</sup>, Ewald Moser<sup>3</sup>, Christian Windischberger<sup>4</sup>*  
<sup>1</sup>MR Centre Of Excellence, Medical University Of Vienna, Vienna, Austria, <sup>2</sup>Department of Ophthalmology and Optometry, Vienna, Austria, <sup>3</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>4</sup>MR Center, Medical University of Vienna, Vienna, Austria
- 818 MT Influence of Maternal Mood on Neonatal Brain Anatomy: A Large-scale Diffusion Tensor Imaging Study**  
*Jordan Bai<sup>1</sup>, Anne Rifkin-Grabo<sup>2</sup>, Marielle Fortier<sup>3</sup>, Michael Meaney<sup>2,4</sup>, anqi qiu<sup>1,5,2</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>2</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore, <sup>3</sup>Radiology Department, KK Women's and Children's Hospital, Singapore, Singapore, <sup>4</sup>Departments of Psychiatry and Neurology & Neurosurgery, McGill University, Montreal, Canada, <sup>5</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore
- 819 MT Insular surface asymmetry predicts the lateralization of language and praxis**  
*Szymon Biduła<sup>1</sup>, Gregory Kroliczak<sup>2,3</sup>*  
<sup>1</sup>Cognitive Science Program, Adam Mickiewicz University, Pozna, Poland, <sup>2</sup>Institute of Psychology, Adam Mickiewicz University, Pozna, Poland, <sup>3</sup>Department of Psychology, University of Oregon, Eugene, OR
- 820 MT Inter-individual differences in grey matter volume related to visual short-term memory capacity**  
*Signe Bray<sup>1</sup>, Aiden Arnold<sup>1</sup>, Giuseppe Iaria<sup>1</sup>, Glenda MacQueen<sup>1</sup>*  
<sup>1</sup>University of Calgary, Calgary, Canada
- \*\*821 MT Blindness decreases cross-hemisphere striate resting-state functional connectivity**  
*Omar Butt<sup>1</sup>, Noah Benson<sup>1</sup>, Ritobrato Datta<sup>1</sup>, Geoffrey Aguirre<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, PA

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- 822 MT Receptor architectonics of visual areas FG1 and FG2 of the posterior fusiform gyrus**  
*Julian Caspers<sup>1,2</sup>, Nicola Palomero-Gallagher<sup>1</sup>, Axel Schleicher<sup>1</sup>, Svenja Caspers<sup>1</sup>, Mareike Bacha-Trams<sup>1</sup>, Karl Zilles<sup>1,2,3</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine (INM-2), Research Center Jülich, Jülich, Germany, <sup>2</sup>C. & O. Vogt Institute of Brain Research, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany, <sup>3</sup>JARA-BRAIN, Jülich-Aachen Research Alliance, Jülich, Germany
- \*823 MT Receptor-based parcellation of the human inferior parietal lobule and its implication for function (O-T3)**  
*Svenja Caspers<sup>1</sup>, Simon Eickhoff<sup>2</sup>, Axel Schleicher<sup>3</sup>, Nicola Palomero-Gallagher<sup>4</sup>, Mareike Bacha-Trams<sup>5</sup>, Angela Laird<sup>6</sup>, Peter Fox<sup>7</sup>, Katrin Amunts<sup>8</sup>, Karl Zilles<sup>9</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany, <sup>2</sup>Institute of Neuroscience and Medicine, INM-1, Research Center Jülich, Jülich, Germany, <sup>3</sup>Institute of Neuroscience and Medicine, INM-1, Research Centre Jülich, Jülich, Germany, <sup>4</sup>Institute of Neuroscience and Medicine, INM-2, Research Centre Jülich, Jülich, Germany, <sup>5</sup>Institute of Neuroscience and Medicine, INM-2, Research Centre Jülich, Jülich, Germany, <sup>6</sup>University of Texas Health Science Center San Antonio, San Antonio, United States, <sup>7</sup>Research Imaging Institute, San Antonio, TX, <sup>8</sup>Institute of Neuroscience and Medicine, INM-1, Research Centre Jülich, Jülich; Aachen, Germany, <sup>9</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany
- 824 MT Involvement of Both Grey and White Matter in Chronic Aphasia Syndromes**  
*Nina Dronkers<sup>1,2</sup>, And Turken<sup>1</sup>, Juliana Baldo<sup>1</sup>, Jenny Ogar<sup>1</sup>, Carl Ludy<sup>1</sup>, David Wilkins<sup>1</sup>, Robert Knight<sup>3</sup>*  
<sup>1</sup>VA Northern California Health Care System, Martinez, CA, United States, <sup>2</sup>University of California, Davis, CA, United States, <sup>3</sup>University of California, Berkeley, CA, United States
- 825 MT Local network dynamics and structural connectivity during task based activity in the brain**  
*Peter Hellyer<sup>1</sup>, Gregory Scott<sup>1</sup>, Murray Shanahan<sup>1</sup>, David Sharp<sup>1</sup>, Robert Leech<sup>1</sup>*  
<sup>1</sup>Imperial College London, London, United Kingdom
- \*826 MT High Resolution Reference Atlases of Pre-natal Human Brain (O-W3)**  
*John Hohmann<sup>1</sup>, Song-Lin Ding<sup>1</sup>, Josh Royall<sup>1</sup>, Benjamin Facer<sup>1</sup>, Michael Hawrylycz<sup>1</sup>, Allan Jones<sup>1</sup>, Conor Kelly<sup>1</sup>, Bergen McMurray<sup>1</sup>, David Sandman<sup>1</sup>, Susan Sunkin<sup>1</sup>, Ed Lein<sup>1</sup>*  
<sup>1</sup>Allen Institute for Brain Science, Seattle, WA, USA
- 827 MT Structural change in grey matter and white matter in Express saccade makers of Chinese population**  
*Xiaoyu Jiang<sup>1</sup>, Qiyong Gong<sup>1</sup>, Xiaoqi Huang<sup>1</sup>, Paul Knox<sup>2</sup>, Jingjie Zhong<sup>1</sup>, Qizhu Wu<sup>1</sup>, shiguang li<sup>1</sup>, Lihua Qiu<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center, Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>Division of Orthoptics, School of Health Sciences, University of Liverpool, Liverpool City, United Kingdom
- 828 MT Symptoms versus syndromes of acute aphasia in the context of the dual loop model**  
*Dorothee Kümmerer<sup>1</sup>, Tobias Bormann<sup>1</sup>, Volkmar Glauche<sup>1</sup>, Irina Mader<sup>2</sup>, Michel Rijntjes<sup>1</sup>, Dorothee Saur<sup>3</sup>, Björn Schelker<sup>1</sup>, Cornelius Weiller<sup>1</sup>*  
<sup>1</sup>Neurology, Freiburg, Germany, <sup>2</sup>Neuroradiology, Freiburg, Germany, <sup>3</sup>Neurology, Leipzig, Germany
- 829 MT Multiparametric Brainstem Segmentation using a Modified Multivariate Mixture of Gaussians**  
*Christian Lambert<sup>1</sup>, Antoine Lutti<sup>2</sup>, Gunther Helms<sup>3</sup>, Richard Frackowiak<sup>4</sup>, John Ashburner<sup>2</sup>*  
<sup>1</sup>St George's University of London, London, United Kingdom, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, UCL, London, United Kingdom, <sup>3</sup>MR-Research in Neurology and Psychiatry, Universitymedicine Goettingen, Goettingen, Germany, <sup>4</sup>LREN, Département des Neurosciences Cliniques, CHUV, Université de Lausanne, Lausanne, Switzerland, Lausanne, Switzerland
- 830 MT Fast Automated Cortical Surface Parcellation on Structural Magnetic Resonance Images**  
*Wen Li<sup>1</sup>, Vincent Magnotta<sup>2</sup>*  
<sup>1</sup>the University of Iowa, Iowa City, United States, <sup>2</sup>the University of Iowa, Iowa City, IA
- 831 MT Structural Connectivity for Human Bilateral Insulae Using Diffusion Tensor Imaging**  
*Chia-Feng Lu<sup>1</sup>, Shin Teng<sup>1</sup>, Hsiu-Mei Wu<sup>2,1</sup>, Wei-Yuan Huang<sup>3</sup>, Jen-Chuen Hsieh<sup>2,1</sup>, Yu-Te Wu<sup>1,2</sup>*  
<sup>1</sup>National Yang-Ming University, Taipei, Chinese-Taipei, <sup>2</sup>Taipei Veterans General Hospital, Taipei, Chinese-Taipei, <sup>3</sup>BinKun Women and Children's Hospital, Taoyuan, Chinese-Taipei

- 832 MT Effective Connectivity Detection Based on the Structurally Informed Probabilities**  
*Guoping Luo<sup>1</sup>, Zhijian Yao<sup>2</sup>, Qing Lu<sup>1</sup>*  
<sup>1</sup>Research Centre for Learning Science, Southeast University, Nanjing, China, <sup>2</sup>Academic Department of Psychiatry, Nanjing Brain Hospital, Nanjing Medical University, Nanjing, China
- 833 MT Exploring structure and function: The relationship between cortical thickness and fMRI BOLD activity**  
*Yating Lv<sup>1</sup>, Daniel Margulies<sup>1,2</sup>, Xinian Zuo<sup>3</sup>, Arno Villringer<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute For Human Cognitive And Brain Sciences, Leipzig, Germany, <sup>2</sup>Mind&Brain Institute, Humboldt-University, Berlin, Germany, <sup>3</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 834 MT Inferring human brain function from lesions: the history remapped**  
*Yee-Haur Mah<sup>1</sup>, Masud Husain<sup>1</sup>, Parashkev Nachev<sup>1</sup>*  
<sup>1</sup>Institute of Neurology, London, United Kingdom
- 835 MT Morphology and surface area of Heschl's gyri in 216 right and 198 left-handers**  
*Damien Marie<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Laurent Petit<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Gael Jobard<sup>1</sup>, Marc Joliot<sup>1</sup>, Laure Zago<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA University Bordeaux Segalen, Bordeaux, France
- 836 MT Reliability of primary motor cortex mapping: Neuronavigated TMS versus functional MRI**  
*Charlotte Nettekoven<sup>1</sup>, Carolin Weiss<sup>2</sup>, Volker Neuschmelting<sup>2</sup>, Andrea Eisenbeis<sup>2</sup>, Anne Rehme<sup>1</sup>, Roland Goldbrunner<sup>2</sup>, Christian Grefkes<sup>1,3</sup>*  
<sup>1</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>2</sup>Department of Neurosurgery, Cologne, Germany, <sup>3</sup>Department of Neurology, Cologne, Germany
- 837 MT Evaluation of structural plasticity in the S1 and M1 with PVL children using sequential MRI**  
*Yumi Okoshi<sup>1</sup>, Toshinori Kato<sup>2</sup>*  
<sup>1</sup>Tobu Rehabilitation Center, Tokyo, Japan, <sup>2</sup>Department of Brain Environmental Research, KATOBRAIN Co., Ltd., Tokyo, Japan
- 838 MT Multimodal and comparative analysis of monkey and human cingulate area 32**  
*Nicola Palomero-Gallagher<sup>1</sup>, Axel Schleicher<sup>1</sup>, Karl Zilles<sup>1,2,3</sup>, Brent Vogt<sup>1,4</sup>*  
<sup>1</sup>Research Centre Jülich, INM-2, Jülich, Germany, <sup>2</sup>University Duesseldorf, C & O Vogt Institute of Brain Research, Duesseldorf, Germany, <sup>3</sup>JARA-BRAIN, Jülich-Aachen Research Alliance, Jülich, Germany, <sup>4</sup>Cingulum Neurosciences Institute, Manlius, NY
- 839 MT Alterations of cortex thickness and ALFF in patients with posttraumatic stress disorder**  
*mingguo qiu<sup>1</sup>, ye zhang<sup>1</sup>, jingna zhang<sup>1</sup>, bing xie<sup>2</sup>*  
<sup>1</sup>Department of medical informatics and medical image, Third Military Medical University, chongqing, China, <sup>2</sup>Department of Radiology, Southwest Hospital, Third Military Medical University, chongqing, China
- 840 MT Neural Population Coding Links Human Brain Anatomy to Behavior**  
*Chen Song<sup>1</sup>, Dietrich Samuel Schwarzkopf<sup>1</sup>, Ryota Kanai<sup>1</sup>, Geraint Rees<sup>1</sup>*  
<sup>1</sup>University College London, London, United Kingdom
- 841 MT The WU-Minn Human Connectome Project - an Update**  
*David Van Essen<sup>1</sup>, Kamil Ugurbil<sup>2</sup>*  
<sup>1</sup>Washington University, N/A, <sup>2</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, United States
- 842 MT Three-dimensional MR imaging of lateral geniculate nucleus and the volume measurement**  
*Jin Hong Wang<sup>1</sup>, Chan Hong Moon<sup>2</sup>, Jung-Hwan Kim<sup>3</sup>, Kyongtae Ty Bae<sup>3</sup>*  
<sup>1</sup>University of Pittsburgh, Pittsburgh, United States, <sup>2</sup>Pittsburgh, Pittsburgh, PA, <sup>3</sup>University of Pittsburgh, Pittsburgh, PA
- 843 MT Subtyping Schizophrenia Subjects Using Working Memory and Approach Motivation Neuromaging Markers**  
*Lei Wang<sup>1</sup>, Derin Cobia<sup>1</sup>, James Reilly<sup>1</sup>, John Csernansky<sup>1</sup>, Hans Breiter<sup>2,1</sup>*  
<sup>1</sup>Northwestern University Feinberg School of Medicine, Chicago, IL, <sup>2</sup>Massachusetts General Hospital, Boston, MA
- 844 MT Can Taichi Reshape the Human Brain?: Increased Cortical Thickness for Masters**  
*Gaoxia Wei<sup>1</sup>, Xinian Zuo<sup>1</sup>, Jing Luo<sup>2</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Capital Normal University, Beijing, China

## NEUROANATOMY

### Anatomy and Function Motor Behavior, continued

- 845 MT Meta-analytical definition and functional connectivity of the human vestibular cortex**  
*Peter zu Eulenburg<sup>1</sup>, Svenja Caspers<sup>2</sup>, Christian Roski<sup>3</sup>, Simon Eickhoff<sup>4</sup>*  
<sup>1</sup>Department of Neurology, Johannes Gutenberg University, Mainz, Germany, <sup>2</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany, <sup>3</sup>Institute of Neuroscience and Medicine, INM-2, Research Centre Jülich, Jülich, Germany, <sup>4</sup>Research Center Jülich, Jülich, Germany

## NEUROANATOMY

### Brain Networks

- 846 MT Layer-specific Interhemispheric Functional Connectivity in Rat Somatosensory Cortices**  
*Kwangyeol Baek<sup>1</sup>, Woo Hyun Shim<sup>1</sup>, Jaeseung Jeong<sup>1</sup>, Harsha Radhakrishnan<sup>2</sup>, Bruce Rosen<sup>3</sup>, David Boas<sup>3</sup>, Maria Angela Franceschini<sup>3</sup>, Young Kim<sup>3</sup>*  
<sup>1</sup>Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of, <sup>2</sup>Pennsylvania State University, University Park, PA, <sup>3</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, Charlestown, MA
- 847 MT Altered brain networks and prediction of altered neurodevelopment in infants with IUGR**  
*Dafnis Batalle<sup>1,2,3</sup>, Elisenda Eixarch<sup>1,2,3</sup>, Emma Muñoz-Moreno<sup>1,2,3</sup>, Francesc Figueras<sup>1,2,3</sup>, Ivan Amat-Roldan<sup>1,2,3</sup>, Eduard Gratacos<sup>1,2,3</sup>*  
<sup>1</sup>Department of Maternal-Fetal Medicine, ICGON, Hospital Clínic of Barcelona, Barcelona, Spain, <sup>2</sup>Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), University of Barcelona, Barcelona, Spain, <sup>3</sup>Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Barcelona, Spain
- 848 MT Anatomical and effective connectivity segmentation of occipito-temporal face selective area**  
*Maria Antonieta Bobes<sup>1</sup>, Yimay Sosa<sup>1</sup>, Mitchell Valdes-Sosa<sup>1</sup>, Yusniel Santos<sup>1</sup>, Iliana Quiñones<sup>1</sup>, Yasser Iturria<sup>1</sup>, Jose Sanchez-Bornot<sup>1</sup>, Pedro A. Valdes-Sosa<sup>1</sup>, Rui Zhang<sup>2</sup>, Pascal Belin<sup>3</sup>*  
<sup>1</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba, <sup>2</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>3</sup>Voice Neurocognition Laboratory, University of Glasgow, Glasgow, United Kingdom

- 849 MT Principal networks: A new approach to graph-based neural connectivity analysis**  
*Jonathan Clayden<sup>1</sup>*  
<sup>1</sup>University College London, London, United Kingdom
- 850 MT Disrupted Topological Properties of Brain Network in Psychogenic Non-epilepsy Seizures**  
*Ju-Rong Ding<sup>1</sup>, Dongmei An<sup>2</sup>, Wei Liao<sup>1</sup>, Dong Zhou<sup>2</sup>, Olaf Sporns<sup>3</sup>, HuaFu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>West China Hospital, Chengdu, China, <sup>3</sup>Indiana University, Bloomington, United States
- 851 MT Enhanced functional connectivity and small-world organization in the brain of chess experts**  
*Xujun Duan<sup>1</sup>, Zhiliang Long<sup>1</sup>, Ju-Rong Ding<sup>1</sup>, Wei Liao<sup>1</sup>, Qiyong Gong<sup>2</sup>, HuaFu Chen<sup>1</sup>*  
<sup>1</sup>School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>Huaxi Magnetic Resonance Research Center, West China Hospital, Sichuan University, Chengdu, China
- 852 MT Mental energy – an fMRI investigation of the anterior insular and the anterior cingulate network**  
*Maria Engstrom<sup>1</sup>, A D Craig<sup>2</sup>, Thomas Karlsson<sup>1</sup>, Anne-Marie Landtblom<sup>1</sup>*  
<sup>1</sup>Linköping University, Linköping, Sweden, <sup>2</sup>Barrow Neurological Institute, Phoenix, AZ
- 853 MT Partition the human brain with binary trees using simulated annealing**  
*Johnson GadElkarim<sup>1,2</sup>, Dan Schonfeld<sup>1</sup>, Olusola Ajilore<sup>2</sup>, Jamie Feusner<sup>3</sup>, Donatello Arienzo<sup>3</sup>, Liang Zhan<sup>4</sup>, Teena Moody<sup>3</sup>, Anand Kumar<sup>2</sup>, Alex Leow<sup>2</sup>*  
<sup>1</sup>Department of Electrical and Computer Engineering, University of Illinois-Chicago, Chicago, IL, <sup>2</sup>Department of Psychiatry, University of Illinois-Chicago, Chicago, IL, <sup>3</sup>UCLA Department of Psychiatry and Biobehavioral Sciences, Los Angeles, CA, <sup>4</sup>Laboratory of Neuro Imaging, UCLA School of Medicine, Los Angeles, CA
- 854 MT Attention network of healthy highly educated subjects in attention training: studied by rfMRI and DTI**  
*Bob Hou<sup>1</sup>, Alison Smith<sup>2</sup>, Julie Brefczynski-Lewis<sup>3</sup>, Jason Chong<sup>2</sup>, Deborah Kerr<sup>2</sup>, Jennifer Wiener<sup>2</sup>, Marc Haut<sup>2</sup>*  
<sup>1</sup>Radiology, West Virginia University, Morgantown, WV, <sup>2</sup>Behavioral Medicine & Psychiatry, West Virginia University, Morgantown, WV, United States, <sup>3</sup>Physiology & Radiology, West Virginia University, Morgantown, WV, United States

- 855 MT Mapping the Seizure-Association Neural Networks by Cortico-Cortical Evoked Potential Study**  
*Yue Loong Hsin<sup>1</sup>, Jin-Chern Chiou<sup>2</sup>, Tomor Harnod<sup>1</sup>, Chien-Chun Huang<sup>2</sup>*  
<sup>1</sup>Epilepsy Center, Buddhist Tzu Chi General Hospital, Hualien, Chinese Taipei, <sup>2</sup>Biomedical Electronics Translational Research Center, National Chiao Tung University, Hsinchu, Chinese Taipei
- 856 MT Disrupted Cortical Connectivity in the Aging HIV+ Population**  
*Neda Jahanshad<sup>1</sup>, Victor Valcour<sup>2</sup>, Talia Nir<sup>1</sup>, Edgar Busovaca<sup>2</sup>, Krista Nicolas<sup>2</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>Dept. of Neurology and Division of Geriatric Medicine UCSF, San Francisco, CA
- 857 MT A cerebellocentric approach to brain parcellation**  
*Judy Kipping<sup>1</sup>, Alexander Schaefer<sup>2</sup>, Arno Villringer<sup>3</sup>, Daniel Margulies<sup>2</sup>*  
<sup>1</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 858 MT Mapping the human intelligence: Resting-state network analysis of Mensa members**  
*Jeong Hoon Ko<sup>1</sup>, Shin-ae Yoon<sup>2</sup>, Bumhee Park<sup>2</sup>, Maeng-Keun Oh<sup>2</sup>, Suhkyung Kim<sup>2</sup>, Hae-Jeong Park<sup>3</sup>*  
<sup>1</sup>Department of Diagnostic Radiology, Nuclear Medicine and Research Institute of Radiological Science, Seoul, Korea, Republic of, <sup>2</sup>Department of Radiology and Division of Nuclear Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 859 MT Thalamic lesion disrupts inter-hemispheric connectivity: a resting state study**  
*Johnny King Lau<sup>1</sup>, Carmel Mevorach<sup>1</sup>, Stephen Mayhew<sup>1</sup>, Keiko Kitadono<sup>1</sup>, Glyn Humphreys<sup>2</sup>, Pia Rotshtein<sup>1</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>University of Oxford, Oxford, United Kingdom
- 860 MT Structural Complexity of Communication across Brain Regions during General anesthesia**  
*uncheol lee<sup>1</sup>, Seung-Woo Ku<sup>2</sup>, George A. Mashour<sup>1</sup>*  
<sup>1</sup>Division of Neuroanesthesiology, Department of anesthesiology, University of Michigan Medical School, Ann Arbor, MI, United States, <sup>2</sup>Department of Anesthesiology and Pain Medicine, Asan Medical Center, University of Ulsan College of, Seoul, Korea, Republic of
- 861 MT The network abstraction and the reality of conduction delay**  
*John Lewis<sup>1</sup>, Miyoko Onish<sup>2</sup>, Katie Travis<sup>3</sup>, Rebecca Theilmann<sup>4</sup>, Jeanne Townsend<sup>2</sup>, Alan Evans<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Quebec, <sup>2</sup>Research on Aging and Development Laboratory, UC San Diego, La Jolla, CA, <sup>3</sup>Department of Neurosciences, UC San Diego, La Jolla, CA, <sup>4</sup>Department of Radiology, UC San Diego, La Jolla, CA
- 862 MT Alterations of Thalamic Functional Connectivity at Meditation State: a Resting-State MRI study**  
*Chia-Wei Li<sup>1</sup>, Chao-Hsien Hsieh<sup>2</sup>, Jyh-Horng Chen<sup>1</sup>*  
<sup>1</sup>Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Chinese Taipei, <sup>2</sup>Neurobiology and Cognitive Science Center, National Taiwan University, Taipei, Chinese Taipei
- 863 MT Probing Neural Networks Involved in Central Regulation of Heart Rate During Handgrip**  
*Jinqi Li<sup>1</sup>, Michael Riedel<sup>1</sup>, Karl Li<sup>1</sup>, Claudia Huerta<sup>1</sup>, Hsiao-Ying Wey<sup>2</sup>, Jacob Eisenrich<sup>1</sup>, Timothy Duong<sup>1</sup>*  
<sup>1</sup>UT Health Science Center at San Antonio, San Antonio, TX, <sup>2</sup>Harvard University, Cambridge, MA
- 864 MT Radiation-induced changes in white matter anatomical networks in nasopharyngeal carcinoma patients**  
*Shumei Li<sup>1</sup>, Li Li<sup>2</sup>, Bin Wang<sup>1</sup>, Lizhi Liu<sup>2</sup>, Xiaoling Peng<sup>1</sup>, Mofa Gu<sup>2</sup>, Yong Xu<sup>1</sup>, Rui Zhong<sup>2</sup>, Ruibin Zhang<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
<sup>1</sup>Center for the Study of Applied Psychology, Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou, China, <sup>2</sup>State Key Laboratory of Oncology in South China; Cancer Center, Sun Yat-sen University, Guangzhou, China
- 865 MT Studying the Topological Organization of the human networks using Cerebral Blood Flow measurements**  
*Lester Melie-Garcia<sup>1</sup>, Carlos Sánchez-Catasús<sup>2</sup>, Gretel Sanabria-Diaz<sup>1</sup>, Pedro A. Valdes-Sosa<sup>1</sup>*  
<sup>1</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba, <sup>2</sup>International Center for Neurological Restoration, Ciudad Habana, Cuba

- 866 MT Left and Right Dominant Functional Connectivity Networks**  
*Jared Nielsen<sup>1</sup>, Michael Ferguson<sup>2</sup>, Jeffrey Anderson<sup>3</sup>*  
<sup>1</sup>University of Utah, N/A, <sup>2</sup>University of Utah, Salt Lake City, UT, <sup>3</sup>University of Utah, Salt Lake City, United States
- 867 MT The Structural Connectome of the Human Brain in Agenesis of the Corpus Callosum**  
*Julia Owen<sup>1</sup>, Yi-Ou Li<sup>2</sup>, Polina Bukshpun<sup>1</sup>, Hana Lee<sup>1</sup>, Elliot Sherr<sup>1</sup>, Pratik Mukherjee<sup>1</sup>*  
<sup>1</sup>University of California, San Francisco, San Francisco, United States, <sup>2</sup>University of California, San Francisco, San Francisco, CA
- 868 MT Altered resting-state brain functional network in HIV-associated neurocognitive disorders**  
*Xiaoling Peng<sup>1</sup>, Yongjuan Su<sup>2</sup>, Yuanyuan Fan<sup>1</sup>, Wenhui Lun<sup>2</sup>, Delong Zhang<sup>1</sup>, Jun Yang<sup>2</sup>, Shumei Li<sup>1</sup>, Bin Wang<sup>1</sup>, Junjing Wang<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
<sup>1</sup>Center for the Study of Applied Psychology, Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou 510631, China, <sup>2</sup>Department of Radiology, Beijing Ditan Hospital, Capital Medical University, Beijing 100015, China
- 869 MT Intracranial (icEEG)-fMRI: mapping brain networks related with Alpha and Beta in sensorimotor cortex**  
*Suejen Perani<sup>1</sup>, Roman Rodionov<sup>2,3</sup>, Serge Vulliemoz<sup>4,5</sup>, Louis Lemieux<sup>6</sup>, David Carmichael<sup>7</sup>*  
<sup>1</sup>UCL, London, United Kingdom, <sup>2</sup>UCL Institute of Neurology, London, United Kingdom, <sup>3</sup>National Hospital for Neurology and Neurosurgery, London, United Kingdom, <sup>4</sup>University of Geneva, Geneva, Switzerland, <sup>5</sup>UCL Institute of Neurology, London, United Kingdom, <sup>6</sup>Institute of Neurology, London, United Kingdom, <sup>7</sup>University College London, London, United Kingdom
- \*870 MT A cross-modal, cross-species comparison of connectivity analyses in the primate cortex (O-T3)**  
*Andrew Reid<sup>1</sup>, Gleb Bezgin<sup>2</sup>, Budhachandra Khundrakpam<sup>3</sup>, Anthony McIntosh<sup>4</sup>, Alan Evans<sup>5</sup>*  
<sup>1</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Canada, <sup>2</sup>Rotman Research Institute, Toronto, Canada, <sup>3</sup>Montreal Neurological Institute, Montreal, Canada, <sup>4</sup>Rotman Research Institute, Toronto, Ontario, <sup>5</sup>Montreal Neurological Institute, Montreal, Quebec
- 871 MT Inferred modularity in brain networks can be an artifact of mapping resolution**  
*Somwrita Sarkar<sup>1</sup>, Peter Robinson<sup>1</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia
- 872 MT The modular organization of aesthetic experience in painters using resting-state fMRI**  
*Shin Teng<sup>1</sup>, Chia-Feng Lu<sup>1</sup>, Wei-Yuan Huang<sup>2</sup>, Jen-Chuen Hsieh<sup>3,1</sup>, Yu-Te Wu<sup>1,3</sup>*  
<sup>1</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>BinKun Women and Children's Hospital, Taoyuan, Chinese Taipei, <sup>3</sup>Taipei Veterans General Hospital, Taipei, Chinese Taipei
- 873 MT Right spatial neglect and fronto-parietal disconnection in patients with left hemisphere stroke**  
*Monica N. Toba<sup>1,2,3</sup>, Marie CHUPIN<sup>1</sup>, Francesca Ciaraffa<sup>4</sup>, Frederique Poncet<sup>5</sup>, Pascale Pradat-Diehl<sup>5,6</sup>, Paolo Bartolomeo<sup>1,4</sup>*  
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- 874 MT Specific lesional patterns leading to visuo-spatial neglect: Cases from a rTMS clinical trial**  
*Monica N. Toba<sup>1,2,3</sup>, Federica Rastelli<sup>1,3</sup>, Corinne Tchokothé<sup>4,3</sup>, Pascale Pradat-Diehl<sup>5,3,6</sup>, Antoni Valero-Cabre<sup>1,7,3</sup>*  
<sup>1</sup>Inserm-UPMC UMRS 975, CR-ICM, Centre de Recherche de l'Institut du Cerveau et de la Moelle Epinière, Paris, France, <sup>2</sup>Université de Savoie, Chambéry, France, <sup>3</sup>Project PHRC Régional NEGLECT, DRCD AP-HP, Paris, France, <sup>4</sup>Unité de Recherche Clinique, Hôpital Fernand Widal-Lariboisière, Paris, France, <sup>5</sup>AP-HP, Pitié-Salpêtrière, Service de Médecine Physique et Réadaptation, Paris, France, <sup>6</sup>Inserm, U731, Paris, France, <sup>7</sup>Boston University School of Medicine, Boston, MA
- 875 MT What goes up must come down: REM-sleep resets amygdala resting state connectivity**  
*Els van der Helm<sup>1</sup>, Stephanie Greer<sup>1</sup>, Matthew Walker<sup>2</sup>*  
<sup>1</sup>University of California Berkeley, United States, <sup>2</sup>University of California Berkeley, United States

- 876 MT Effects of tractographic parameters on the topological measures of the brain anatomical networks**  
*Bin Wang<sup>1</sup>, Shumei Li<sup>1</sup>, Jingtai Liu<sup>1</sup>, Ruibin Zhang<sup>1</sup>, Yong Xu<sup>1</sup>, Gaolang Gong<sup>2</sup>, Yong He<sup>2</sup>, Ruiwang Huang<sup>1</sup>*  
<sup>1</sup>Center for the Study of Applied Psychology, Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou, China, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 877 MT Altered network efficiency of the default-mode network in patients with amnesic MCI**  
*Liang Wang<sup>1,2</sup>, He Li<sup>3</sup>, Ying Liang<sup>2</sup>, Junying Zhang<sup>2</sup>, Yao Zhang<sup>2</sup>, Tianjiao Feng<sup>2</sup>, Dantao Peng<sup>2</sup>, Ni Shu<sup>2</sup>, Yongyan Wang<sup>3</sup>, Zhanjun Zhang<sup>2</sup>*  
<sup>1</sup>Princeton University, Princeton, United States, <sup>2</sup>Beijing Normal University, Beijing, China, <sup>3</sup>China Academy of Traditional Chinese Medicine, Beijing, China
- 878 MT Age-related differences in small-world functional brain networks in healthy children**  
*Kai Wu<sup>1</sup>, Yasuyuki Taki<sup>1</sup>, Kazunori Sato<sup>1</sup>, Hiroshi Hashizume<sup>1</sup>, Yuko Sassa<sup>1</sup>, Hikaru Takeuchi<sup>1</sup>, Yong He<sup>2</sup>, Alan Evans<sup>3</sup>, Hiroshi Fukuda<sup>1</sup>, Ryuta Kawashima<sup>1</sup>*  
<sup>1</sup>Institute of Development, Aging and Cancer, Tohoku University, Sendai, Miyagi, Japan, <sup>2</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China, <sup>3</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec
- 879 MT Decreased topological efficiency reveals disrupted human brain anatomical networks in TLE**  
*Yong Xu<sup>1</sup>, Shijun Qiu<sup>2</sup>, Junjing Wang<sup>1</sup>, Zhenyin Liu<sup>2</sup>, Ruibin Zhang<sup>1</sup>, Wensheng Wang<sup>3</sup>, Shumei Li<sup>1</sup>, Lina Cheng<sup>3</sup>, Bin Wang<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
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- 880 MT Distinct synchronous dynamic change of brain intra-modular sustains post-acupuncture effect**  
*Delong Zhang<sup>1</sup>, Bo Liu<sup>2,3</sup>, Xiaoling Peng<sup>1</sup>, Jun Chen<sup>2,3</sup>, Yuanyuan Fan<sup>1</sup>, Xian Liu<sup>2,3</sup>, Jingjing Ma<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
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- 881 MT Rapidly Developing Functional Circuits and Their Relation to Executive Functions in Early Childhood**  
*Jidan Zhong<sup>1</sup>, anqi qiu<sup>1,2,3</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, <sup>2</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore, <sup>3</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore
- 882 MT Development of Intrinsic Functional Networks from Early Childhood to Adults**  
*Jidan Zhong<sup>1</sup>, anqi qiu<sup>1,2,3</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, <sup>2</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore, <sup>3</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore



# NEUROANATOMY

## Cortical Anatomy and Segregation

- 883 MT A computational pipeline for subject-specific, ultra-high resolution cortical analysis at 7 Tesla**  
*Pierre-Louis Bazin<sup>1</sup>, Marcel Weiss<sup>1</sup>, Juliane Dinse<sup>2</sup>, Andreas Schaefer<sup>1</sup>, Robert Trampel<sup>1</sup>, Robert Turner<sup>3</sup>*  
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- \*884 MT Two new cytoarchitectonic areas of the human frontal pole (O-T3)**  
*Sebastian Bludau<sup>1</sup>, Simon Eickhoff<sup>1,2,3</sup>, Axel Schleicher<sup>1</sup>, Hartmut Mohlberg<sup>1</sup>, Karl Zilles<sup>4,5,2</sup>, Katrin Amunts<sup>1,2,6</sup>*  
<sup>1</sup>Research Centre Juelich - Institute of Neuroscience and Medicine, INM-1, Juelich, Germany, <sup>2</sup>JARA-BRAIN, Juelich – Aachen Research Alliance, Juelich, Aachen, Germany, <sup>3</sup>Institute for Clinical Neuroscience and Medical Psychology, Heinrich Heine University, Duesseldorf, Germany, <sup>4</sup>Research Centre Juelich - Institute of Neuroscience and Medicine, INM-2, Juelich, Germany, <sup>5</sup>C. and O. Vogt Institute for Brain Research, Heinrich Heine University, Duesseldorf, Germany, <sup>6</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany
- 885 MT Receptorarchitectonic mapping of four new areas in the inferior frontal sulcus of the human brain**  
*Sabine Helene Bradler<sup>1</sup>, Nicola Palomero-Gallagher<sup>1</sup>, Axel Schleicher<sup>1</sup>, Karl Zilles<sup>1,2</sup>, Katrin Amunts<sup>1,3</sup>*  
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- 886 MT Towards Parcellation of Human Cortex using Bi-exponential Analysis of Diffusion-Weighted Signal**  
*Bibek Dhital<sup>1</sup>, Pierre-Louis Bazin<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 887 MT Structural adaptation of human temporal cortex to hearing loss**  
*Guosheng Ding<sup>1</sup>, Yanyan Li<sup>2</sup>, Yong He<sup>3</sup>, Gaolang Gong<sup>4</sup>, Lijuan Zou<sup>5</sup>, Danling Peng<sup>1</sup>, James Booth<sup>6</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>The key lab of cognitive neuroscience and learning, Beijing normal university, Beijing, China, <sup>3</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China, <sup>4</sup>Beijing Normal University, Beijing, China, <sup>5</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>6</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL
- 888 MT Tractography-based Parcellation of Human Temporal Pole into Three Sub-regions**  
*Lingzhong Fan<sup>1</sup>, Jiaojian Wang<sup>2</sup>, Yu Zhang<sup>1</sup>, Wei Han<sup>3</sup>, Chunshui Yu<sup>3</sup>, Tianzi Jiang<sup>1</sup>*  
<sup>1</sup>Institute Of Automation, Chinese Academy Of Sciences, Beijing, China, <sup>2</sup>Key Laboratory for NeuroInformation of Ministry of Education, Chengdu, China, <sup>3</sup>Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China
- \*889 MT Surface Gradient Comparison of Myelin and fMRI: Architectonic and Functional Border Co-localization (O-T3)**  
*Matthew Glasser<sup>1</sup>, Gregory Burgess<sup>1</sup>, Junqian Xu<sup>2</sup>, Yizheng He<sup>1</sup>, Deanna Barch<sup>1</sup>, Timothy Coalson<sup>1</sup>, Bruce Fischl<sup>3</sup>, Michael Harms<sup>1</sup>, Mark Jenkinson<sup>4</sup>, Brian Patenaude<sup>5</sup>, Steven Petersen<sup>6</sup>, Bradley Schlaggar<sup>6</sup>, Stephen Smith<sup>7</sup>, Mark Woolrich<sup>4</sup>, Essa Yacoub<sup>8</sup>, David Van Essen<sup>6</sup>*  
<sup>1</sup>Washington University Medical School, St. Louis, MO, <sup>2</sup>Univeristy of Minnesota, Minneapolis, MN, <sup>3</sup>Massachusetts General Hospital, Boston, MA, <sup>4</sup>University of Oxford, Oxford, United Kingdom, <sup>5</sup>Stanford University, Stanford, CA, <sup>6</sup>Washington University, St. Louis, MO, <sup>7</sup>FMRIB, Oxford University, Oxford, United Kingdom, <sup>8</sup>University of Minnesota, Minneapolis, United States
- 890 MT Cortical Laminar Ageing Effects Revealed By Quantitative Parameter Maps**  
*Chloe Hutton<sup>1</sup>, Antoine Lutti<sup>1</sup>, Christian Lambert<sup>1</sup>, Rumana Chowdhury<sup>1</sup>, Thomas Fitzgerald<sup>1</sup>, Steve Fleming<sup>2</sup>, Nikolaus Weiskopf<sup>1</sup>*  
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>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

- 891 MT Receptor- and cytoarchitecture of the human hippocampal formation – a multimodal mapping approach**  
*Olga Keddo<sup>1</sup>, Karl Zilles<sup>1,2,3</sup>, Nicola Palomero-Gallagher<sup>1</sup>, Mehmet Eylem Kirlangic<sup>1,4</sup>, Hartmut Mohlberg<sup>1</sup>, Katrin Amunts<sup>1,3,4</sup>*  
<sup>1</sup>Institute of Neurosciences and Medicine (INM-1 and INM-2), Research Centre Juelich, Jülich, Germany, <sup>2</sup>C.&O. Vogt Institute of Brain Research, Düsseldorf University, Düsseldorf, Germany, <sup>3</sup>Jülich-Aachen Research Alliance (JARA), RWTH Aachen University, Aachen, Germany, <sup>4</sup>Department of Psychiatry and Psychotherapy, RWTH Aachen University, Aachen, Germany
- 892 MT Automated identification of human brain features using multi-atlas, registration-based segmentation**  
*Arno Klein<sup>1</sup>, Satrajit Ghosh<sup>2</sup>, Forrest Bao<sup>3</sup>, Joachim Giard<sup>4</sup>, Eliezer Stavsky<sup>1</sup>, Yrjö Häme<sup>1</sup>, Ramin Parsey<sup>1</sup>*  
<sup>1</sup>Columbia University, New York, NY, <sup>2</sup>MIT, Cambridge, MA, <sup>3</sup>Texas Tech University, Lubbock, TX, <sup>4</sup>Univ. Catholique de Louvain, Louvain, Belgium
- 893 MT Layer-dependent orientational structure in primary human somatosensory (S1) and motor cortices (M1)**  
*Christoph Leuze<sup>1</sup>, Alfred Anwander<sup>1</sup>, Pierre-Louis Bazin<sup>1</sup>, Till Riffert<sup>1</sup>, Stefan Geyer<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 894 MT The Cortical Morphological Variations of Express Saccade Makers**  
*shiguang li<sup>1</sup>, Paul C Knox<sup>2</sup>, Jingjie Zhong<sup>1</sup>, Lihua Qiu<sup>1</sup>, Xiaoyu Jiang<sup>1</sup>, Qizhu Wu<sup>1</sup>, Qiyong Gong<sup>1</sup>, xiaoqi huang<sup>1</sup>*  
<sup>1</sup>Huaxi Magnetic Resonance Research Center, West China Hospital, Sichuan University, Chengdu, China, <sup>2</sup>Division of Orthoptics, School of Health Sciences, University of Liverpool, Liverpool, United Kingdom
- 895 MT Connectivity concordance for characterizing consistent subregions of the prefrontal cortex**  
*Daniel Margulies<sup>1</sup>, Alexander Schäfer<sup>1</sup>, Michael Petrides<sup>2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Montreal Neurological Institute, Montreal, Canada
- 896 MT Discriminating Cortical Regions Using HARDI Data**  
*Zoltan Nagy<sup>1</sup>, Daniel Alexander<sup>2</sup>, David Thomas<sup>3</sup>, Nikolaus Weiskopf<sup>1</sup>, Martin Sereno<sup>4</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, London, United Kingdom, <sup>2</sup>Centre for Medical Image Computing, Department of Computer Science, UCL, London, United Kingdom, <sup>3</sup>Department of Brain Repair and Rehabilitation, UCL Institute of Neurology, London, United Kingdom, <sup>4</sup>Cognitive, Perceptual and Brain Sciences, UCL & Department of Psychology, Birkbeck Collage, London, United Kingdom
- 897 MT Iron and Myelin in Human Brain Tissue: Histology, PIXE and Ultra-High-Field MRI Susceptibility Maps**  
*Carsten Stueber<sup>1</sup>, Andreas Schaefer<sup>1</sup>, Miriam Waehnert<sup>1</sup>, Jürgen Vogt<sup>2</sup>, Katja Reimann<sup>1</sup>, Stefan Geyer<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Dept. Neurophysics, Leipzig, Germany, <sup>2</sup>LIPSION Laboratory, Institute of Nuclear Solid State Physics, University of Leipzig, Leipzig, Germany
- 898 MT Do cortical layers conform to the Laplace equation?**  
*Miriam Waehnert<sup>1</sup>, Marcel Weiss<sup>1</sup>, Markus Streicher<sup>1</sup>, Pierre-Louis Bazin<sup>1</sup>, Stefan Geyer<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

## NEUROANATOMY

### Subcortical Structures

- 899 MT Registration of the digital Morel atlas to the MNI brain template for assignment of thalamic lesions**  
*Gunther Helms<sup>1</sup>, Peter Dechent<sup>1</sup>, Melanie Wilke<sup>1</sup>*  
<sup>1</sup>Dept. of Cognitive Neurology, University Medicine Göttingen, Göttingen, Germany
- 900 MT Brain structure changes in normal ageing: a longitudinal study**  
*Jiyang Jiang<sup>1</sup>, Perminder Sachdev<sup>1,2</sup>, Tao Liu<sup>1</sup>, Lin Zhuang<sup>1</sup>, Chao Suo<sup>1</sup>, Simone Reppermund<sup>1</sup>, Julian Trollor<sup>3,1</sup>, Henry Brodaty<sup>1,4,5</sup>, Wei Wen<sup>1,2</sup>*  
<sup>1</sup>Brain & Ageing Research Program, School of Psychiatry, University of New South Wales, Sydney, Australia, <sup>2</sup>Neuropsychiatric Institute, Prince of Wales Hospital, Randwick, Australia, <sup>3</sup>Department of Developmental Disability Neuropsychiatry, School of Psychiatry, UNSW, Sydney, Australia, <sup>4</sup>Academic Department for Old Age Psychiatry, Prince of Wales Hospital, Randwick, Australia, <sup>5</sup>Primary Dementia Collaborative Research Centre, School of Psychiatry, University of New South Wales, Sydney, Australia
- 901 MT 3d Surface Shape Analysis of the Corpus Callosum in Premature Neonates**  
*Yalin Wang<sup>1</sup>, Ashok Panigrahy<sup>2</sup>, Jie Shi<sup>3</sup>, Rafael Ceschin<sup>4</sup>, Zhi Nie<sup>5</sup>, Marvin Nelson<sup>6</sup>, Natasha Lepore<sup>6</sup>*  
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## NEUROANATOMY

### White Matter Anatomy, Fiber Pathways and Connectivity

- 902 MT Effects of maturation and heritability on the lateralization of the perisylvian language pathways**  
*Sanja Budisavljevic<sup>1</sup>, Flavio Dell'Acqua<sup>2</sup>, Fruhling Rijdsdijk<sup>3</sup>, Fergus Kane<sup>4</sup>, Marco Picchioni<sup>4</sup>, Philip McGuire<sup>4</sup>, Robin Murray<sup>4</sup>, Marco Catani<sup>1</sup>*  
<sup>1</sup>Natbrainlab, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>2</sup>Natbrainlab, Centre for Neuroimaging Sciences, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>3</sup>SGDP Centre, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>4</sup>Institute of Psychiatry, King's College London, London, United Kingdom
- 903 MT Real-Time Fiber Tractography: Interactive Parameter Tuning for Neurosurgical Interventions**  
*Maxime Chamberland<sup>1,2</sup>, David Fortin<sup>3,2</sup>, Maxime Descoteaux<sup>1,2</sup>*  
<sup>1</sup>Sherbrooke Connectivity Imaging Laboratory (SCIL), Sherbrooke, Canada, <sup>2</sup>Surgery department, Université de Sherbrooke, Sherbrooke, Canada, <sup>3</sup>Centre de Recherche Clinique Etienne Le Bel, Sherbrooke, Canada
- 904 MT Toward a Normative Measure of White Matter Abnormalities during the Adult Lifespan**  
*Paul Corbitt<sup>1</sup>, Malle Tagamet<sup>2</sup>, Peter Kochunov<sup>3</sup>, Joanna Curran<sup>4</sup>, Rene Olvera<sup>5</sup>, John Blangero<sup>6</sup>, David Glahn<sup>7</sup>*  
<sup>1</sup>University of Maryland Baltimore County, Baltimore, MD, <sup>2</sup>University of Maryland, Baltimore, United States, <sup>3</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>4</sup>Texas Biomedical Foundation, San Antonio, TX, <sup>5</sup>UTHSCSA, San Antonio, United States, <sup>6</sup>Texas Biomedical Foundation, San Antonio, United States, <sup>7</sup>Yale University, Hartford, United States
- 905 MT Development of the Structural Connectome Between Ages 12 and 30: An N=467 DTI Study**  
*Emily Dennis<sup>1</sup>, Neda Jahanshad<sup>2</sup>, Arthur Toga<sup>2</sup>, Kori Johnson<sup>3,4</sup>, Katie McMahon<sup>5</sup>, Greig de Zubicaray<sup>6</sup>, Nicholas Martin<sup>4</sup>, Ian Hickie<sup>7</sup>, Margaret Wright<sup>4,6</sup>, Paul Thompson<sup>2</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>2</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>3</sup>Center for Advanced Imaging, University of Queensland, Brisbane, Australia, <sup>4</sup>Queensland Institute of Medical Research, Brisbane, Australia, <sup>5</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>6</sup>School of Psychology, University of Queensland, Brisbane, Australia, <sup>7</sup>Brain and Mind Research Institute, University of Sydney, Sydney, Australia

- 906 MT Sex Differences in the Human Structural Connectome**  
*Emily Dennis*<sup>1</sup>, *Neda Jahanshad*<sup>2</sup>, *Arthur Toga*<sup>2</sup>, *Kori Johnson*<sup>3,4</sup>, *Katie McMahon*<sup>5</sup>, *Greig de Zubicaray*<sup>6</sup>, *Nicholas Martin*<sup>3</sup>, *Ian Hickie*<sup>7</sup>, *Margaret Wright*<sup>3,6</sup>, *Paul Thompson*<sup>2</sup>  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>2</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>3</sup>Queensland Institute of Medical Research, Brisbane, Australia, <sup>4</sup>Center for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>5</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>6</sup>School of Psychology, University of Queensland, Brisbane, Australia, <sup>7</sup>Brain and Mind Research Institute, University of Sydney, Sydney, Australia
- 907 MT The spatial relationship of structural cerebral alterations in Multiple Sclerosis**  
*Margit Jehna*<sup>1</sup>, *Siegrid Fuchs*<sup>1</sup>, *Alexander Pichler*<sup>1</sup>, *Christian Langkammer*<sup>1</sup>, *Gernot Reishofer*<sup>1</sup>, *Franz Ebner*<sup>1</sup>, *Franz Fazekas*<sup>1</sup>, *Christian Enzinger*<sup>1</sup>  
<sup>1</sup>Medical University of Graz, Graz, Austria
- 908 MT Structural Connectivity of the Corpus Callosum in Long-term Meditators**  
*Eileen Luders*<sup>1</sup>, *Owen Phillips*<sup>1</sup>, *Kristi Clark*<sup>1</sup>, *Florian Kurth*<sup>2</sup>, *Arthur Toga*<sup>1</sup>, *Katherine Narr*<sup>1</sup>  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, USA, <sup>2</sup>Center for Neurobiology of Stress, Department of Medicine, UCLA School of Medicine, Los Angeles, CA, USA
- 909 MT Connectivity between parietal operculum and motor cortex investigated with combined TMS-DTI**  
*FRANCESCA MAULE*<sup>1</sup>, *Guido Barchiesi*<sup>1</sup>, *Nico Dario Papinutto*<sup>1</sup>, *Luigi Cattaneo*<sup>1</sup>  
<sup>1</sup>Center for Mind/Brain Sciences (CIMeC) - University of Trento, Trento, Italy
- 910 MT Trait anxiety and the temporal lobe of the human brain: a diffusion tensor imaging study**  
*Christian Montag*<sup>1</sup>, *Sebastian Markett*<sup>1</sup>, *Martin Reuter*<sup>1</sup>, *Jan-Christoph Schoene-Bake*<sup>2</sup>, *Bernd Weber*<sup>2</sup>  
<sup>1</sup>Department of Psychology, University of Bonn, Bonn, Germany, <sup>2</sup>Department of NeuroCognition Imaging, Life & Brain Center, University of Bonn, Bonn, Germany
- 911 MT Analysis of white matter morphology and diffusion properties using a shape-based approach**  
*Nic Novak*<sup>1</sup>, *Kristi Clark*<sup>2</sup>, *Yonggang Shi*<sup>2</sup>, *Arthur Toga*<sup>2</sup>  
<sup>1</sup>UCLA, Los Angeles, United States, <sup>2</sup>UCLA, Los Angeles, CA
- 912 MT Withdrawn**
- 913 MT Investigating White Matter Continuity in Pediatric Hydrocephalus Using Probabilistic Tractography**  
*Akila Rajagopal*<sup>1</sup>, *Thomas Maloney*<sup>1</sup>, *Robert McKinstry*<sup>2,3</sup>, *Joshua Shimony*<sup>2,3</sup>, *Blaise Jones*<sup>1,4</sup>, *Scott Holland*<sup>5,4</sup>, *David Limbrick*<sup>2,3</sup>, *Francesco Mangano*<sup>1,4</sup>, *Mekibib Altaye*<sup>1,4</sup>, *Jannel Phillips*<sup>1,4</sup>, *Stephanie Powell*<sup>2,3</sup>, *Weihong Yuan*<sup>1,4</sup>  
<sup>1</sup>Cincinnati Children's Hospital, Cincinnati, OH, <sup>2</sup>St. Louis Children's Hospital, St. Louis, MO, <sup>3</sup>Washington University School of Medicine, St. Louis, MO, <sup>4</sup>University of Cincinnati College of Medicine, Cincinnati, OH, <sup>5</sup>Cincinnati Children's Hospital, Cincinnati, OH
- 914 MT Cross-calibration of 3D-PLI for a multiscale approach investigating the human connectome**  
*Julia Reckfort*<sup>1,2</sup>, *Markus Axer*<sup>1,2</sup>, *David Graessel*<sup>1</sup>, *Melanie Kleiner*<sup>1</sup>, *Uwe Pietrzyk*<sup>3,2</sup>, *Karl Zilles*<sup>4,5</sup>, *Katrin Amunts*<sup>1,6</sup>  
<sup>1</sup>Research Centre Juelich (INM-1), Juelich, Germany, <sup>2</sup>University of Wuppertal, Wuppertal, Germany, <sup>3</sup>Research Centre Juelich (INM-4), Juelich, Germany, <sup>4</sup>Research Center Juelich (INM-2), Juelich, Germany, <sup>5</sup>C. and O. Vogt Institute for Brain Research, University of Düsseldorf, Düsseldorf, Germany, <sup>6</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen, Aachen, Germany
- 915 MT Connectivity-based parcellation of the dorsal frontal cortex**  
*Jerome Sallet*<sup>1</sup>, *MaryAnn Noonan*<sup>1</sup>, *Rogier Mars*<sup>1</sup>, *Saad Jbabdi*<sup>2</sup>, *Jill O'Reilly*<sup>1</sup>, *Matthew Rushworth*<sup>1</sup>  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>FMRIB Centre, Oxford, United Kingdom
- 916 MT A fronto-parietal brain network lateralized for visuospatial attention**  
*Michel Thiebaut de Schotten*<sup>1</sup>, *Flavio Dell'Acqua*<sup>1</sup>, *Stephanie Forkel*<sup>1</sup>, *Andrew Simmons*<sup>2</sup>, *Francesco Vergani*<sup>3</sup>, *Declan Murphy*<sup>2</sup>, *Marco Catani*<sup>1</sup>  
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## NEUROANATOMY

### White Matter Anatomy, Fiber Pathways and Connectivity, continued

- \*917 MT Damage to white matter pathways in chronic visuospatial neglect (O-T3)**  
*Michel Thiebaut de Schotten<sup>1</sup>, Francesco Tomaiuolo<sup>2</sup>, Paolo Bartolomeo<sup>3</sup>, Fabrizio Doricchi<sup>4</sup>*  
<sup>1</sup>Natbrainlab, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>2</sup>Dipartimento di Radiologia di Volterra, Pisa, Italy, <sup>3</sup>INSERM-UPMC UMR\_S 975, Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière, Paris, France, <sup>4</sup>Fondazione Santa Lucia IRCCS, Rome, Italy
- 918 MT 3D Reconstruction of the Arcuate Fasciculus using the Historic Atlas of Dejerine**  
*Paule Toussaint<sup>1</sup>, And Turken<sup>2</sup>, Odile Plaisant<sup>3</sup>, Nina Dronkers<sup>4</sup>*  
<sup>1</sup>INSERM, UMR-S 678, LIF, LINeM, GHU Pitié-Salpêtrière, Paris, France, <sup>2</sup>VA Northern California Health Care System, Martinez, CA, <sup>3</sup>University of Paris-Descartes, GH Pitié-Salpêtrière, URDIA, EA4465, Paris, France, <sup>4</sup>VA Northern California Health Care System, UC Davis, Martinez, CA
- 919 MT Tract-based Lesion-Deficit Mapping Analysis of White Matter Contributions to Language**  
*And Turken<sup>1</sup>, Nina Dronkers<sup>2</sup>*  
<sup>1</sup>US Department of Veterans Affairs, Research Service, Martinez, United States, <sup>2</sup>VA Northern California Health Care System/UC Davis, Martinez, United States
- \*920 MT The Pathway of the Middle Longitudinal Fasciculus in the human brain (O-T3)**  
*Yibao Wang<sup>1,2</sup>, Juan C. Fernández-Miranda<sup>3</sup>, Walter Schneider<sup>4</sup>*  
<sup>1</sup>Department of the Neurosurgery, The First Affiliated Hospital of China Medical University, ShenYang, China, <sup>2</sup>Department of Neurological Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, <sup>3</sup>Department of Neurological Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, <sup>4</sup>University of Pittsburgh, Pittsburgh, PA
- 921 MT Natural Language Queries for White Matter Identification: the White Matter Query Language (WMQL)**  
*Demian Wassermann<sup>1,2,3</sup>, Nikos Makris<sup>4</sup>, Paula Pelavin<sup>2</sup>, Martha Shenton<sup>2</sup>, Marek Kubicki<sup>2</sup>, Carl-Fredrik Westin<sup>3</sup>, Ron Kikinis<sup>1</sup>*  
<sup>1</sup>Surgical Planning Lab, Brigham and Women's Hospital & Harvard Medical, Boston, MA, USA, <sup>2</sup>Psychiatry Neuroimaging Laboratory, Brigham and Women's Hospital, Boston, MA, USA, <sup>3</sup>Laboratory of Mathematics in Imaging, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA, <sup>4</sup>Center For Morphometric Analysis, Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA

- 922 MT Gender effect on the correlation of white matter microstructural integrity**  
*Jiaying Zhang<sup>1</sup>, Suyu Zhong<sup>1</sup>, Yong He<sup>1</sup>, Gaolang Gong<sup>1</sup>*  
<sup>1</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China

## PERCEPTION AND ATTENTION

### Attention: Auditory/Tactile/Motor

- 923 MT Separable Auditory and Visual Top Down Attention Networks**  
*Rodrigo Braga<sup>1</sup>, Liam Wilson<sup>1</sup>, Richard Wise<sup>1</sup>, David Sharp<sup>1</sup>, Robert Leech<sup>1</sup>*  
<sup>1</sup>Imperial College London, London, United Kingdom
- 924 MT Distinct brain networks of novelty-driven involuntary and cued voluntary auditory attention shifting**  
*Samantha Huang<sup>1</sup>, John Belliveau<sup>1</sup>, Chinmayi Tengshe<sup>1</sup>, Jyrki Ahveninen<sup>1</sup>*  
<sup>1</sup>Martinos Center, Massachusetts General Hospital, Charlestown, MA
- 925 MT Functional networks in auditory cortex defined by ICA of neuronal population spectral tuning**  
*Michelle Moere<sup>1</sup>, Federico De Martino<sup>1</sup>, Roberta Santoro<sup>1</sup>, Kamil Ugurbil<sup>2</sup>, Essa Yacoub<sup>2</sup>, Elia Formisano<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, United States
- 926 MT The importance of integration when selectively listening to complex multi-part musical stimuli**  
*Marie Uhlig<sup>1</sup>, Merle Fairhurst<sup>1</sup>, Peter Keller<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>MARCS Auditory Laboratories, University of Western Sydney, Sydney, Australia

## PERCEPTION AND ATTENTION

### Attention: Visual

- 927 MT LACK OF ATTENTIONAL RESOURCES MODULATION IN CHRONIC STRESS: AN fMRI STUDY ON CROHN'S DISEASE**  
*Francesca Benuzzi<sup>1</sup>, Alessandro Agostini<sup>2,3</sup>, Micaela Zucchelli<sup>1</sup>, Valentina Farinelli<sup>1</sup>, Nicola Filippini<sup>4</sup>, Massimo Campieri<sup>3</sup>, Paolo Nichelli<sup>1</sup>*  
<sup>1</sup>Department of Neurosciences, University of Modena and Reggio Emilia, Modena, Italy, <sup>2</sup>Department of Psychology, University of Bologna, Bologna, Italy, <sup>3</sup>Department of Clinical Medicine, IBD Unit, S.Orsola Malpighi Hospital, University of Bologna, Bologna, Italy, <sup>4</sup>University Department of Psychiatry and FMRI Centre, University of Oxford, Oxford, United Kingdom
- \*928 MT Right Temporo-parietal Junction and Attentional Reorienting (O-T4)**  
*Chi-Fu Chang<sup>1</sup>, Tzu-Yu Hsu<sup>2</sup>, Philip Tseng<sup>3</sup>, Wei-Kuang Liang<sup>4</sup>, Ovid J.-L. Tzeng<sup>5</sup>, Daisy Hung<sup>6</sup>, Neil Muggleton<sup>3</sup>, Chi-Hung Juan<sup>1</sup>*  
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- 929 MT Withdrawn**
- 930 MT The structural correlates of spatial attention**  
*Thomas Ditye<sup>1</sup>, Vincent Walsh<sup>1</sup>, Ryota Kanai<sup>1</sup>*  
<sup>1</sup>University College London, London, United Kingdom
- 931 MT Oxytocin modulates basic attentional processes during face perception**  
*Matthias Gamer<sup>1</sup>, Christian Büchel<sup>1</sup>*  
<sup>1</sup>University Medical Center Hamburg-Eppendorf, Department of Systems Neuroscience, Hamburg, Germany
- 932 MT Attentional control networks involved in processing target-similar distracters**  
*Joy Geng<sup>1</sup>, Nicholas DiQuattro<sup>2</sup>*  
<sup>1</sup>University of California Davis, Davis, United States, <sup>2</sup>University of California Davis, Davis, CA
- 933 MT Superior temporal sulcus and target detection - PPI analysis**  
*Petra Haitova<sup>1</sup>, Radek Marek<sup>2</sup>, Michal Mikl<sup>1</sup>, Milan Brázdl<sup>3</sup>*  
<sup>1</sup>Behavioral and Social Neuroscience Research Group, CEITEC - Central European Institute of Technology, Brno, Czech Republic, <sup>2</sup>Behavioral and Social Neuroscience Research Group, CEITEC, Masaryk University, Brno, Czech Republic, <sup>3</sup>Behavioral and Social Neuroscience Research Group, CEITEC-Central European Institute of Technology, Brno, Czech Republic
- 934 MT Attentional Modulation of Retrosplenial Complex Activity in 7-11-Year-Old Children and Adults**  
*Ping Jiang<sup>1</sup>, Virve Vuontela<sup>1</sup>, YuanYe Ma<sup>2</sup>, Eeva Aronen<sup>3</sup>, Olli Salonen<sup>4</sup>, Synnöve Carlson<sup>1,5,6</sup>*  
<sup>1</sup>Neurosci Unit/Inst Biomed/Physiol/Univ Helsinki, Helsinki, Finland, <sup>2</sup>Kunming Inst Zoology/Chinese Acad Sci, Kunming, China, <sup>3</sup>Hosp Children Adolesc/Helsinki Univ Central Hosp, Helsinki, Finland, <sup>4</sup>Dept Radiol/Helsinki Univ Central Hosp, Helsinki, Finland, <sup>5</sup>Brain Res Unit/OV Lounasmaa Lab/Aalto Univ Sch Sci, Espoo, Finland, <sup>6</sup>Adv Magn Imag Centre/Aalto Univ Sch Sci, Espoo, Finland
- 935 MT The Brain Efficient Connectivity of Visual Selective Attention using Granger Causality**  
*Tao Jiang<sup>1</sup>, Zhenlan Jin<sup>2</sup>, Ling Li<sup>2</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>University of Electronic Science and Technology of China, chengdu, China
- 936 MT Individual Modulation of Exogenous Attention to Negative Stimuli: Behavioral and ERP Data**  
*Dominique Kessel<sup>1</sup>, Luis Carretié<sup>1</sup>, Manuel Tapia<sup>1</sup>*  
<sup>1</sup>Universidad Autonoma de Madrid, Madrid, Spain
- 937 MT Functional modules of visual search process investigated by group ICA**  
*Kwang Ki Kim<sup>1</sup>, Karunanayaka Prsanna<sup>2</sup>, Ji Hyun Kim<sup>3</sup>*  
<sup>1</sup>Dongguk University Ilsan Hospital, Goyang-shi, Korea, Republic of, <sup>2</sup>Department of Radiology, Center for NMR Research, Penn State University College of Medicine, Hershey, PA, <sup>3</sup>Department of Neurology, Korea University, Seoul, Republic of Korea
- 938 MT fMRI Correlates of Inhibition of Return in Central and Peripheral Visual field**  
*Quan Lei<sup>1,2</sup>, Yan Bao<sup>1,3</sup>*  
<sup>1</sup>Department of Psychology & Key Laboratory of Machine Perception (MoE), Peking University, Beijing, China, <sup>2</sup>Department of Psychology, Northeastern University, Boston, United States, <sup>3</sup>Human Science Center, University of Munich, Munich, Germany

## PERCEPTION AND ATTENTION

### Attention: Visual, continued

- 939 MT Associations between P300 amplitude changes and individual differences in the time-on-task effect**  
*Julian Lim<sup>1</sup>, Tania Kong<sup>1</sup>, Kenneth Kwok<sup>1</sup>, Sheralyn Tan<sup>1</sup>, Chun-Yu Tse<sup>1</sup>*  
<sup>1</sup>Temasek Laboratories, National University of Singapore, Singapore, Singapore
- \*940 MT Efficient Visual Search Elicits Sustained Broadband Gamma Activity in the Dorsal Attention Network (O-T4)**  
*Tomas Ossandon<sup>1,2</sup>, Juan Vida<sup>3</sup>, Carolina Ciumas<sup>4</sup>, Karim Jerbi<sup>3</sup>, Philippe Kahane<sup>5</sup>, Jean-Philippe Lachaux<sup>6</sup>*  
<sup>1</sup>INSERM U1028, CNRS UMR5292, Lyon Neuroscience Research Center, Brain Dynamics and Cognition Team, Ly, Lyon, France, <sup>2</sup>Laboratorio de Neurociencias Cognitivas, Facultad de Medicina, PUC, Santiago, Chile, <sup>3</sup>INSERM, Lyon, France, <sup>4</sup>Lyon Neuroscience Research Center INSERM U1028, Lyon, France, <sup>5</sup>INSERM, Grenoble, France, <sup>6</sup>INSERM, N/A
- 941 MT A comparison between the attend-o-topy and the frontoparietal activity of voluntary covert orienting**  
*Takashi, J. OZAKI<sup>1</sup>*  
<sup>1</sup>University of Tokyo, Tokyo, Japan
- 942 MT Different Brain Mechanisms of Background-Orientation and Target-Location Specificity in TDT Learning**  
*Zhe Qu<sup>1</sup>, You Wang<sup>1</sup>, Yulong Ding<sup>1</sup>*  
<sup>1</sup>Sun Yat-Sen University, Guangzhou, China
- 943 MT FMRI of memory guided instructed and decision saccades in a slow event related design**  
*Carsten Schmidt-Samoa<sup>1</sup>, Peter Dechent<sup>1</sup>, Igor Kagan<sup>2</sup>, Melanie Wilke<sup>1</sup>*  
<sup>1</sup>Department of Cognitive Neurology, University Medicine, Goettingen, Germany, <sup>2</sup>German Primate Center, Goettingen, Germany
- 944 MT Top-down Control of Visual Cortical Activity in Human Attention: A Granger Causality Analysis**  
*Chao Wang<sup>1</sup>, Rajasimhan Rajagovindan<sup>1</sup>, Sahng-Min Han Han<sup>1</sup>, Mingzhou Ding<sup>1</sup>*  
<sup>1</sup>University of Florida, Gainesville, United States
- 945 MT The interaction between attentional selection and conflict control in the anterior cingulate cortex**  
*Ping Wei<sup>1</sup>, Hermann Müller<sup>2</sup>, Torsten Schubert<sup>2</sup>, Andre Szameitat<sup>2</sup>, Xiaolin Zhou<sup>3</sup>*  
<sup>1</sup>Department of Psychology, Capital Normal University, Beijing, China, <sup>2</sup>Department of Psychology, LMU München, Munich, Germany, <sup>3</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China
- 946 MT Performance feedback engages attention, boosts task SNR, and enhances pattern classification**  
*Jeffrey Zemla<sup>1</sup>, Jonathan Lisinski<sup>2</sup>, Stephen LaConte<sup>2</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute / Rice University, Roanoke, VA, <sup>2</sup>Virginia Tech Carilion Research Institute, Roanoke, VA
- 947 MT Attention Deficits in Impulsive Aggressive and Premeditated Aggressive Juvenile Offenders**  
*Zhuo Zhang<sup>1</sup>, AnKang Kong<sup>1</sup>, Bo Yang<sup>1</sup>*  
<sup>1</sup>Sociology College, China University of Political Science and Law, Beijing, China
- 948 MT Do Alpha Oscillations Modulated by Spatial Attention gate BOLD in Ventral Category Specific Regions?**  
*Johanna Zumer<sup>1</sup>, René Scheeringa<sup>1</sup>, Jan-Mathijs Schoffelen<sup>1</sup>, David Norris<sup>1</sup>, Ole Jensen<sup>1</sup>*  
<sup>1</sup>Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands

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## PERCEPTION AND ATTENTION

### Chemical Senses: Olfaction, Taste

- 949 MT Sexually dimorphic response of the hypothalamus to the chemo-signal androstadienone in adolescents**  
*Sarah Burke<sup>1</sup>, Dick Veltman<sup>2</sup>, Peggy Cohen-Kettenis<sup>1</sup>, Julie Bakker<sup>3,4,1</sup>*  
<sup>1</sup>Department of Medical Psychology, VU university medical center, Amsterdam, Netherlands, <sup>2</sup>Department of Psychiatry, VU University medical center, Amsterdam, Netherlands, <sup>3</sup>GIGA Neuroscience, University of Liege, Liege, Belgium, <sup>4</sup>Netherlands Institute of Neuroscience, Amsterdam, Netherlands
- 950 MT Amygdala Response to Male Anxiety Chemosignals in Anxious Versus Calm Women**  
*Jessica Freiherr<sup>1,2</sup>, Julia Schmithausen<sup>1,2</sup>, Maria Demmel<sup>3</sup>, Veronika Schöpfl<sup>4</sup>, Martin Wiesmann<sup>1</sup>*  
<sup>1</sup>Clinic for Diagnostic and Interventional Neuroradiology, RWTH Aachen, Aachen, Germany, <sup>2</sup>Neuroscience of chemosensation, RWTH Aachen, Aachen, Germany, <sup>3</sup>Center for Child and Adolescent Psychiatry, Aarhus University Hospital, Aarhus, Denmark, <sup>4</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria
- 951 MT An fMRI study of odor processing in a family with congenital anosmia**  
*Lea Gagnon<sup>1,2</sup>, Helena Karstensen<sup>3</sup>, Kristoffer Madsen<sup>4</sup>, Martin Vestergaard<sup>4</sup>, Hartwig Siebner<sup>4</sup>, Niels Tommerup<sup>3</sup>, Ron Kupers<sup>2</sup>, Maurice Ptito<sup>1,2,4</sup>*  
<sup>1</sup>Harland Sanders Chair, School of Optometry, University of Montreal, Montreal, Canada, <sup>2</sup>Institute for Neuroscience and Pharmacology, Panum Institute, University of Copenhagen, Copenhagen, Denmark, <sup>3</sup>Institute for Cellular and Molecular Medicine, University of Copenhagen, Copenhagen, Denmark, <sup>4</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark
- 952 MT Multimodal food perception: meta-analysis of neuroimaging studies of food cues**  
*Claudia Huerta<sup>1</sup>, Angela Laird<sup>2</sup>, Peter Fox<sup>3</sup>, Ralph DeFronzo<sup>4</sup>, Muhammad Abdul-Ghan<sup>5</sup>, Timothy Duong<sup>6</sup>*  
<sup>1</sup>Research Imaging Institute, San Antonio, United States, <sup>2</sup>University of Texas Health Science Center at San Antonio, San Antonio, TX, <sup>3</sup>Research Imaging Institute, San Antonio, TX, <sup>4</sup>University of Texas Health Science Center, San Antonio, TX, <sup>5</sup>University of Texas Health Science Center, San Antonio, TX, <sup>6</sup>UT Health Science Center at San Antonio, San Antonio, TX

- 953 MT Odorant Stimulation vs. Sniffing in Human Primary Olfactory Cortex**  
*Xiaoyu Sun<sup>1</sup>, Jianli wang<sup>1</sup>, Christopher Weitekamp<sup>1</sup>, Megha Patel<sup>1</sup>, Jeffrey Vesek<sup>1</sup>, Qing X Yang<sup>1</sup>*  
<sup>1</sup>Penn State College of Medicine, Hershey, PA
- 954 MT Hedonic and Intensity Assessment of Sweetness in the Human Brain**  
*Jianli wang<sup>1</sup>, Zackary Herse<sup>1</sup>, Sarah Ryan<sup>1</sup>, Megha Patel<sup>1</sup>, Sebastian Rupperecht<sup>1</sup>, Jeffrey Vesek<sup>1</sup>, Qing X Yang<sup>1</sup>, Andras Hajnal<sup>1</sup>, Ann Rogers<sup>1</sup>*  
<sup>1</sup>Penn State College of Medicine, Hershey, PA

## PERCEPTION AND ATTENTION

### Consciousness and Awareness

- 955 MT V1 as common drive for performance and visibility improvements during perceptual learning**  
*Felipe Aedo-Jury<sup>1</sup>, Caspar Schwiedrzik<sup>1</sup>, Wolf Singer<sup>1</sup>, Lucia Melloni<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Brain Research, Frankfurt am Main, Germany
- 956 MT My I's in the Brain: Distinct Cortical Structures in online vs. offline Body Representations**  
*Clemens Bauer<sup>1</sup>, José Díaz<sup>2</sup>, Luis Concha<sup>1</sup>, Fernando Barrios<sup>1</sup>*  
<sup>1</sup>Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, México, <sup>2</sup>Facultad de Medicina, Universidad Nacional Autónoma de México, México D.F., México
- 957 MT Neuromagnetic correlates of conscious perception and exogenous attention during visual processing**  
*Dimitri Bayle<sup>1</sup>, Antoni Valero-Cabre<sup>2,3,4</sup>, Ana Chica<sup>5</sup>, Catherine Tallon-Baudry<sup>6</sup>, Paolo Bartolomeo<sup>7</sup>*  
<sup>1</sup>CRICM inserm U975, Paris, France, <sup>2</sup>CNRS UMR 7225 CRICM / Boston University School of Medicine, Paris, France, <sup>3</sup>Cognitive Neuroscience and Information Technology Research Program, Open University of Catalonia (UOC), barcelona, Spain, <sup>4</sup>Laboratory for Cerebral Dynamics Plasticity & Rehabilitation, Boston University School of Medicine, boston, United States, <sup>5</sup>2. Department of Experimental Psychology, Granada, Spain, <sup>6</sup>CENIR, paris, France, <sup>7</sup>INSERM-UPMC UMR\_S 975, Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière, Paris, France

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- 958 MT Breakdown of global functional resting state connectivity correlates with the level of consciousness**  
*Athena Demertzi<sup>1</sup>, Andrea Soddu<sup>1</sup>, Audrey Vanhauzenhuysse<sup>1</sup>, Luaba Tshibanda<sup>2</sup>, Melanie Boly<sup>1</sup>, Marie Thonnard<sup>1</sup>, Vanessa Charland<sup>1</sup>, Murielle Kirsch<sup>3</sup>, Steven Laureys<sup>1</sup>*  
<sup>1</sup>Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>2</sup>Department of Radiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>3</sup>Department of Anaesthesiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium
- 959 MT Thalamic generator for propofol-induced alpha-rhythm: a simultaneous EEG-fMRI study**  
*Ithabi Gantner<sup>1</sup>, Audrey Vanhauzenhuysse<sup>1</sup>, Pierre Boveroux<sup>2</sup>, Marie-Aurélié Bruno<sup>1</sup>, Quentin Noirhomme<sup>1</sup>, Andrea Soddu<sup>1</sup>, Séverine Lauwick<sup>2</sup>, Christian Degueldre<sup>3</sup>, Didier Ledoux<sup>2</sup>, Christophe Phillips<sup>3</sup>, Alain Plenevaux<sup>3</sup>, Jean-François Brichant<sup>2</sup>, Steven Laureys<sup>1</sup>, Melanie Boly<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>2</sup>Department of Anesthesia, University Hospital of Liege, Liège, Belgium, <sup>3</sup>Cyclotron Research Center, University of Liège, Liège, Belgium
- 960 MT Human Brain Structure Predicts Individual Differences in Unconscious Social Evaluation of Faces**  
*Spas Getov<sup>1</sup>, Bahador Bahrami<sup>2,1,3</sup>, Ryota Kanai<sup>2</sup>, Geraint Rees<sup>2,1</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, Institute of Neurology, University College London, United Kingdom, <sup>2</sup>UCL Institute of Cognitive Neuroscience, University College London, United Kingdom, <sup>3</sup>Interacting Minds Project, Institute of Anthropology, Archaeology, Linguistics, Aarhus University, & Centre of Functionally Integrative Neuroscience, Aarhus University, Aarhus, Denmark
- 961 MT Mapping alterations in cortical and subcortical functional connectivity induced by light sedation**  
*Tommaso Gilji<sup>1</sup>, Neeraj Saxena<sup>2</sup>, Ana Diukova<sup>3</sup>, Kevin Murphy<sup>4</sup>, Judith Hall<sup>2</sup>, Richard Wise<sup>3</sup>*  
<sup>1</sup>Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, <sup>2</sup>Section of Anaesthetics, Intensive Care and Pain Medicine, Cardiff University School of Medicine, Cardiff, United Kingdom, <sup>3</sup>Cardiff University Brain Research Imaging Centre, Cardiff, United Kingdom, <sup>4</sup>Cardiff University, Cardiff, United Kingdom
- 962 MT Consciousness-dependent interplay between spontaneous and stimulus evoked activity:an EEG-fMRI study**  
*Olivia Gosseries<sup>1</sup>, Audrey Vanhauzenhuysse<sup>1</sup>, Marie-Aurélié Bruno<sup>1</sup>, Rémy Phan-Ba<sup>2</sup>, Christophe Phillips<sup>3</sup>, Pierre Boveroux<sup>4</sup>, Vincent Bonhomme<sup>4</sup>, Didier Ledoux<sup>4</sup>, Jean-François Brichant<sup>4</sup>, Séverine Lauwick<sup>4</sup>, Manuel Schabus<sup>5</sup>, Evelyne Balteau<sup>3</sup>, Christian Degueldre<sup>3</sup>, Andre Luxen<sup>3</sup>, Pierre Maquet<sup>3</sup>, Steven Laureys<sup>1</sup>, Melanie Boly<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>2</sup>University department of Neurology, Myelin Disorder Research Team (MYDREAM), CHU of Liège, Liège, Belgium, <sup>3</sup>Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>University Department of Anesthesia and ICM, University Hospital of Liège, Liège, Belgium, <sup>5</sup>University Department of Psychology, Laboratory for Sleep and Consciousness Research, Salzburg, Austria
- 963 MT Volitional Eyes Open Disturbs Economical Resting State Regardless of the Visual Stimulation**  
*Tun Jao<sup>1</sup>, Petra Vertes<sup>1</sup>, Aaron F. Alexander-Bloch<sup>1</sup>, I-Ning Tang<sup>2</sup>, Ya-Chih Yu<sup>2</sup>, Jyh-Horng Chen<sup>2</sup>, Edward Bullmore<sup>1,3</sup>*  
<sup>1</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Interdisciplinary MRI/MRS Lab, National Taiwan University, Taipei, <sup>3</sup>GlaxoSmithKline, Cambridge, United Kingdom
- 964 MT Residual but massively impaired directional connectivity in the unconscious brain**  
*Jean-Remi King<sup>1,2</sup>, Jacobo Sitt<sup>1,2</sup>, Frederic FAUGERAS<sup>2,3</sup>, Benjamin Rohaut<sup>2,3</sup>, imen El Karoui<sup>2,4</sup>, Laurent Cohen<sup>2,5,3</sup>, Lionel Naccache<sup>2,5,3</sup>, Stanislas Dehaene<sup>1,6,7</sup>*  
<sup>1</sup>Unicog, CEA/Saclay, Saclay, France, <sup>2</sup>ICM Res.Center, UMRS 975, INSERM, Paris, France, <sup>3</sup>Dept. of Neurol., AP-HP,Groupe hospitalier Pitié-Salpêtrière, Paris, France, <sup>4</sup>Ecole Normale Supérieure, Paris, France, <sup>5</sup>Faculté de Médecine Pitié- Salpêtrière, Univ. Paris 6, Paris, France, <sup>6</sup>Univ. Paris-sud 11, Orsay, France, <sup>7</sup>Col. de France, Paris, France

- 965 MT Electrophysiological correlates of ketamine-induced behavioral unresponsiveness**  
*Rémy Lehenbre<sup>1</sup>, Olivia Gosseries<sup>1</sup>, Marcello Massimini<sup>2</sup>, Mario Rosanova<sup>2</sup>, Rosalyn Moran<sup>3</sup>, Audrey Vanhaudenhuyse<sup>1</sup>, Marie-Aurélié Bruno<sup>1</sup>, Vincent Bonhomme<sup>4</sup>, Jean-François Brichant<sup>5</sup>, Pierre Boveroux<sup>5</sup>, Andrea Soddu<sup>1</sup>, Christophe Phillips<sup>6</sup>, Quentin Noirhomme<sup>1</sup>, Steven Laureys<sup>1</sup>, Melanie Boly<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>2</sup>Department of Clinical Sciences, University of Milan, Milan, Italy, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>University Department of Anesthesia and ICM, CHR Citadelle, Liège, Belgium, <sup>5</sup>Department of Anesthesia, University Hospital of Liege, Liège, Belgium, <sup>6</sup>Cyclotron Research Centre, University of Liege, Sart Tilman, Liege, Belgium
- 966 MT Global neural network reorganization from awake to anesthetized conditions in the rat brain**  
*Zhifeng Liang<sup>1</sup>, Jean King<sup>1</sup>, Nanyin Zhang<sup>1</sup>*  
<sup>1</sup>University of Massachusetts Medical School, Worcester, United States
- 967 MT An electrophysiological signal that precisely tracks the emergence of error awareness**  
*Peter Murphy<sup>1</sup>, Ian Robertson<sup>1</sup>, Darren Allen<sup>1</sup>, Robert Hester<sup>2</sup>, Redmond O'Connell<sup>1</sup>*  
<sup>1</sup>Trinity College Dublin, Dublin, Ireland, <sup>2</sup>University of Melbourne, Melbourne, Australia
- 968 MT Task specific visual activity in the frontal lobes — implication to models of visual awareness**  
*niv noy<sup>1,2</sup>, Stephan Bickel<sup>3</sup>, Elana Zion-Golombic<sup>4</sup>, Michal Harel<sup>5</sup>, Ido Davidesco<sup>5</sup>, Catherine Schevon<sup>6</sup>, Guy McKhann<sup>6</sup>, Robert Goodman<sup>6</sup>, Charles Schroeder<sup>4</sup>, Ashes Mehta<sup>3</sup>, Rafael Malach<sup>2</sup>*  
<sup>1</sup>Gonda Brain Research Center, Bar-Ilan University, Ramat Gan, Israel, <sup>2</sup>Department of Neurobiology, Weizmann Institute of Science, Rehovot, Israel, <sup>3</sup>Comprehensive Epilepsy Center, Long Island Jewish Medical Center, New Hyde Park, NY, <sup>4</sup>Department of Psychiatry, Columbia University College of Physicians and Surgeons, New York, NY, <sup>5</sup>Interdisciplinary Center for Neural Computation, Hebrew University, Jerusalem, Israel, <sup>6</sup>Department of Neurology, Columbia University College of Physicians and Surgeons, New York, NY

- 969 MT Propofol-induced loss of consciousness associated with changes in fMRI time-series entropy**  
*Ivan J Rojals-Miras<sup>1</sup>, Pieter Guldenmund<sup>2</sup>, Ithabi Gantner<sup>3</sup>, Pierre Boveroux<sup>4</sup>, Melanie Boly<sup>3</sup>, Audrey Vanhaudenhuyse<sup>5</sup>, Marie-Aurélié Bruno<sup>6</sup>, Quentin Noirhomme<sup>7</sup>, Christophe Phillips<sup>8</sup>, Jean-François Brichant<sup>9</sup>, Vincent Bonhomme<sup>10</sup>, Steven Laureys<sup>11</sup>, Andrea Soddu<sup>11</sup>*  
<sup>1</sup>University of Aberdeen, Aberdeen, United Kingdom, <sup>2</sup>University of Liege, Liege, Belgium, <sup>3</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>Department of Anesthesia, University Hospital of Liege, Liège, Belgium, <sup>5</sup>Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>6</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>7</sup>University of Liege, Liège, Belgium, <sup>8</sup>Cyclotron Research Centre, University of Liege, Sart Tilman, Liege, Belgium, <sup>9</sup>Department of Anesthesia and ICM, CHU Liege, Liège, Belgium, <sup>10</sup>University Department of Anesthesia and ICM, CHR Citadelle, Liège, Belgium, <sup>11</sup>Université de Liège, Liège, Belgium
- 970 MT Anaesthetically modulated resting hippocampal connectivity predicts recognition memory**  
*Emmanuel Stamatakis<sup>1</sup>, Ram Adapa<sup>1</sup>, Anthony Absalom<sup>1</sup>, David Menon<sup>1</sup>*  
<sup>1</sup>Division of Anaesthesia, School of Clinical Medicine, University of Cambridge, Cambridge, United Kingdom
- 971 MT Rhythm-induced shamanic trance: A simultaneous fMRI & EEG study of altered states of consciousness**  
*Johannes Stelzer<sup>1</sup>, Michael Hove<sup>1</sup>, Till Nierhaus<sup>1</sup>, Sabrina Thiel<sup>1</sup>, Christopher Gundlach<sup>1</sup>, Daniel Margulies<sup>2</sup>, Robert Turner<sup>1</sup>, Peter Keller<sup>1</sup>, Björn Merker<sup>3</sup>*  
<sup>1</sup>MPI for Human Cognitive and Brain Sciences Leipzig, Leipzig, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany, <sup>3</sup>Institute for Biomusicology at Mid Sweden University, Östersund, Sweden

- 972 MT Loss of self-referential stimuli discrimination during propofol-induced loss of consciousness**  
*Audrey Vanhauzenhuysse<sup>1</sup>, Pierre Boveroux<sup>2</sup>, Marie-Aurélié Bruno<sup>3</sup>, Quentin Noirhomme<sup>4</sup>, Andrea Soddu<sup>5</sup>, Francisco Gómez<sup>6</sup>, Mohamed Ali Bahr<sup>7</sup>, Mariana Babo-Rebello<sup>8</sup>, Séverine Lauwick<sup>2</sup>, Christian Degueldre<sup>9</sup>, Alain Plenevaux<sup>10</sup>, Manuel Schabus<sup>11</sup>, Didier Ledoux<sup>2</sup>, Vincent Bonhomme<sup>12</sup>, Jean-François Brichant<sup>2</sup>, Steven Laureys<sup>5</sup>, Melanie Boly<sup>4</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>2</sup>Department of Anesthesia and ICM, CHU Liege, Liège, Belgium, <sup>3</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>University of Liege, Liège, Belgium, <sup>5</sup>Université de Liège, Liège, Belgium, <sup>6</sup>University of Liege, Liege, Belgium, <sup>7</sup>Cyclotron Research Center, University of Liège, Liege, Belgium, <sup>8</sup>Hôpital de la Pitié-Salpêtrière, Paris, France, <sup>9</sup>Cyclotron Research Centre, Liege, Belgium, <sup>10</sup>Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>11</sup>University of Salzburg, N/A, <sup>12</sup>University Department of Anesthesia and ICM, CHR Citadelle, Liège, Belgium
- 973 MT External awareness and GABAA receptors – A combined fMRI and [18F]flumazenil-PET study**  
*Christine Wiebking<sup>1,2</sup>, Niall Duncan<sup>2</sup>, Pengmin Qin<sup>2</sup>, Dave Hayes<sup>2</sup>, Oliver Lyttelton<sup>3</sup>, Paul Gravel<sup>4</sup>, Jeroen Verhaeghe<sup>4</sup>, Alexey Kostikov<sup>4</sup>, Ralf Schirmacher<sup>4</sup>, Andrew Reader<sup>4</sup>, Malek Bajbouj<sup>5,6</sup>, Georg Northoff<sup>6</sup>*  
<sup>1</sup>Department of Biology, Freie Universität Berlin, Berlin, Germany, <sup>2</sup>Institute of Mental Health Research, Ottawa, Canada, <sup>3</sup>Institute of Mental Health Research Ottawa, N/A, <sup>4</sup>McConnell Brain Imaging Centre, Montreal, Canada, <sup>5</sup>Department of Psychiatry, Charité-Universitätsmedizin Berlin, Berlin, Germany, <sup>6</sup>Cluster of Excellence “Languages of Emotion” and Dahlem Institute for Neuroimaging of Emotion (D.I.N.E.), Berlin, Germany
- 974 MT Alteration of Functional Connectivity during Mindfulness Meditation**  
*Chuan-Chih Yang<sup>1,2</sup>, Alfonso Barrós-Loscertales<sup>1</sup>, Noelia Ventura-Campos<sup>1</sup>, Daniel Pinazo<sup>1</sup>, Juan Bustamante<sup>1</sup>, Aina Rodríguez Pujadas<sup>1</sup>, Paola Fuentes Claramonte<sup>1</sup>, Raul Balaguer<sup>1</sup>, Martin Walter<sup>2,3</sup>, César Ávila<sup>1</sup>*  
<sup>1</sup>Departamento de Psicología Básica, Clínica y Psicobiología, Universitat Jaume I, Castelló, Spain, <sup>2</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>3</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University of Magdeburg, Magdeburg, Germany

- 975 MT The Contribution of area V5+/MT+ to the awareness of motion during binocular rivalry**  
*Natalia Zaretskaya<sup>1</sup>, Andreas Bartels<sup>1</sup>*  
<sup>1</sup>Centre for Integrative Neuroscience, University of Tübingen, Tübingen, Germany

## PERCEPTION AND ATTENTION

### Perception: Auditory/Vestibular

- 976 MT Narrow-band gamma power increase during auditory continuity illusion for amplitude-modulated tones**  
*Cornelius Abel<sup>1</sup>, Jochen Kaiser<sup>1</sup>*  
<sup>1</sup>Goethe University, Frankfurt am Main, Germany
- 977 MT Allocentric or craniocentric representation of auditory space? A human electroencephalography study**  
*Christian Altmann<sup>1</sup>, Stephan Getzmann<sup>2</sup>, Joerg Lewald<sup>2</sup>*  
<sup>1</sup>ICDO, Kyoto University, Kyoto, Japan, <sup>2</sup>Ruhr University Bochum, Bochum, Germany
- 978 MT Human cortical regions for processing salient auditory objects and their acoustic signal attributes**  
*James Lewis<sup>1</sup>, Chris Frum<sup>2</sup>, William Talkington<sup>2</sup>*  
<sup>1</sup>West Virginia University, Morgantown, United States, <sup>2</sup>West Virginia University, Morgantown, WV
- 979 MT Cholinergic gain control and environmental uncertainty: A Free Energy Account**  
*Rosalyn Moran<sup>1</sup>, Pablo Campo<sup>2</sup>, Mkael Symmonds<sup>1</sup>, Klaas Enno Stephan<sup>3</sup>, Raymond Dolan<sup>1</sup>, Karl Friston<sup>1</sup>*  
<sup>1</sup>University College London, London, United Kingdom, <sup>2</sup>University of Madrid, Madrid, Spain, <sup>3</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zurich, Switzerland
- 980 MT Parcellating the neuronal patterns for natural audiovisual speech and music with fMRI**  
*Juha Salmi<sup>1</sup>, Enrico Glerean<sup>1</sup>, Sasu Mäkelä<sup>2</sup>, Aki Vehtari<sup>2</sup>, Pasi Jylänki<sup>2</sup>, Juho Kettunen<sup>2</sup>, Iiro Jääskeläinen<sup>1</sup>, Lauri Nummenmaa<sup>3</sup>, Katarina Nummi-Kuisma<sup>4</sup>, Ilari Nummi<sup>5</sup>, Mikko Sams<sup>1</sup>*  
<sup>1</sup>Brain and Mind Laboratory, BECS, Aalto University, School of science, Espoo, Finland, <sup>2</sup>BECS, Aalto University, School of science, Espoo, Finland, <sup>3</sup>AMI Centre and Brain Research Unit, Low Temperature Laboratory, Aalto University School of Science, Espoo, Finland, <sup>4</sup>Sibelius Academy, Helsinki, Finland, <sup>5</sup>Kulttuurikirikko, Helsinki, Finland

## PERCEPTION AND ATTENTION

### Perception: Auditory/Vestibular, continued

- 981 MT Delineation of human primary auditory cortex with fMRI and multi-voxel pattern classification**  
*Marc Schoenwiesner<sup>1,2</sup>, Peter Dechent<sup>3</sup>, Dirk Voit<sup>4</sup>, Christopher Petkov<sup>5</sup>, Katrin Krumbholz<sup>6</sup>*  
<sup>1</sup>University of Montreal, Montreal, Canada, <sup>2</sup>International Laboratory for Brain, Music, and Sound Research (BRAMS), Montreal, Canada, <sup>3</sup>MR-Research in Neurology and Psychiatry, Department of Cognitive Neurology, University Medicine, Goettingen, Germany, <sup>4</sup>Biomedical NMR Research GmbH, Max-Planck-Institute for Biophysical Chemistry, Goettingen, Germany, <sup>5</sup>Institute of Neuroscience, Newcastle University Medical School, Newcastle upon Tyne, United Kingdom, <sup>6</sup>MRC Institute of Hearing Research, Nottingham, United Kingdom
- 982 MT Relearning Sound Localization With Digital Earplugs**  
*Marc Schoenwiesner<sup>1,2</sup>, Régis Trapeau<sup>1,2</sup>*  
<sup>1</sup>University of Montreal, Montreal, Canada, <sup>2</sup>International Laboratory for Brain, Music, and Sound Research (BRAMS), Montreal, Canada
- 983 MT Expectation suppression and repetition suppression are dissociable in time**  
*Ana Todorovic<sup>1</sup>, Floris de Lange<sup>1</sup>*  
<sup>1</sup>Donders Institute, Radboud University Nijmegen, Nijmegen, Netherlands
- 984 MT Unexpected auditory stimuli evoke increased temporal cortical activity**  
*Peter Woodruff<sup>1</sup>, Jadwiga Nazimek<sup>1</sup>, Iain Wilkinson<sup>1</sup>, Michael Hunter<sup>1</sup>*  
<sup>1</sup>SCANLab, The University of Sheffield, Sheffield, United Kingdom
- 985 MT Where the human auditory pathway makes sense: the inferior colliculus as an auditory gatekeeper**  
*Peter zu Eulenburg<sup>1</sup>, Thomas Bauermann<sup>2</sup>, Sarah Hansen<sup>1</sup>*  
<sup>1</sup>Department of Neurology, Johannes Gutenberg University, Mainz, Germany, <sup>2</sup>Department of Neuroradiology, Johannes Gutenberg University, Mainz, Germany

## PERCEPTION AND ATTENTION

### Perception: Multisensory and Crossmodal

- 986 MT Multisensory Speech Perception Without the Left Superior Temporal Sulcus**  
*Sarah Baum<sup>1</sup>, A Hamilton<sup>2</sup>, Randi Martin<sup>2</sup>, Michael Beauchamp<sup>1</sup>*  
<sup>1</sup>UT Health Science Center at Houston, Houston, Texas, United States, <sup>2</sup>Rice University, Houston, Texas, United States
- 987 MT Interactions of auditory and visual speech areas during lip-reading**  
*Helen Blank<sup>1</sup>, Katharina von Kriegstein<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 988 MT Parieto-premotor coding of peri-hand space contributes to hand's localization and self-attribution**  
*Claudio Brozzoli<sup>1</sup>, Giovanni Gentile<sup>1</sup>, H. Henrik Ehrsson<sup>1</sup>*  
<sup>1</sup>Karolinska Institute, Stockholm, Sweden
- 989 MT Spatial processing in the human dorsal pathway relies on supramodal functional connectivity maps**  
*Luca Cecchetti<sup>1</sup>, Giacomo Handjaras<sup>1</sup>, Giulio Bernardi<sup>1</sup>, Daniela Bonino<sup>1</sup>, Emiliano Ricciardi<sup>1</sup>, Pietro Pietrini<sup>1</sup>*  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa Medical School, Pisa, Italy
- 990 MT Age related differences in the sound-induced flash illusion (SiFi): An MEG study**  
*Jason Chan<sup>1</sup>, Marcus Naumer<sup>1</sup>, Mareike Brandl<sup>1</sup>, Cornelius Abel<sup>1</sup>, Saskia Helbling<sup>1</sup>, Michael Wibal<sup>1</sup>, Jochen Kaiser<sup>1</sup>*  
<sup>1</sup>Goethe University, Frankfurt am Main, Germany
- 991 MT Multisensory Modulation of Stimulus Encoding in Human Retinotopic Cortex**  
*Benjamin de Haas<sup>1,2</sup>, Dietrich Samuel Schwarzkopf<sup>1,2</sup>, Maren Urner<sup>1,2</sup>, \*Jon Driver<sup>1,2</sup>, Geraint Rees<sup>1,2</sup>*  
<sup>1</sup>UCL Institute of Cognitive Neuroscience, University College London, London, United Kingdom, <sup>2</sup>Wellcome Trust Centre for Neuroimaging at UCL, University College London, London, United Kingdom
- 992 MT Intramodal, Crossmodal and Multimodal Effects of Emotional Attention**  
*Judith Domínguez-Borràs<sup>1</sup>, Sebastian Rieger<sup>1</sup>, Patrik Vuilleumier<sup>2</sup>*  
<sup>1</sup>University of Geneva, Geneva, Switzerland, <sup>2</sup>University of Geneva; University Hospital, Geneva, Switzerland

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

## PERCEPTION AND ATTENTION

### Perception: Multisensory and Crossmodal, continued

- 993 MT FMRI-adaptation reveals the neural bases of hand-centered remapping of space in the human brain**  
*Giovanni Gentile<sup>1</sup>, Claudio Brozzoli<sup>1</sup>, H. Henrik Ehrsson<sup>1</sup>*  
<sup>1</sup>Karolinska Institutet, Stockholm, Sweden
- 994 MT The Perceived Location of the Self Decoded from Hippocampus Responses during an Out-of-body Illusion**  
*Arvid Guterstam<sup>1</sup>, Malin Björnsdotter<sup>1</sup>, Loretxu Bergouignan<sup>1</sup>, Giovanni Gentile<sup>1</sup>, Tie-Qiang Li<sup>2</sup>, H. Henrik Ehrsson<sup>1</sup>*  
<sup>1</sup>Karolinska Institutet, Stockholm, Sweden, <sup>2</sup>Department of Medical Physics, Karolinska University Hospital Huddinge, Stockholm, Sweden
- 995 MT Occipital-parietal conjunction is sensitive to audiovisual sensory integration**  
*Jia Huang<sup>1</sup>, Ya Wang<sup>1</sup>, Ting Xu<sup>1</sup>, Zhen Jin<sup>2</sup>, Rowena Handley<sup>3</sup>, Paola Dazzan<sup>3</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>306 Hospital, Beijing, China, <sup>3</sup>Institute of Psychiatry, King's College, London, United Kingdom
- 996 MT Biological motion perception and agency recognition in line with specific cerebral oscillations**  
*Raoul Jenni<sup>1</sup>, Olivier Renaud<sup>1</sup>, Claude-Alain Hauert<sup>1</sup>*  
<sup>1</sup>FPSE, University of Geneva, Geneva, Switzerland
- 997 MT Leading or Lagging: Temporal prediction errors are expressed in auditory and visual cortices**  
*HweeLing Lee<sup>1</sup>, Uta Noppeney<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Biological Cybernetics, Tuebingen, Germany, <sup>2</sup>University of Birmingham, Birmingham, United Kingdom
- 998 MT Audiovisual Congruency Effect in Postlingually deafened Cochlear Implant Users**  
*Hyo-Jeong Lee<sup>1</sup>, Jae-Jin Song<sup>2</sup>, Hyejin Kang<sup>3</sup>, Dong Soo Lee<sup>3</sup>, Seung-Ha Oh<sup>2</sup>*  
<sup>1</sup>Hallym University College of Medicine, Anyang-Si, Gyeonggido, <sup>2</sup>Department of Otorhinolaryngology, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 999 MT Dynamic causal interactions in unimodal and crossmodal auditory-visual attention**  
*Lars Michels<sup>1</sup>, Tianwen Chen<sup>2</sup>, Srikanth Ryal<sup>2</sup>, Vinod Menon<sup>2</sup>*  
<sup>1</sup>University of Zurich, Zurich, Switzerland, <sup>2</sup>Stanford University, School of Medicine, Palo Alto, CA, United States
- 1000 MT Crossmodal interactions in audiovisual emotion processing**  
*Veronika Müller<sup>1</sup>, Edna-Clarisse Cieslik<sup>1</sup>, Bruce Turetsky<sup>2</sup>, Simon Eickhoff<sup>1</sup>*  
<sup>1</sup>Research Center Jülich, Institute of Neuroscience and Medicine, Jülich, Germany, <sup>2</sup>Neuropsychiatry Division, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, PA
- 1001 MT Shared and somatotopic representation of body ownership in multisensory brain areas**  
*Valeria Petkova<sup>1</sup>, Malin Björnsdotter<sup>1</sup>, Zakaryah Abdulkarim<sup>1</sup>, Giovanni Gentile<sup>1</sup>, H. Henrik Ehrsson<sup>1</sup>*  
<sup>1</sup>Karolinska Institute, Stockholm, Sweden
- 1002 MT Neuroimaging and genetics of synesthesia**  
*Steffie Tomson<sup>1</sup>, Richard Gibbs<sup>1</sup>, Suzanne Leal<sup>1</sup>, David Eagleman<sup>1</sup>*  
<sup>1</sup>Baylor College of Medicine, Houston, TX
- 1003 MT Tactile motion direction processing in hMT+V5**  
*Bianca van Kemenade<sup>1</sup>, Evelin Wacker<sup>2</sup>, Felix Blankenburg<sup>2</sup>, Philipp Sterzer<sup>3</sup>*  
<sup>1</sup>Berlin School of Mind & Brain, Berlin, Germany, <sup>2</sup>Department of Neurology and Bernstein Center for Computational Neuroscience, Charité, Berlin, Germany, <sup>3</sup>Department of Psychiatry and Psychotherapy, Campus Charité Mitte, Berlin, Germany
- 1004 MT Emotional context affects early visual cortex activity**  
*Petra Vetter<sup>1</sup>, Karin Petrin<sup>2</sup>, Lukasz Piwek<sup>1</sup>, Vijay Solanki<sup>1</sup>, Frank Pollick<sup>1</sup>, Lars Muckli<sup>1</sup>*  
<sup>1</sup>University of Glasgow, Glasgow, United Kingdom, <sup>2</sup>University College London, London, United Kingdom
- 1005 MT Compensatory vs atrophy-related neuroanatomical changes in the blind revealed by MT imaging**  
*Patrice Voss<sup>1</sup>, GB Pike<sup>1</sup>, Robert Zatorre<sup>2</sup>*  
<sup>1</sup>McGill University, Montreal, Canada, <sup>2</sup>Montreal Neurological Institute, Montreal, Quebec

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## PERCEPTION AND ATTENTION

### Perception: Pain and Visceral

- 1006 MT** **Changes in the resting state network in chronic pain patients after administration of LESI**  
*Christopher Buckle<sup>1</sup>, Daniel Levin<sup>1</sup>, Gregory Katzman<sup>1</sup>, Jia-Hong Gao<sup>1</sup>*  
<sup>1</sup>Department of Radiology University of Chicago Medical Center, Chicago, IL, USA
- \*\*1007 MT** **THE SPATIOTEMPORAL PATTERN OF BRAIN RESPONSES DURING MECHANICAL PAIN**  
*Franco Cauda<sup>1</sup>, Tommaso Costa<sup>2</sup>, Matteo Diano<sup>2</sup>, Federico D'Agata<sup>1</sup>, Katuscia Sacco<sup>3</sup>, Barbara Massa Micon<sup>4</sup>, Sergio Duca<sup>5</sup>, Giuliano Geminiani<sup>2</sup>, Diana Torta<sup>2</sup>*  
<sup>1</sup>N/A, Turin, Italy, <sup>2</sup>University of Turin, Department of Psychology, Torino, Italy, <sup>3</sup>University of Turin, Turin, Italy, <sup>4</sup>Neurosurgery, CTO Hospital, Turin, Italy, <sup>5</sup>CCS Koelliker Hospital, Torino, Italy
- 1008 MT** **Reduced insula activation associated with electric acupuncture: A placebo-controlled fMRI study**  
*Jingling Chang<sup>1,2,3</sup>, Markus Savli<sup>3</sup>, Ying Gao<sup>1,2</sup>, Jan Losak<sup>3</sup>, Dan Zhu<sup>1</sup>, Andreas Hahn<sup>3</sup>, Haizhen Zhong<sup>4</sup>, Zhongjian Tan<sup>1</sup>, Rupert Lanzenberger<sup>3</sup>*  
<sup>1</sup>Dongzhimen Hospital of Beijing Chinese University, Beijing, China, <sup>2</sup>The research room of Traditional Chinese Medicine Encephalopathy Syndrome and treatment, Beijing Chinese University, Beijing, China, <sup>3</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>4</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 1009 MT** **Nociception Coma Scale-Revised scores correlate with pain matrix metabolism as measured by PET**  
*Camille Chatelle<sup>1</sup>, Aurore Thibaut<sup>1</sup>, Melanie Boly<sup>1</sup>, Marie-Aurélié Bruno<sup>1</sup>, Caroline Schnakers<sup>1</sup>, Steven Laureys<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Centre, University of Liège, Liège, Belgium
- 1010 MT** **EEG spectral field power mapping of Chinese music perception and its modulation on tonic human pain**  
*Andrew CHEN<sup>\*1</sup>, Huixuan ZHAO<sup>1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical Univers, Beijing, China
- \*\*1011 MT** **Functional brain networks that predict transition from sub acute to chronic back pain**  
*Javeria Hashmi<sup>1</sup>, Alex Baria<sup>1</sup>, Marwan Baliki<sup>1</sup>, Lejian Huang<sup>1</sup>, Souraya Torbey<sup>1</sup>, Kristina Herrmann<sup>1</sup>, Thomas Schnitzer<sup>1</sup>, A. Vania Apkarian<sup>1</sup>*  
<sup>1</sup>Northwestern University, Chicago, United States
- 1012 MT** **Multiple functions of pain induced alpha event-related desynchronization**  
*Li Hu<sup>1</sup>, Yong Hu<sup>2</sup>, Weiwei Peng<sup>2</sup>, Zhiguo Zhang<sup>3</sup>*  
<sup>1</sup>Key Laboratory of Cognition and Personality and School of Psychology, Southwest University, Chongqing, China, <sup>2</sup>Department of Orthopaedics and Traumatology, the University of Hong Kong, Hong Kong, Hong Kong, <sup>3</sup>Department of Electrical and Electronic Engineering, the University of Hong Kong, Hong Kong, Hong Kong
- 1013 MT** **Imaging the Role of Prefrontal Control and Opioidergic Pain Modulation During Prayer**  
*Else-Marie Jegindoe<sup>1</sup>, Joshua Skewes<sup>1</sup>, Katja Wiech<sup>2</sup>, Martin Jensen<sup>1</sup>, Armin Geertz<sup>1</sup>, Arne Møller<sup>1</sup>, Andreas Roepstorff<sup>1</sup>, Troels Jensen<sup>1</sup>*  
<sup>1</sup>Aarhus University, Aarhus, Denmark, <sup>2</sup>University of Oxford, Oxford, United Kingdom
- 1014 MT** **Pain Relief Mechanism of Motor Cortex Stimulation: an fMRI Activation and Connectivity Study**  
*Li Jiang<sup>1</sup>, Joel Greenspan<sup>2</sup>, Yadong Ji<sup>3</sup>, Michael Keaser<sup>3</sup>, Radi Masri<sup>3,4</sup>, David Seminowicz<sup>3</sup>, Wang Zhan<sup>5</sup>*  
<sup>1</sup>University of Maryland Dental School, Baltimore, United States, <sup>2</sup>University of Maryland, Baltimore, MD, <sup>3</sup>University of Maryland Dental School, Baltimore, MD, <sup>4</sup>University of Maryland Medicine School, Baltimore, MD, <sup>5</sup>University of Maryland College Park, College Park, MD
- 1015 MT** **S1 is associated with chronic low back pain: a functional and structural MRI study**  
*Jian Kong<sup>1,2</sup>, Rosa Spaeth<sup>1</sup>, Hsiao-Ying Wey<sup>2</sup>, Alexandra Cheetham<sup>1</sup>, Amanda Cook<sup>1</sup>, Karin Jensen<sup>1</sup>, Ying Tan<sup>1</sup>, Hesheng Liu<sup>1</sup>, Danhong Wang<sup>2</sup>, Marco Loggia<sup>1,3</sup>, Vitaly Napadow<sup>2</sup>, Jordan Smoller<sup>1</sup>, Ajay Wasan<sup>3</sup>, Randy Gollub<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry, Massachusetts General Hospital, Charlestown, MA, USA, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, MGH, Charlestown, MA, USA, <sup>3</sup>Brigham and Women's Hospital, Boston, MA, USA

PERCEPTION AND ATTENTION  
Perception: Pain and Visceral, continued

- 1016 MT Influence of visceral sensations on attention differs between patients with IBS and healthy controls**  
*Florian Kurth<sup>1</sup>, Jennifer Labus<sup>1</sup>, Jean Stains<sup>1</sup>, Bahar Ebrat<sup>1</sup>, Eduardo Vianna<sup>1</sup>, Zhiguo Jiang<sup>1</sup>, Kirsten Tillisch<sup>1</sup>, Bruce Naliboff<sup>1</sup>, Emeran Mayer<sup>1</sup>*  
<sup>1</sup>Center for Neurobiology of Stress, UCLA School of Medicine, Los Angeles, CA
- 1017 MT The effect of acupuncture needle combination on central heat pain processing-a fMRI study**  
*albert leung<sup>1</sup>, Yi Zhao<sup>2</sup>, Shiv Shukla<sup>3</sup>, Jeng-Ren Duann<sup>4</sup>*  
<sup>1</sup>University of California, San Diego, School of Medicine, Department of Anesthesiology, San Diego, United States, <sup>2</sup>University of California, San Diego, La Jolla, United States, <sup>3</sup>University of California, San Diego, School of Medicine, Department of Anesthesiology, La Jolla, United States, <sup>4</sup>CMU, Taichung, Chinese Taipei
- 1018 MT Acquisition of anxiety-potentiated pain is associated with activity in the periaqueductal grey**  
*Chia-Shu Lin<sup>1</sup>, Jen-Chuen Hsieh<sup>2</sup>, Tzu-Chen Yeh<sup>2</sup>, Shyh Lee<sup>3</sup>, David Meier Niddam<sup>1</sup>*  
<sup>1</sup>Brain Research Center, National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>Taipei Veterans General Hospital, Taipei, Chinese Taipei, <sup>3</sup>School of Dentistry, National Yang-Ming University, Taipei, Chinese Taipei
- 1019 MT Optimising human brainstem fMRI for pain applications**  
*Melvin Mezue<sup>1</sup>, Jonathan Brooks<sup>1</sup>, Irene Tracey<sup>1</sup>*  
<sup>1</sup>Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom
- 1020 MT Heat sensation rather than pain predicts intensity coding in somatosensory cortices**  
*Eric Moulton<sup>1</sup>, Gautam Pendse<sup>2</sup>, Lino Becerra<sup>3</sup>, David Borsook<sup>4</sup>*  
<sup>1</sup>McLean Hospital, Harvard Medical School, Belmont, United States, <sup>2</sup>McLean Hospital, Harvard Medical School, Belmont, MA, <sup>3</sup>Departments of Psychiatry and Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, <sup>4</sup>Department of Radiology, Children's Hospital Boston, Harvard Medical School, Boston, MA
- 1021 MT Brain Chemistry in Failed Back Surgery Syndrome**  
*Uta Sbotto-Frankenstein<sup>1</sup>, Jennifer Kornelsen<sup>2</sup>, Sunny Thind<sup>3</sup>, Theresa McIver<sup>3</sup>, Patricia Gerva<sup>3</sup>, Mihaela Onu<sup>4</sup>, Neil Berrington<sup>5</sup>, Paul Wacnik<sup>6</sup>, Boguslaw Tomanek<sup>3</sup>*  
<sup>1</sup>National Research Council Canada, Institute for Biodiagnostics, Winnipeg, Canada, <sup>2</sup>National Research Council Canada Institute for Biodiagnostics, Winnipeg, Canada, <sup>3</sup>National Research Council Institute for Biodiagnostics, Winnipeg, Canada, <sup>4</sup>Clinical Hospital, Bucharest, Romania, <sup>5</sup>Neurosurgery, Faculty of Medicine, University of Manitoba, Winnipeg, Canada, <sup>6</sup>Department of Neuromodulation, Medtronic, Minneapolis, United States
- 1022 MT BRAIN ACTIVITY DURING SYMPATHETIC RESPONSE IN ANTICIPATION AND EXPERIENCE OF PAIN**  
*Frank Seifert<sup>1</sup>, Nadine Schuberth<sup>2</sup>, Roberto DeCo<sup>2</sup>, Elena Peltz<sup>1</sup>, Florian Nickel<sup>1</sup>, Christian Maihöfner<sup>1</sup>*  
<sup>1</sup>Neurology, Erlangen, Germany, <sup>2</sup>Physiology, Erlangen, Germany
- 1023 MT fMRI weighted MEG in assessing the central dynamics of thermal pain processing**  
*Shiv Shukla<sup>1</sup>, Martin Bales<sup>2</sup>, albert leung<sup>3</sup>, Tao Song<sup>4</sup>, Mingxiang Huang<sup>5</sup>*  
<sup>1</sup>University of California, San Diego, School of Medicine, Department of Anesthesiology, La Jolla, United States, <sup>2</sup>VASDHS, La Jolla, CA, <sup>3</sup>UCSD, San Diego, United States, <sup>4</sup>University of California at San Diego, San Diego, CA, <sup>5</sup>Univ California, San Diego, N/A
- 1024 MT Now it's crossed now it's not: investigating the neural basis of the crossed hands analgesia**  
*Diana Torta<sup>1</sup>, Matteo Diano<sup>1,2</sup>, Tommaso Costa<sup>1,2</sup>, Giuliano Geminiani<sup>1,2</sup>, Sergio Duca<sup>2</sup>, Franco Cauda<sup>1,2</sup>*  
<sup>1</sup>University of Turin, Department of Psychology, Torino, Italy, <sup>2</sup>CCS Koelliker Hospital, Torino, Italy
- 1025 MT A combined TMS-EEG study for the investigation of the neural mechanisms of the TMS-induced analgesia**  
*Diana Torta<sup>1</sup>, Valéry Legrain<sup>2</sup>, Julie Duqué<sup>2</sup>, Etienne Olivier<sup>2</sup>, André Mouraux<sup>2</sup>*  
<sup>1</sup>University of Turin, Department of Psychology, Torino, Italy, <sup>2</sup>Université Catholique de Louvain, Brussels, Belgium
- 1026 MT Modulation of Functional Connectivity by Expectancy and Electro-acupuncture Stimulation**  
*Hsiao-Ying Wey<sup>1,2</sup>, Randy Gollub<sup>2,1</sup>, Jian Kong<sup>2,1</sup>*  
<sup>1</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, United States, <sup>2</sup>Department of Psychiatry, Massachusetts General Hospital, Charlestown, MA, United States

## PERCEPTION AND ATTENTION

### Perception: Tactile/Somatosensory

- 1027 MT Brain reorganization of somatosensory function in a patient with deficient finger proprioception**  
*Hana Burianova<sup>1</sup>, Mark Williams<sup>1</sup>, Anina Rich<sup>1</sup>, Greg Savage<sup>1</sup>*  
<sup>1</sup>Macquarie University, Sydney, Australia
- 1028 MT A study of cortical responses to inter- and intra-digit tactile stimulation**  
*Yoon Gi Chung<sup>1</sup>, Junsuk Kim<sup>1</sup>, Jae Kyun Ryu<sup>2</sup>, Mi Hyun Choi<sup>2</sup>, Hyung-Sik Kim<sup>2</sup>, Soon-Cheol Chung<sup>2</sup>, Jang-Yeon Park<sup>2</sup>, Sung-Phil Kim<sup>1</sup>*  
<sup>1</sup>Korea University, Seoul, Korea, Republic of, <sup>2</sup>Konkuk University, Chungju, Korea, Republic of
- 1029 MT Functional Connectivity Analyses Reveal Efference Copy Signal to BA2**  
*Fang Cui<sup>1</sup>, Arnstein Dan<sup>2</sup>, Christian Keysers<sup>3</sup>, Natalia Maria Maurits<sup>4</sup>, Valeria Gazzola<sup>5</sup>*  
<sup>1</sup>Department of Neuroscience University Medical Center Groningen; Netherlands Institute for Neuroscience, Amsterdam, Netherlands, <sup>2</sup>Department of Neuroscience, University Medical Center Groningen, Groningen, Netherlands, <sup>3</sup>Netherlands Institute for Neuroscience, Amsterdam; University Medical Center Groningen, Amsterdam, Netherlands, <sup>4</sup>University Medical Center Groningen, Groningen, Netherlands, <sup>5</sup>University Medical Center Groningen; Netherlands Institute for Neuroscience, Amsterdam, Netherlands
- 1030 MT Mapping of the somatosensory cortex using MRI-compatible Braille stimulator**  
*Weronika Debowska<sup>1</sup>, Tomasz Wolak<sup>2</sup>, Pawel Soluch<sup>3</sup>, Malgorzata Kossut<sup>1</sup>*  
<sup>1</sup>Nencki Institute of Experimental Biology, Warsaw, Poland, <sup>2</sup>Institute of Physiology and Pathology of Hearnig, Kajetany, Poland, <sup>3</sup>Institute of Sensory Analysis, Warsaw, Poland
- 1031 MT Touch and personality: Extraversion predicts somatosensory brain response**  
*Claudia Denke<sup>1</sup>, Maria Deja<sup>1</sup>, Michael Rotte<sup>2</sup>, Hans-Jochen Heinze<sup>2</sup>, Michael Schaefer<sup>2</sup>*  
<sup>1</sup>Department of Anesthesiology and Intensive Care Medicine, Charité – Universitaetsmedizin Berlin, Berlin, Germany, <sup>2</sup>University of Magdeburg, Magdeburg, Germany
- 1032 MT Electroacupuncture modulating the Limbic-medial prefrontal Network**  
*Jiliang Fang<sup>1</sup>, hesheng Liu<sup>2</sup>, Xiaoling Wang<sup>1</sup>, Yin Wang<sup>3</sup>, Yang Hong<sup>1</sup>, jun liu<sup>3</sup>*  
<sup>1</sup>Functional Brain Imaging Lab, Dept. of Radiology, Guang An Men Hospital, Beijing, China, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, <sup>3</sup>Department of Acupuncture and Moxibustion, Guang An Men Hospital, Beijing, China
- 1033 MT Cortical distance between S1 finger representations: comparing Euclidean and geodesic measures**  
*Amanda Kaas<sup>1</sup>, Mona Rosenke<sup>1</sup>, Judith Eck<sup>1</sup>, Martin Frost<sup>1</sup>, Rainer Goebel<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands
- 1034 MT Serial Processing of Tactile Vibratory Stimulus Location and Frequency in Human Somatosensory Cortex**  
*Christian Kalberlah<sup>1</sup>, Arno Villringer<sup>1,2,3</sup>, Burkhard Pleger<sup>1,2,3</sup>*  
<sup>1</sup>Department of Neurology, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Clinic for Cognitive Neurology, University Hospital Leipzig, Leipzig, Germany, <sup>3</sup>Mind and Brain Institute, Berlin School of Mind and Brain, Humboldt-University, Berlin, Germany
- 1035 MT Meta-analysis of Brain Activity Associated With Acupuncture Needle Stimulation**  
*Inseon Lee<sup>1</sup>, Won-Mo Jung<sup>2</sup>, Soon-Ho Lee<sup>1</sup>, Younbyoung Chae<sup>1</sup>*  
<sup>1</sup>Acupuncture and Meridian Science Research Center, Kyung Hee University, Seoul, Korea, Republic of, <sup>2</sup>Dept of Brain Cognitive Engineering, Korea University, Seoul, Korea, Republic of
- 1036 MT Neural correlate of placebo effect and autonomic response induced by phantom acupuncture stimulation**  
*Jeungchan Lee<sup>1</sup>, Changjin Jung<sup>1</sup>, Jieun Kim<sup>2</sup>, Geonho Jahng<sup>3</sup>, Vitaly Napadow<sup>2</sup>, Kyungmo Park<sup>4</sup>*  
<sup>1</sup>Kyung Hee University, Yong-in, Korea, Republic of, <sup>2</sup>Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, USA, <sup>3</sup>Kyung Hee East-West Neo Medical Center, Seoul, Korea, Republic of, <sup>4</sup>Kyung Hee University, Yongin, Korea, Republic of
- 1037 MT Neuromagnetic Correlates of Vibrotactile Adaptation**  
*David McGonigle<sup>1</sup>, Richard Edden<sup>2</sup>, Krish Singh<sup>1</sup>, Nicolaas Puts<sup>2,1</sup>*  
<sup>1</sup>CUBRIC, Cardiff University, Cardiff, United Kingdom, <sup>2</sup>The Johns Hopkins University School of Medicine, Baltimore, MD



## PERCEPTION AND ATTENTION

### Perception: Tactile/Somatosensory, continued

- 1038 MT Acupuncture Point Specific Brain Activity Changes in EEG and fMRI**  
*Till Nierhaus<sup>1</sup>, Daniel Pach<sup>1</sup>, Wenjing Huang<sup>2</sup>, Xiangyu Long<sup>3</sup>, Claudia Witt<sup>1</sup>, Arno Villringer<sup>3</sup>*  
<sup>1</sup>Charité University Medical Center, Berlin, Germany, <sup>2</sup>Chengdu University of Traditional Chinese Medicine, Chengdu, China, <sup>3</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1039 MT Spatiotemporally Selective Evidence for Predictive Codes in the Human Somatosensory System**  
*Dirk Ostwald<sup>1,2</sup>, Bernhard Spitzer<sup>1</sup>, Matthias Guggenmos<sup>1</sup>, Timo Schmidt<sup>1</sup>, Stefan Kiebel<sup>3</sup>, Felix Blankenburg<sup>1</sup>*  
<sup>1</sup>Department of Neurology and Bernstein Center for Computational Neuroscience, Berlin, Germany, <sup>2</sup>School of Psychology, University of Birmingham, Birmingham, United Kingdom, <sup>3</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1040 MT Mirror System Involved in Tactile Stimuli**  
*Erick Pasaye<sup>1</sup>, Sarael Alcauter<sup>2</sup>, Roberto Mercadillo<sup>1</sup>, Clemens Bauer<sup>1</sup>, Jorge Paz Gutierrez<sup>3</sup>, Jesus Taboada<sup>4</sup>, Fernando Barrios<sup>5</sup>*  
<sup>1</sup>Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, México., <sup>2</sup>Instituto Nacional de Psiquiatría, INPRF, México D.F., México, <sup>3</sup>Hospital Puerta de Hierro, Guadalajara Jal., Mexico, <sup>4</sup>Instituto Nacional de Neurología y Neurocirugía, México DF, México, <sup>5</sup>Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, México
- 1041 MT Does secondary somatosensory cortex contribute to somatosensation? A lesion mapping study**  
*Sven Preusser<sup>1</sup>, Sabrina Thiel<sup>1,2</sup>, Carolin Rook<sup>1</sup>, Felix Blankenburg<sup>2,3</sup>, Arno Villringer<sup>1,2,3,4,5</sup>, Jon Driver<sup>6</sup>, Burkhard Pleger<sup>1,5</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Science, Leipzig, Germany, <sup>2</sup>Berlin NeuroImaging Center and Dept. Neurology, Charité, Berlin, Germany, <sup>3</sup>Berlin School of Mind&Brain and Mind&Brain Institute, Humboldt-University, Berlin, Germany, <sup>4</sup>Center for Stroke Research Berlin, Charité, Berlin, Germany, <sup>5</sup>Clinic for Cognitive Neurology, University Hospital Leipzig, Leipzig, Germany, <sup>6</sup>UCL Institute of Cognitive Neuroscience, London, United Kingdom
- 1042 MT Interindividual differences and vicarious somatosensory responses during touch observation**  
*Michael Schaefer<sup>1</sup>, Hans-Jochen Heinze<sup>1</sup>, Michael Rotte<sup>1</sup>*  
<sup>1</sup>University of Magdeburg, Magdeburg, Germany
- 1043 MT Novel analysis approach to test for intra-digit somatotopy in fMRI data of human BA 3b**  
*Meike Annika Schweisfurth<sup>1,2</sup>, Renate Schweizer<sup>1</sup>, Jens Frahm<sup>1</sup>*  
<sup>1</sup>Biomedizinische NMR Forschungs GmbH, Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Germany, <sup>2</sup>Cognitive Neuroscience Laboratory, German Primate Center, Goettingen, Germany
- 1044 MT High-resolution fMRI of somatosensory finger representations in a case of complete pli de passage**  
*Renate Schweizer<sup>1</sup>, Meike Annika Schweisfurth<sup>1</sup>, Jens Frahm<sup>1</sup>*  
<sup>1</sup>Biomedizinische NMR Forschungs GmbH, Max-Planck-Institut fuer biophysikalische Chemie, Goettingen, Germany
- 1045 MT A MRI-Compatible Tactile Orientation Stimulator to Investigate Brain Activation of Tactile Memory**  
*Yinghua Yu<sup>1</sup>, Jiajia Yang<sup>2</sup>, Qiyong Guo<sup>3</sup>, Hongzan Sun<sup>3</sup>, Jinglong Wu<sup>2</sup>*  
<sup>1</sup>Graduate School of Natural Science and Technology, Okayama university, Okayama, Japan, <sup>2</sup>Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan, <sup>3</sup>Department of Radiology, Shengjing Hospital of China Medical University, Shenyang, China

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## PERCEPTION AND ATTENTION

### Perception: Visual

- 1046 MT Attention enhances category information of fMRI response patterns to visual objects**  
*Arjen Alink<sup>1</sup>, Marta Correia<sup>1</sup>, Nikolaus Kriegeskorte<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom
- 1047 MT FMRI of Phosphenes Experienced by Patients with Leber Congenital Amaurosis (LCA)**  
*Manzar Ashtari<sup>1</sup>, Laura Cyckowski<sup>1</sup>, Kathleen Marshall<sup>2</sup>, Daniel Chung<sup>3</sup>, Kenneth Shindler<sup>3</sup>, Albert Maguire<sup>3</sup>, Jean Bennett<sup>3</sup>*  
<sup>1</sup>Children's Hospital of Philadelphia, Philadelphia, United States, <sup>2</sup>Children's Hospital of Philadelphia, Philadelphia, PA, <sup>3</sup>Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA
- 1048 MT Subliminal and supraliminal stimuli elicit opposite neuronal responses**  
*Isabelle Bareither<sup>1,2</sup>, Arno Villringer<sup>1,2</sup>, Niko Busch<sup>3</sup>*  
<sup>1</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Mind & Brain Institute, Humboldt Universität, Berlin, Germany, <sup>3</sup>Universitätsmedizin Charité, Medizinische Psychologie, Berlin, Germany
- 1049 MT Face and house-specific gaze patterns modulate FFA and PPA activation**  
*Florian Baumgartner<sup>1</sup>, Stefan Pollmann<sup>2,3</sup>*  
<sup>1</sup>Otto-von-Guericke Universität Magdeburg, Magdeburg, Germany, <sup>2</sup>Otto-von-Guericke Universität Magdeburg, Magdeburg, Germany, <sup>3</sup>Center of Behavioral Brain Sciences, Magdeburg, Germany
- 1050 MT Retinotopy of V1, V2, and V3 is well predicted by cortical surface anatomy**  
*Noah Benson<sup>1</sup>, Omar Butt<sup>2</sup>, Ritobrato Datta<sup>1</sup>, David Brainard<sup>1</sup>, Geoffrey Aguirre<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, PA, <sup>2</sup>University of Pennsylvania, Philadelphia, PA
- 1051 MT The left lateral occipitotemporal cortex: where objects we act with become extensions of hands**  
*Stefania Bracci<sup>1</sup>, Marius Peelen<sup>2</sup>*  
<sup>1</sup>Center of Mind/Brain Sciences, University of Trento, Rovereto, Italy, <sup>2</sup>Center for Mind/Brain Sciences, University of Trento, Rovereto, Italy
- 1052 MT Optimal Face Network Localization in Autism: A Comparison of Two Methodologies**  
*Aaron Browne<sup>1</sup>, Vanessa Troiani<sup>2</sup>, Robert Schultz<sup>3</sup>*  
<sup>1</sup>Center for Autism Research, Children's Hospital of Philadelphia, Philadelphia, United States, <sup>2</sup>Center for Autism Research, Children's Hospital of Philadelphia; Neuroscience, U of Pennsylvania, Philadelphia, United States, <sup>3</sup>Center for Autism Research, Children's Hospital of Philadelphia; Ped & Psych, U of Pennsylvania, Philadelphia, United States
- \*\*1053 MT Layer specific fMRI correlates of motion processing in human cortical areas V1 and MT**  
*Denis Chaimow<sup>1</sup>, Essa Yacoub<sup>2</sup>, David Feinberg<sup>3</sup>, Ute Goerke<sup>1</sup>, Kamil Ugurbil<sup>1</sup>, Amir Shmuel<sup>4,5</sup>*  
<sup>1</sup>University of Minnesota, Minneapolis, MN, United States, <sup>2</sup>University of Minnesota, Minneapolis, United States, <sup>3</sup>Advanced MRI Technologies, UC Berkeley, Berkeley, CA, United States, <sup>4</sup>Montreal Neurological Institute, Montreal, Canada, <sup>5</sup>University of Minnesota, Minneapolis, MN
- 1054 MT N170 differentiating processing of facial attractiveness and emotion: An ERP Study**  
*Chetwyn Chan<sup>1</sup>, Jin-tu Fan<sup>2</sup>, Tatia MC Lee<sup>3</sup>, Delin Sun<sup>3</sup>, Kin-hung Ting<sup>1</sup>*  
<sup>1</sup>Applied Cognitive Neuroscience Laboratory, The Hong Kong Polytechnic University, Hong Kong, Hong Kong, <sup>2</sup>Institute of Textiles and Clothing, The Hong Kong Polytechnic University, Hong Kong, Hong Kong, <sup>3</sup>Laboratory of Cognitive Affective Neuroscience, The University of Hong Kong, Hong Kong, Hong Kong
- 1055 MT Causal evidence for distinct roles of beta and low-gamma frontal activity in visual perception**  
*Lorena Chanes<sup>1</sup>, Romain Quentin<sup>2</sup>, Antoni Valero-Cabre<sup>3</sup>*  
<sup>1</sup>Université Pierre et Marie Curie - ICM, Paris, France, <sup>2</sup>INSERM, N/A, <sup>3</sup>CNRS UMR 7225 CRICM / Boston University School of Medicine, Paris, France
- \*1056 MT Individually unique representations of particular objects in human inferior temporal cortex (O-T4)**  
*Ian Charest<sup>1</sup>, Diana Deca<sup>2,1</sup>, Nikolaus Kriegeskorte<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Institute of Neuroscience, Technische Universität München, München, Germany
- 1057 MT The ERF temporal-spatial dynamics of human brain mapping in size recognition**  
*Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China

## PERCEPTION AND ATTENTION

### Perception: Visual, continued

- 1058 MT Percept over concept: Distinct sex/gender differentiation in ERFP temporal-spatial brain function**  
*Andrew CHEN\*<sup>1</sup>, Guozhen LI<sup>2</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical Univers, Beijing, China, <sup>2</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 1059 MT BOLD-fMRI responses in human MT complex are modulated by motion speed**  
*Mauro Costagli<sup>1</sup>, Anna Gaglianese<sup>2</sup>, Pietro Pietrin<sup>2</sup>*  
<sup>1</sup>IMAGO7 Foundation, Pisa, Italy, <sup>2</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy
- 1060 MT FMRI of color stimuli in Leber congenital amaurosis and correlations with OCT**  
*Laura Cyckowski<sup>1</sup>, Daniel Chung<sup>2</sup>, Kathleen Marshall<sup>3</sup>, Kenneth Shindler<sup>2</sup>, Albert Maguire<sup>2</sup>, Jean Bennett<sup>2</sup>, Manzar Ashtari<sup>3</sup>*  
<sup>1</sup>Children's Hospital of Philadelphia, N/A, <sup>2</sup>Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA, <sup>3</sup>Children's Hospital of Philadelphia, Philadelphia, PA
- 1061 MT Interhemispheric Transfer of Predictive Coding measured using fMRI**  
*Grace Edwards<sup>1</sup>, Lars Muckli<sup>1</sup>, Petra Vetter<sup>1</sup>*  
<sup>1</sup>The University of Glasgow, Centre of Cognitive Neuroimaging, Glasgow, United Kingdom
- 1062 MT Decoding the direction of visual motion in perception and imagery using multi-voxel pattern analysis**  
*Thomas Emmerling<sup>1,2</sup>, Bettina Sorger<sup>1,2</sup>, Rainer Goebel<sup>1,2,3</sup>*  
<sup>1</sup>Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, Netherlands, <sup>2</sup>Maastricht Brain Imaging Center (M-BIC), Maastricht, Netherlands, <sup>3</sup>Netherlands Institute for Neuroscience (NIN), Amsterdam, Netherlands
- 1063 MT Semantic Representation within Person and Place Selective Brain Regions**  
*Scott Fairhall<sup>1,2</sup>, Stefano Anzellotti<sup>2</sup>, Silvia Ubaldi<sup>1</sup>, Alfonso Caramazza<sup>1,2</sup>*  
<sup>1</sup>Center for Mind/Brain Sciences, University of Trento, Trento, Italy, <sup>2</sup>Harvard University, Cambridge, MA
- 1064 MT Face perception is mediated by linear and non-linear alpha and beta frequency coupling**  
*nicholas fur<sup>1</sup>, Bruno Auerbeck<sup>2</sup>, Daniel Weinberger<sup>3</sup>, Richard Coppola<sup>3</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>National Institutes of Mental health, Bethesda, MD, <sup>3</sup>NIMH/NIH, Bethesda, MD
- 1065 MT ERFP Mapping of Gender Differences in Chinese Name Perceptions**  
*Yingxiao GAO<sup>1</sup>, Andrew CHEN\*<sup>2</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical Univers, Beijing, China, <sup>2</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- \*1066 MT Callosal connections and surface area of V1 predict subjective experience of binocular rivalry (O-T4)**  
*Erhan Genc<sup>1,2</sup>, Johanna Bergmann<sup>1,3</sup>, Frank Tong<sup>4</sup>, Randolph Blake<sup>5</sup>, Wolf Singer<sup>1,6</sup>, Axel Kohler<sup>1,7</sup>*  
<sup>1</sup>Max Planck Institute for Brain Research, Frankfurt am Main, Germany, <sup>2</sup>Brain Imaging Center Frankfurt, Frankfurt am Main, Germany, <sup>3</sup>School of Psychology, University of New South Wales, Sydney, Australia, <sup>4</sup>Department of Psychology, Vanderbilt University, Vanderbilt, TN, <sup>5</sup>Vanderbilt Vision Research Center, Vanderbilt University, Vanderbilt, TN, <sup>6</sup>Frankfurt Institute for Advanced Studies, Goethe University, Frankfurt am Main, Germany, <sup>7</sup>Institute of Psychology, University of Münster, Münster, Germany
- 1067 MT Representations of Face Identity Information in Ventral Visual Stream using Multi-voxel Analyses**  
*Elfi Goesaert<sup>1</sup>, Hans Op de Beeck<sup>1</sup>*  
<sup>1</sup>University of Leuven (KULeuven), Leuven, Belgium
- 1068 MT Perceptual Learning alters Neural Tuning in Large-Scale Fronto-Parietal Brain Networks**  
*Marcus Grueschow<sup>1</sup>, John-Dylan Haynes<sup>2</sup>, Christian Ruff<sup>1</sup>*  
<sup>1</sup>University of Zurich, Zurich, Switzerland, <sup>2</sup>BCCN, Berlin, Berlin, Germany
- \*1069 MT A Developmental Study of Face Identity Processing Using FMRI Adaptation (O-T4)**  
*Frank Haist<sup>1</sup>, Jarnet Han<sup>1</sup>, Elizabeth Toomarian<sup>1</sup>, Mehdi Bouhaddou<sup>1</sup>, Maha Adamo<sup>1</sup>*  
<sup>1</sup>UC San Diego, La Jolla, CA, United States

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- 1070 MT The EEG Oscillations Associated with Encoding of Physics Concepts**  
*Hsiao-Ching She<sup>1</sup>, Kevin Lai<sup>1</sup>, Sheng-Chen Chen<sup>1</sup>, Klaus Geramann<sup>2</sup>, Tzyy-Ping Jung<sup>3</sup>*  
<sup>1</sup>Institute of Education, National Chiao Tung University, Hsin Chu, Chinese Taipei, <sup>2</sup>Institute of Cognitive Science, University of Osnabrueck, Osnabrueck, Germany, <sup>3</sup>Institute for Neural Computation, University of California, San Diego, California, United States
- 1071 MT Perception of Configural and Component Information in Own-Race and Other-Race Faces: An fMRI Study**  
*William Hayward<sup>1</sup>, Mintao Zhao<sup>2</sup>, Sing-hang Cheung<sup>1</sup>, Alan Wong<sup>3</sup>, Gillian Rhodes<sup>4</sup>, Erich Chan<sup>1</sup>, Winnie Chan<sup>1</sup>*  
<sup>1</sup>University of Hong Kong, Pokfulam Road, Hong Kong, <sup>2</sup>Brown University, Providence, RI, <sup>3</sup>Chinese University of Hong Kong, Shatin, Hong Kong, <sup>4</sup>University of Western Australia, Perth, WA, Australia
- \*1072 MT Is the domain organization of ventral visual pathway independent of visual experience and modality? (O-T4)**  
*Chenxi He<sup>1</sup>, Marius Peelen<sup>2</sup>, Zaizhu Han<sup>1</sup>, Nan Lin<sup>1</sup>, Alfonso Caramazza<sup>2</sup>, Yanchao Bi<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Center for Mind/Brain Sciences, University of Trento, Trento, Italy
- 1073 MT Brain Mechanism of Face Familiarity Processing: An ERP Study**  
*Wanyi Huang<sup>1</sup>, Zhe Qu<sup>1</sup>, Yulong Ding<sup>1</sup>*  
<sup>1</sup>Sun Yat-Sen University, Guangzhou, China
- 1074 MT Event-related changes in spontaneous brain activities during eye gaze perception**  
*Sunao Iwaki<sup>1</sup>*  
<sup>1</sup>National Institute of Advanced Industrial Science and Technology (AIST), Osaka, Japan
- 1075 MT Separate Neural Correlates in Change Blindness with Two Different Interstimulus Intervals**  
*Jiyoung Kim<sup>1</sup>, Sung-Ho Woo<sup>1</sup>, JiWoon Jeong<sup>1</sup>, Hyun Taek Kim<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Korea University, Seoul, Korea, Republic of
- 1076 MT Pre-motor cortices are affected by paired object affordance and verbal action primes**  
*Sanjay Kumar<sup>1</sup>, Eun-Young Yoon<sup>1</sup>, Glyn Humphreys<sup>2</sup>, Pia Rotshtein<sup>1</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>University of Oxford, Birmingham, United Kingdom
- 1077 MT Mental rotation of human hands: Effects of hand facing and orientation on the cerebral processes**  
*Guozhen LI<sup>1</sup>, Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 1078 MT Behavioral and MEG clues for dyslexia diagnostic tests using (pseudo)letters & non-linguistic stimuli**  
*Lichan Liu<sup>1</sup>, Gijs Plomp<sup>2</sup>, Cees van Leeuwen<sup>3</sup>, Andreas Ioannides<sup>1</sup>*  
<sup>1</sup>Lab for Human Brain Dynamics, AAI Scientific Cultural Services Ltd, Nicosia, Cyprus, <sup>2</sup>Department of Fundamental Neuroscience, University of Geneva, Geneva, Switzerland, <sup>3</sup>Katholieke Universiteit Leuven, Faculteit PPW, Leuven, Belgium
- 1079 MT Color-based attention and visual awareness rely on independent neural mechanisms**  
*Ying Liu<sup>1</sup>, Anne-Lise Paradis<sup>1</sup>, Lydia Yahia-Cherif<sup>2</sup>, Catherine Tallon-Baudry<sup>3</sup>*  
<sup>1</sup>Crim; Inserm, U975; CNRS, UMR 7225, Paris, France, <sup>2</sup>CENIR, paris, France, <sup>3</sup>Crim; Inserm, U975; CNRS, UMR 7225; CENIR, paris, France
- 1080 MT Post-stimulus Trial-by-trial EEG Variability Indexes Mean and Variance of Pre-stimulus  $\alpha$  Power**  
*Bin Lou<sup>1</sup>, Yun Li<sup>1,2</sup>, Jennifer Walz<sup>1</sup>, Paul Sajda<sup>1</sup>*  
<sup>1</sup>Columbia University, New York, United States, <sup>2</sup>Tsinghua University, Beijing, China
- 1081 MT Rubens in the brain - The neurofunctional processing of corporeity in different medial contexts**  
*Aline Lutz<sup>1</sup>, Armin Nassehi<sup>2</sup>, Anikó Sztrókay<sup>3</sup>, Thomas Meindl<sup>4</sup>, Maximilian Reiser<sup>4</sup>, Ernst Pöppe<sup>5</sup>, Yan Bao<sup>6</sup>, Kai Fehse<sup>7</sup>, Evgeny Gutyrchik<sup>8</sup>*  
<sup>1</sup>Ludwig-Maximilians-University Munich, Human Science Center, Institute of Sociology, Munich, Germany, <sup>2</sup>Ludwig-Maximilians-University, Institute of Sociology, Human Science Center, Munich, Germany, <sup>3</sup>Ludwig-Maximilians-University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>4</sup>Ludwig Maximilians University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>5</sup>Human Science Center, Institute of Medical Psychology, Munich, Germany, <sup>6</sup>Beijing University, Department of Psychology, Beijing, China, <sup>7</sup>Ludwig-Maximilians-University, Human Science Center, Munich, Germany, <sup>8</sup>Institute of Medical Psychology, Human Science Center, Munich, Germany

## PERCEPTION AND ATTENTION

### Perception: Visual, continued

- 1082 MT Early visual BOLD orientation anisotropies under varying perceptual noise**  
*Daniel Mitchell<sup>1</sup>, Saša Redžepovi<sup>2</sup>, Nikolaus Kriegeskorte<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, the Netherlands
- 1083 MT Spatial frequency integration in scene perception: an ERP study**  
*Tonglin Mu<sup>1</sup>, Sheng Li<sup>1</sup>*  
<sup>1</sup>Department of Psychology and Key Laboratory of Machine Perception (MoE), Peking University, Beijing, China
- 1084 MT Coding of dynamic form in the human occipito-temporal cortex**  
*Tanya Orlov<sup>1</sup>, Yuval Porat<sup>1</sup>, Ehud Zohary<sup>2</sup>*  
<sup>1</sup>Dept. of Neurobiology, Hebrew University of Jerusalem, Jerusalem, Israel, <sup>2</sup>Dept. of Neurobiology, ICNC and ELSC, Hebrew University of Jerusalem, Jerusalem, Israel
- 1085 MT The Spatial Coordinates of Repetition-Suppression for Objects in the Human Ventral Visual Pathway**  
*Yuval Porat<sup>1</sup>, Ayelet Mckyton<sup>1</sup>, Tanya Orlov<sup>1</sup>, Ehud Zohary<sup>1,2,3</sup>*  
<sup>1</sup>Hebrew University of Jerusalem, Department of Neurobiology, Jerusalem, Israel, <sup>2</sup>Interdisciplinary Center for Neural Computation, Hebrew University, Jerusalem, Israel, <sup>3</sup>The Edmond & Lily Safra Center for Brain Sciences, Hebrew University, Jerusalem, Israel
- 1086 MT White matter regions correlated with visual sensitivity improvements induced by rhythmic TMS patterns**  
*Romain Quentin<sup>1</sup>, Lorena Chanes<sup>1</sup>, Antoni Valero-Cabre<sup>2</sup>*  
<sup>1</sup>INSERM UMR 975 CRICM, Paris, France, <sup>2</sup>CNRS UMR 7225 CRICM / Boston University School of Medicine, Paris, France
- 1087 MT Response properties of face processing regions as revealed by dynamic visual stimulation and fMRI**  
*Meike Ramon<sup>1,2</sup>, Luca Vizioli<sup>3,2</sup>, Joan Liu<sup>1</sup>, Bruno Rossion<sup>1</sup>*  
<sup>1</sup>Université catholique de Louvain, Institute of Psychology, Institute of Neuroscience, Louvain-la-Neuve, Belgium, <sup>2</sup>University of Glasgow, Centre for Cognitive Neuroimaging, Institute of Neuroscience & Psychology, Glasgow, United Kingdom, <sup>3</sup>Université de Fribourg, Department of Psychology, Fribourg, Switzerland
- 1088 MT MEG Correlates of Stabilization of Binocular Rivalry**  
*Kristian Sandberg<sup>1</sup>, Gareth Barnes<sup>2</sup>, Morten Overgaard<sup>1</sup>, Geraint Rees<sup>3</sup>*  
<sup>1</sup>Cognitive Neuroscience Research Unit, Aarhus University Hospital, Aarhus, Denmark, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, Institute of Neurology, University College London, London, United Kingdom, <sup>3</sup>Institute of Cognitive Neuroscience, University College London., London, United Kingdom
- 1089 MT The Consequences of Human Visual Cortical Architecture for Visual Processing**  
*Dietrich Samuel Schwarzkopf<sup>1</sup>, Chen Song<sup>2</sup>, David Robertson<sup>2</sup>, Gareth Barnes<sup>3</sup>, Geraint Rees<sup>4</sup>*  
<sup>1</sup>UCL Institute of Cognitive Neuroscience & Wellcome Trust Centre for Neuroimaging at UCL, LONDON, United Kingdom, <sup>2</sup>UCL Institute of Cognitive Neuroscience, London, United Kingdom, <sup>3</sup>Wellcome Trust Centre for Neuroimaging at UCL, London, United Kingdom, <sup>4</sup>UCL Institute of Cognitive Neuroscience & Wellcome Trust Centre for Neuroimaging at UCL, London, United Kingdom
- 1090 MT Adaptation Decorrelates Neural Activation Pattern in Visual Cortex**  
*Fariba Sharifian<sup>1</sup>, Lauri Nummenmaa<sup>2,3</sup>, Simo Vanni<sup>2</sup>*  
<sup>1</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland, <sup>2</sup>AMI Centre and Brain Research Unit, O.V. Lounasmaa Laboratory, School of Science, Aalto University, Espoo, Finland, <sup>3</sup>Turku PET Centre, Turku, Finland
- 1091 MT Human brain area for seeing numbers**  
*Jennifer Shum<sup>1</sup>, Mohammad Dastjerdi<sup>1</sup>, Brett Foster<sup>1</sup>, Jonathan Winawer<sup>1</sup>, Vinitha Rangarajan<sup>1</sup>, Dora Hermes<sup>1</sup>, Kai Miller<sup>1</sup>, Josef Parvizi<sup>1</sup>*  
<sup>1</sup>Stanford University, Stanford, CA
- 1092 MT Matching Reality in the Arts: Processing of Naturalistic Compared to Surrealistic Images**  
*Sarita Silveira<sup>1</sup>, Verena Graupmann<sup>2</sup>, Dieter Frey<sup>3</sup>, Janusch Blautzik<sup>4</sup>, Thomas Meindl<sup>5</sup>, Maximilian Reiser<sup>5</sup>, Yan Bao<sup>6</sup>, Ernst Pöppel<sup>1</sup>, Evgeny Gutyrchik<sup>1</sup>*  
<sup>1</sup>Human Science Center, Ludwig-Maximilians-University, Munich, Germany, <sup>2</sup>Department of Psychology, Ludwig-Maximilians-University, Munich, Germany, <sup>3</sup>Department of Psychology, Ludwig-Maximilians-University, Munich, Germany, <sup>4</sup>Institute for Clinical Radiology, Ludwig-Maximilians-University, Munich, Germany, <sup>5</sup>Ludwig Maximilians University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>6</sup>Department of Psychology, Peking University, Beijing, China

## PERCEPTION AND ATTENTION

### Perception: Visual, continued

- 1093 MT Comparison of fNIRS signals elicited by cardinal and oblique gratings**  
*meirong Sun<sup>1</sup>, Jing Huang<sup>1</sup>, An An<sup>1</sup>, Haijing Niu<sup>1</sup>, Yan Song<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 1094 MT Imaging human face and object responsive visual areas with spin-echo and gradient-echo fMRI**  
*Topi Tanskanen<sup>1</sup>, R Waggoner<sup>1</sup>, Kenichi Ueno<sup>1</sup>, Keiji Tanaka<sup>1</sup>, Kang Cheng<sup>1</sup>*  
<sup>1</sup>RIKEN BSI, Wako, Japan
- 1095 MT Interplay between FFA and precuneus during person identification: multivariate information analysis**  
*Job van den Hurk<sup>1,2</sup>, Sebastian Laufer<sup>1</sup>, Bernadette Jansma<sup>1,2</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Maastricht Brain Imaging Center, Maastricht, Netherlands
- 1096 MT The transformation of representational similarity along the human ventral stream**  
*Alexander Walther<sup>1</sup>, Nikolaus Kriegeskorte<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom
- 1097 MT Comparison of Orientation Discrimination Learning of Real Line and Imagery Line with ERPs**  
*Fang Wang<sup>1</sup>, Xiang Zhong<sup>1</sup>, meirong Sun<sup>1</sup>, Jing Huang<sup>1</sup>, Yan Song<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 1098 MT Functional Definition of Human Visual Motion Area based on Wide Field Retinotopy**  
*Tianyi Yan<sup>1</sup>, Jinglong Wu<sup>2</sup>*  
<sup>1</sup>School of Life Science and Technology, Beijing Institute of Technology, Beijing, China, <sup>2</sup>Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan
- 1099 MT Feature conjunctions are represented in inferior and superior parietal lobe**  
*Wolf Zinke<sup>1</sup>, Florian Baumgartner<sup>1</sup>, Michael Hanke<sup>1,2</sup>, Franziska Geringswald<sup>1</sup>, Stefan Pollmann<sup>1,3</sup>*  
<sup>1</sup>Department of Experimental Psychology, Otto-von-Guericke University, Magdeburg, Germany, <sup>2</sup>Dartmouth College, Hanover, NH, USA, <sup>3</sup>Center for Behavioral Brain Sciences, Magdeburg, Germany

## PERCEPTION AND ATTENTION

### Sleep and Wakefulness

- 1100 MT Partial sleep deprivation effects on resting state functional connectivity and neurotransmitters**  
*Naranjargal Dashdorj<sup>1</sup>, Antonio Napolitano<sup>1,2</sup>, Ella Cooper<sup>1,3</sup>, Dorothee Auer<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom, <sup>2</sup>Department of Occupational Health and Safety, Medical Physics, Bambin Gesù Children Hospital, Rome, Italy, <sup>3</sup>Brighton and Sussex Medical School, Brighton, United Kingdom
- 1101 MT Neural correlates of lucid dreaming: a combined EEG/fMRI study**  
*Martin Dresler<sup>1</sup>, Renate Wehrle<sup>1</sup>, Victor Spoormaker<sup>1</sup>, Stefan Koch<sup>2</sup>, Axel Steiger<sup>1</sup>, Hellmuth Obrig<sup>3</sup>, Michael Czisch<sup>1</sup>*  
<sup>1</sup>Max Planck Institute of Psychiatry, Munich, Germany, <sup>2</sup>Berlin NeuroImaging Center, Charité University Hospital, Berlin, Germany, <sup>3</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1102 MT Phase-amplitude coupling in human hippocampal EEG recordings during waking state and sleep**  
*Juergen Fell<sup>1</sup>, Nikolai Axmacher<sup>1</sup>, Christoph Helmstaedter<sup>1</sup>, Mathilde Bonnefond<sup>2</sup>, Roemer van der Meij<sup>2</sup>, Christian Elger<sup>1</sup>, Bernhard Staresina<sup>3</sup>*  
<sup>1</sup>Dept. of Epileptology, Univ. of Bonn, Bonn, Germany, <sup>2</sup>FC Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, <sup>3</sup>MRC Cognition & Brain Sciences Unit, Cambridge, United Kingdom
- 1103 MT Hemodynamic correlates of human non-rapid eye movement sleep stage transitions**  
*Crystal Goh<sup>1</sup>, Vincent Walsh<sup>2</sup>, Ryota Kana<sup>2</sup>*  
<sup>1</sup>Institute of Cognitive Neuroscience, UCL, London, United Kingdom, <sup>2</sup>University College London, London, United Kingdom
- 1104 MT Sleep and real-life declarative learning**  
*Kerstin Hoedlmoser<sup>1</sup>, Kathrin Bothe<sup>1</sup>, Tina Moeckel<sup>1</sup>, Philippe PEIGNEUX<sup>2</sup>, Wolfgang Klimesch<sup>1</sup>, Manuel Schabus<sup>3</sup>*  
<sup>1</sup>University of Salzburg, Salzburg, Austria, <sup>2</sup>Université Libre de Bruxelles (ULB), Bruxelles, Belgium, <sup>3</sup>University of Salzburg, N/A

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

## PERCEPTION AND ATTENTION

### Sleep and Wakefulness, continued

- 1105 MT Spindles and brain activity in the spindle frequency range during human stage 2 sleep**  
*Andreas Ioannides<sup>1</sup>, Lichan Liu<sup>1</sup>, Yuko Urakami<sup>2</sup>, George Kostopoulos<sup>3</sup>*  
<sup>1</sup>Lab for Human Brain Dynamics, AAI Scientific Cultural Services Ltd, Nicosia, Cyprus, <sup>2</sup>National Rehabilitation Center for Persons with Disabilities, Tokorozawa, Japan, <sup>3</sup>Neurophysiology Unit, Department of Physiology, University of Patras, Patras, Greece
- 1106 MT Increase in cortico-thalamo-cortical connectivity during human sleep slow wave activity**  
*Caroline Kussé<sup>1</sup>, Rémy Lehembre<sup>1</sup>, Ariane Forest<sup>1</sup>, Laura Mascetti<sup>1</sup>, Pierre Maquet<sup>1</sup>, Melanie Boly<sup>1</sup>*  
<sup>1</sup>University of Liège, Cyclotron Research Centre, Liège, Belgium
- 1107 MT Locally-Desynchronized Frontal Cortex Is Disconnected from Posterior Brain During Slow-Wave Sleep**  
*Xiao Liu<sup>1</sup>, Silvina Horowitz<sup>2,1</sup>, Allen Braun<sup>3</sup>, Walter Carr<sup>4</sup>, Dante Picchioni<sup>5</sup>, Thomas Balkin<sup>5</sup>, Masaki Fukunaga<sup>1</sup>, Jeff Duyn<sup>1</sup>*  
<sup>1</sup>AMRI, LFMI, NINDS, NIH, Bethesda, MD, USA, <sup>2</sup>HMCS, NINDS, NIH, Bethesda, MD, USA, <sup>3</sup>National Institute of Health, Bethesda, MD, USA, <sup>4</sup>Naval Medical Research Center, Silver Spring, MD, USA, <sup>5</sup>Department of Behavioral Biology, Walter Reed Army Institute of Research, Silver Spring, MD, USA
- 1108 MT Haemodynamic coupling of K-complexes during sleep deprived and non-sleep deprived conditions**  
*David Rollings<sup>1,2</sup>, Stephen Mayhew<sup>1</sup>, Andrew Bagshaw<sup>1</sup>*  
<sup>1</sup>School of Psychology, University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Neuroscience Department, Queen Elizabeth Hospital, Birmingham, United Kingdom
- 1109 MT The fate of incoming stimuli during deep sleep is determined by spontaneous NREM sleep features**  
*Manuel Schabus<sup>1,2</sup>, Thien Thanh Dang-Vu<sup>2</sup>, Melanie Boly<sup>3</sup>, Dominik Heib<sup>1</sup>, Martin Desseilles<sup>4</sup>, Genevieve Albouy<sup>5</sup>, Anabelle Darsaud<sup>2</sup>, Christina Schmidt<sup>2</sup>, Steffen Gais<sup>2</sup>, Gilles Vandewalle<sup>2</sup>, Christophe Phillips<sup>2</sup>, Christian Degueldre<sup>2</sup>, Evelyne Balteau<sup>2</sup>, Andre Luxen<sup>2</sup>, Pierre Maquet<sup>2</sup>*  
<sup>1</sup>University of Salzburg, Salzburg, Austria, <sup>2</sup>Cyclotron Research Centre, Liege, Belgium, <sup>3</sup>University of Liege, Liege, Belgium, <sup>4</sup>University of Liège and Massachusetts General Hospital, Liege, Belgium, <sup>5</sup>CRIUGM, University of Montreal, Montreal, Canada

- 1110 MT Decoding Vigilance States From Brain Functional Connectivity Graphs**  
*Manuel Sebastian Schröter<sup>1,2</sup>, Andre Altmann<sup>1</sup>, Sara Kiem<sup>1</sup>, Victor Spoomaker<sup>1</sup>, Renate Wehrle<sup>1</sup>, Edward Bullmore<sup>2</sup>, Michael Czisch<sup>1</sup>, Philipp Sämann<sup>1</sup>*  
<sup>1</sup>Max Planck Institute of Psychiatry, Munich, Germany, <sup>2</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom
- 1111 MT Consistency of brain activity during sleep stages within subjects**  
*Yu-Chin Wu<sup>1</sup>, Pei-Jung Tsa<sup>2</sup>, Po-Yu Liu<sup>3</sup>, Changwei Wu<sup>4</sup>, Ching-Po Lin<sup>2</sup>, Keh-Shih Chuang<sup>5</sup>, Sharon Chia-Ju Chen<sup>6</sup>*  
<sup>1</sup>Institute of Nuclear Engineering and Science, National Tsing-Hua University, Hsin-Chu, <sup>2</sup>Institute of Brain Science, National Yang-Ming University, Taipei, <sup>3</sup>Department of Biomedical Imaging and Radiological Sciences, National Yang-Ming University, Taipei, <sup>4</sup>Graduate Institute of Biomedical Engineering, National Central University, Taoyuan, <sup>5</sup>Department of Biomedical Engineering and Environmental Sciences, National Tsing-Hua University, Hsin-Chu, <sup>6</sup>Kaohsiung Medical University, Kaohsiung

## SOCIAL NEUROSCIENCE

### Social Cognition

- 1112 MT Contributions of Top-Down and Bottom-Up Features to Social Action Perception**  
*Emily Cross<sup>1,2</sup>, Roman Liepelt<sup>3</sup>, Wolfgang Prinz<sup>4</sup>, Antonia Hamilton<sup>5</sup>*  
<sup>1</sup>Bangor University, Bangor, United Kingdom, <sup>2</sup>Radboud University Nijmegen, Nijmegen, Netherlands, <sup>3</sup>Universität Münster, Münster, Germany, <sup>4</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>5</sup>University of Nottingham, Nottingham, United Kingdom
- 1113 MT Seeing it their way or my way: Neural substrates for selecting between visual perspectives**  
*Richard Ramsey<sup>1</sup>, Ian Apperly<sup>2</sup>, Peter Hansen<sup>3</sup>, Dana Samson<sup>4</sup>*  
<sup>1</sup>Bangor University, Bangor, United Kingdom, <sup>2</sup>University of Birmingham, Birmingham, United Kingdom, <sup>3</sup>University of Birmingham, School of Psychology, Birmingham, United Kingdom, <sup>4</sup>Catholic University of Louvain, Louvain-La-Neuve, Belgium

>> Monday, June 11: 13:30 – 15:30 (even numbers)  
>> Tuesday, June 12: 13:30 – 15:30 (odd numbers)

# SCHEDULE OF POSTER PRESENTATIONS

Wednesday, June 13, 2012 and Thursday, June 14, 2012

\* Indicates poster will also be presented during an Oral Session. The oral session number is indicated in parentheses after the poster title.

\*\* Indicates poster will also be presented during an Interactive Poster (I-Poster) Session. Please check the Program Book for I-Poster Presentation times.

Information listed, including author affiliations, appear as submitted.

## BRAIN STIMULATION METHODS

### Deep Brain Stimulation

- 1 **WTh Optimal SCC DBS electrode placement determined by structural connectivity to prefrontal cortex**  
*KI SUENG CHOI<sup>1</sup>, Paul Holtzheimer<sup>2</sup>, Alexandre Franco<sup>3</sup>, Patricio Posse<sup>4</sup>, Xiaoping Hu<sup>5</sup>, Helen Mayberg<sup>4</sup>*  
<sup>1</sup>Georgia Institute of Technology / Emory University, Atlanta, United States, <sup>2</sup>Dartmouth Medical School, Lebanon, NH, <sup>3</sup>Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, <sup>4</sup>Emory University, Atlanta, GA, <sup>5</sup>Georgia Tech/Emory University, Atlanta, GA
- 2 **WTh Geometrical distortions of 7T MRI and their implications for clinical applications**  
*Yuval Duchin<sup>1</sup>, Aviva Abosch<sup>1</sup>, Essa Yacoub<sup>1</sup>, Guillermo Sapiro<sup>1</sup>, Noam Harel<sup>1</sup>*  
<sup>1</sup>University of Minnesota, Minneapolis, MN
- 3 **WTh Deep Brain Stimulation normalizes nucleus accumbens activity in obsessive-compulsive disorder**  
*Martijn Figee<sup>1</sup>, Judy Luigjes<sup>1</sup>, Matthijs Vink<sup>2</sup>, damiaan denys<sup>1</sup>*  
<sup>1</sup>AMC, Amsterdam, Netherlands, <sup>2</sup>Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands
- \*4 **WTh Default Mode Network Functional Structure Predicts Treatment Response of Deep Brain Stimulation (O-Th1)**  
*Alexandre Franco<sup>1</sup>, Steven Garlow<sup>2</sup>, Patricio Posse<sup>2</sup>, Robert Gross<sup>2</sup>, Paul Holtzheimer<sup>3</sup>, Mary Kelley<sup>2</sup>, Helen Mayberg<sup>2</sup>*  
<sup>1</sup>Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil, <sup>2</sup>Emory University, Atlanta, GA, <sup>3</sup>Dartmouth Medical School, Lebanon, NH
- 5 **WTh Subdural Cortical Stimulation in a Realistic Head Model – Computational Study**  
*Donghyeon Kim<sup>1</sup>, Hyoung-Ihl Kim<sup>1</sup>, SUNG JUN<sup>1</sup>*  
<sup>1</sup>Gwangju Institute of Science and Technology, Gwangju, Korea, Republic of

- 6 **WTh Deep Brain Stimulation normalizes frontostriatal connectivity in obsessive-compulsive disorder**  
*Judy Luigjes<sup>1</sup>, Martijn Figee<sup>1</sup>, Guido van Wingen<sup>1</sup>, Lukas Droge<sup>1</sup>, Wim van den Brink<sup>1</sup>, damiaan denys<sup>1</sup>*  
<sup>1</sup>Academic Medical Center Amsterdam, Amsterdam, Netherlands
- 7 **WTh Suppression of collective synchronization in a population of globally coupled chaotic FHN neurons**  
*Le Nguyen<sup>1</sup>, Keum-Shik Hong<sup>1</sup>*  
<sup>1</sup>Pusan National University, Busan, Korea, Republic of
- 8 **WTh Synchronization of FitzHugh-Nagumo neurons using PI-based nonlinear adaptive control**  
*Muhammad Rehan<sup>1</sup>, Keum-Shik Hong<sup>1</sup>, Muhammad Ahmad Kamran<sup>1</sup>*  
<sup>1</sup>Pusan National University, Busan, Korea, Republic of

## BRAIN STIMULATION METHODS

### Direct Electrical/Optogenetic Stimulation

- 9 **WTh Multi modal segregation of neural language networks**  
*Tal Gonen<sup>1,2,3</sup>, Irit Lichter Shapira<sup>1</sup>, Daniella Perry<sup>1</sup>, Tomer Gazit<sup>1</sup>, Talma Hendler<sup>1,3,4</sup>, Zvi Ram<sup>2,4</sup>*  
<sup>1</sup>Functional Brain Imaging Unit, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, <sup>2</sup>Department of Neurosurgery, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, <sup>3</sup>Department of Psychology, Tel-Aviv University, Tel Aviv, Israel, <sup>4</sup>Sackler School of Medicine Tel-Aviv University, Tel Aviv, Israel
- 10 **WTh Comparison of binocular and monocular neural response time courses in cats' primary visual cortex**  
*Man Song<sup>1</sup>*  
<sup>1</sup>Fudan University, Shanghai, China

>> Wednesday, June 13: 13:30 – 15:30 (even numbers)  
>> Thursday, June 14: 10:45 – 12:45 (odd numbers)



## BRAIN STIMULATION METHODS

### TDCS

- 11 WTh Transcranial direct current stimulation (tDCS) as an adjunct intervention in stroke rehabilitation**  
*Claire Allman<sup>1</sup>, Ugwechi Amadi<sup>1</sup>, Nicola Filippini<sup>2</sup>, Udo Kischka<sup>3</sup>, Charlotte Stagg<sup>1</sup>, Heidi Johansen-Berg<sup>1</sup>*  
<sup>1</sup>FMRIB Centre, University of Oxford, Oxford, United Kingdom, <sup>2</sup>University Department of Psychiatry and FMRIB Centre, University of Oxford, Oxford, United Kingdom, <sup>3</sup>Oxford Centre for Enablement, Oxford, United Kingdom
- \*12 WTh Transcranial Direct Current Stimulation (tDCS) Modulates Connectivity in Human Attention Networks (O-Th1)**  
*Peter Dechent<sup>1</sup>, Carsten Schmidt-Samoa<sup>1</sup>, Melanie Wilke<sup>1</sup>*  
<sup>1</sup>Dept. of Cognitive Neurology, University Medicine Göttingen, Göttingen, Germany
- 13 WTh Modulation of somatosensory oscillations by means of transcranial alternating current stimulation**  
*Christopher Gundlach<sup>1</sup>, Bernhard Sehm<sup>1</sup>, Matthias Müller<sup>2</sup>, Arno Villringer<sup>1</sup>*  
<sup>1</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>University of Leipzig, Leipzig, Germany
- 14 WTh Comparison of the onsite-effects according to application methods of tDCS**  
*Yong Hyun Kwon<sup>1</sup>, Sung Ho Jang<sup>2</sup>*  
<sup>1</sup>Department of Physical Therapy, Yeungnam College of Science and Technology, Daegu, Korea, Republic of, <sup>2</sup>Department of Physical Medicine and Rehabilitation, College of Medicine, Yeungnam University, Daegu, Korea, Republic of
- 15 WTh Finite element model of the rhesus macaque head: electroconvulsive therapy electric field simulation**  
*Won-Hee Lee<sup>1,2</sup>, Sarah Lisanby<sup>2</sup>, Andrew Laine<sup>1</sup>, Angel Peterchev<sup>2</sup>*  
<sup>1</sup>Columbia University, New York, United States, <sup>2</sup>Duke University, Durham, United States
- \*16 WTh Modulation of resting state and task-related activity induced by dual motor cortex stimulation (O-Th1)**  
*Robert Lindenberg<sup>1</sup>, Mira Sieg<sup>1</sup>, Marcus Meinzer<sup>1</sup>, Jan Kubke<sup>1</sup>, Keren Avirame<sup>1</sup>, Agnes Flöel<sup>1</sup>*  
<sup>1</sup>Department of Neurology, Charite University Medicine, Berlin, Germany
- 17 WTh Rejuvenating the aging mind by transcranial direct current stimulation**  
*Marcus Meinzer<sup>1</sup>, Daria Antonenko<sup>1</sup>, Robert Lindenberg<sup>1</sup>, Agnes Flöel<sup>2</sup>*  
<sup>1</sup>Charite University Medicine, Berlin, Germany, <sup>2</sup>Charite Universitätsmedizin Berlin, Berlin, Germany
- 18 WTh Dynamic modulation of intrinsic functional connectivity by transcranial direct current stimulation**  
*Bernhard Sehm<sup>1</sup>, Alexander Schaefer<sup>1</sup>, Judy Kipping<sup>1</sup>, Daniel Margulies<sup>2</sup>, Virginia Conde Ruiz<sup>1</sup>, Marco Taubert<sup>1</sup>, Arno Villringer<sup>1</sup>, Patrick Ragert<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany
- 19 WTh An tDCS Study with an extracephalic reference electrode based on realistic 3D body modeling**  
*Miseon Shim<sup>1</sup>, Chang-Hwan Im<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 20 WTh Modulation of motor cortical oscillations by transcranial alternating current stimulation (tACS)**  
*Claudia Wach<sup>1</sup>, Vanessa Krause<sup>1</sup>, Vera Moliadze<sup>2</sup>, Walter Paulus<sup>3</sup>, Alfons Schnitzler<sup>1</sup>, Bettina Pollok<sup>1</sup>*  
<sup>1</sup>Institute of Clinical Neuroscience and Medical Psychology, Heinrich-Heine-University, Duesseldorf, Germany, <sup>2</sup>Department of Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy, Goethe-University, Frankfurt, Germany, <sup>3</sup>Department of Clinical Neurophysiology, Georg-August-University, Goettingen, Germany
- 21 WTh Effects of transcranial direct current stimulation on aphasia rehabilitation**  
*Xue Wang<sup>1</sup>, Rosalind Hurwitz<sup>2</sup>, Edna Babbitt<sup>2</sup>, Lynn Rogers<sup>2</sup>, Richard L. Harvey<sup>2,1</sup>, Todd Parrish<sup>1</sup>, Leora R. Cherney<sup>2,1</sup>*  
<sup>1</sup>Northwestern University, Chicago, IL, <sup>2</sup>The Rehabilitation Institute of Chicago, Chicago, IL
- 22 WTh Using beamforming to assess online-effects of electric brain stimulation on the Bereitschaftsfield**  
*Matthias Witkowski<sup>1,2</sup>, Stephen Robinson<sup>3</sup>, Tom Holroyd<sup>3</sup>, Richard Coppola<sup>3</sup>, Niels Birbaumer<sup>4</sup>, Leonardo Cohen<sup>2</sup>, Surjo Soekadar<sup>2,1</sup>*  
<sup>1</sup>University Hospital Tübingen, Department of Psychiatry and Psychotherapy, Tübingen, Germany, <sup>2</sup>NINDS/NIH, Bethesda, MD, <sup>3</sup>NIMH/NIH, Bethesda, MD, <sup>4</sup>Institute of Medical Psychology and Behavioral Neurobiology, Tübingen, Germany

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>> Thursday, June 14: 10:45 – 12:45 (odd numbers)

## BRAIN STIMULATION METHODS

### TDCS, continued

- 23 **WTh The effect of tDCS on human EEG default mode network (EEG DMN) in spectral field powers**  
*Min XU<sup>1</sup>, Weiqi CUI<sup>2</sup>, Kun WANG<sup>1</sup>, Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China, <sup>2</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 24 **WTh Changes in M1 cortical excitability and intracortical inhibition by tDCS in rest and active states**  
*xue zhang<sup>1</sup>, Hilde Feys<sup>2</sup>, Stephan Swinnen<sup>1</sup>, Femke van den Berg<sup>1</sup>, Nicole Wenderoth<sup>1</sup>*  
<sup>1</sup>Department of Kinesiology - Movement Control and Neuroplasticity Research Group- KU Leuven, Leuven, Belgium, <sup>2</sup>Faculty of Kinesiology and Rehabilitation Sciences - KU Leuven, Leuven, Belgium

## BRAIN STIMULATION METHODS

### TMS

- \*25 **WTh Role of interhemispheric connectivity in the auditory network: a combined TMS and fMRI study (O-Th1)**  
*Jamila Andoh<sup>1</sup>, Robert Zatorre<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Quebec
- 26 **WTh Dorsal and ventral parietal contributions to inhibition of return**  
*Alexia Bourgeois<sup>1</sup>, Ana Chica<sup>2</sup>, Antoni Valero-Cabre<sup>3</sup>, Paolo Bartolomeo<sup>4</sup>*  
<sup>1</sup>CRICM - Inserm UMRS975, Paris, France, <sup>2</sup>Department of Experimental Psychology, Granada, Spain, <sup>3</sup>CNRS UMR 7225 CRICM / Boston University School of Medicine, Paris, France, <sup>4</sup>INSERM-UPMC UMR\_S 975, Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière, Paris, France
- 27 **WTh Combining concurrent TMS/fMRI and calculations of the electric field induced by TMS**  
*Andreas Bungert<sup>1</sup>, Andre Antunes<sup>2</sup>, Chambers Christopher<sup>1</sup>, C. Evans<sup>1</sup>, Paul Glover<sup>2</sup>*  
<sup>1</sup>Cardiff University, Cardiff, United Kingdom, <sup>2</sup>University of Nottingham, Nottingham, United Kingdom

- 28 **WTh Effective connectivity in the motor system predicts response to theta-burst rTMS**  
*Lizbeth Cárdenas-Morales<sup>1</sup>, Mareike Gooßes<sup>2</sup>, Jochen Michely<sup>2</sup>, Charlotte Nettekoven<sup>3</sup>, Christian Grefkes<sup>4</sup>*  
<sup>1</sup>Max Planck Institute Neurological Research/Department of Neurology University of Cologne, Cologne, Germany, <sup>2</sup>Max Planck Institute for neurological research, Cologne, Germany, <sup>3</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>4</sup>Max-Planck-Institut für Neurologische Forschung, Cologne, Germany
- 29 **WTh Transcranial magnetic stimulation of the prefrontal cortex impairs tactile temporal discrimination**  
*Juha Gogulski<sup>1,2</sup>, Robert Boldt<sup>1,3,4</sup>, Petri Savolainen<sup>5</sup>, Jessica Guzmán-López<sup>1,2</sup>, Synnöve Carlson<sup>1,3</sup>, Antti Pertovaara<sup>1</sup>*  
<sup>1</sup>Institute of Biomedicine/Physiology, University of Helsinki, Helsinki, Finland, <sup>2</sup>BioMag Laboratory, HUSLAB, Helsinki University Central Hospital, Helsinki, Finland, <sup>3</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, Aalto University School of Science, Espoo, Finland, <sup>4</sup>Advanced Magnetic Imaging Centre, Aalto University School of Science, Espoo, Finland, <sup>5</sup>Nexstim Ltd, Helsinki, Finland
- 30 **WTh Perturbed Functional Motor Connectivity in Human Brain by Transcranial Magnetic Stimulation**  
*Jae-Chang Kim<sup>1,2</sup>, Sunghyon Kyeong<sup>3,1</sup>, Jong Doo Lee<sup>4,1</sup>, Hae-Jeong Park<sup>4,1</sup>*  
<sup>1</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Radiology, Nuclear Medicine and Severance Biomedical Science Institute, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>National Institute for Mathematical Sciences, Daejeon, Korea, Republic of, <sup>4</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 31 **WTh State-dependent directed information flow across synchrony networks in the human brain**  
*Keiichi Kitajo<sup>1,2</sup>, Tadashi Kitahara<sup>3,1</sup>, Yumi Nakagawa<sup>1</sup>*  
<sup>1</sup>RIKEN Brain Science Institute, Wako, Japan, <sup>2</sup>JST PRESTO, Kawaguchi, Japan, <sup>3</sup>Keio University, Yokohama, Japan

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- 32 WTh BDNF Val66Met Polymorphism and Intermittent Theta Burst Stimulation Affect Motor Cortical Plasticity**  
*Mina Lee<sup>1</sup>, Jeong-Yun Lee<sup>2</sup>, Yi-Seul Choi<sup>3</sup>, Seon-Yong Jeong<sup>4</sup>, Byung Gon Kim, MD, PhD,<sup>5</sup>, Hyang Woon Lee<sup>1</sup>*  
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- \*33 WTh MEP predicts motor recovery in chronic stroke patients undergoing 4-weeks of daily physical therapy (O-Th1)**  
*Fabricio Lima Brasil<sup>1</sup>, Marco Curado<sup>2</sup>, Manuel Agostini<sup>3</sup>, Giulia Liberati<sup>4</sup>, Eliana Garcia Cossio<sup>1</sup>, Doris Broetz<sup>5</sup>, Matthias Witkowski<sup>6</sup>, Niels Birbaumer<sup>7</sup>, Surjo Soekadar<sup>8</sup>*  
<sup>1</sup>Max Planck Research School - University of Tübingen, Tübingen, Germany, <sup>2</sup>International Max Planck Research School for Neural & Behavioural Sciences, Tübingen, Germany, <sup>3</sup>Eberhard Karls University, Tuebingen, Germany, <sup>4</sup>Interuniversity Centre for Research on Cognitive Processing in Natural and Artificial Systems (ECONA), Rome, Italy, <sup>5</sup>University Hospital Tübingen, Department of Psychiatry and Psychotherapy, Tübingen, Germany, <sup>6</sup>University Hospital Tuebingen, Department of Psychiatry and Psychotherapy, Tuebingen, Germany, Tuebingen, Germany, <sup>7</sup>University of Tübingen, Tübingen, Germany, <sup>8</sup>National Institute of Neurological Disorders and Stroke (NINDS), NIH, Bethesda, MD
- 34 WTh Stimulating medial and lateral cortical areas with TMS during whole brain fMRI recording**  
*Sebastiaan Neggers<sup>1</sup>, Antoin De Weijer<sup>2</sup>, sven bestmann<sup>3</sup>, Erwin Bakker<sup>4</sup>, Dennis Klomp<sup>5</sup>, Iris Sommer<sup>2</sup>*  
<sup>1</sup>University Medical Center Utrecht & Rudolf Magnus Institute for Neuroscience, Utrecht, Utrecht, <sup>2</sup>Rudolf Magnus Institute for Neuroscience, Utrecht, Utrecht, <sup>3</sup>IoN, London, United Kingdom, <sup>4</sup>UMC Utrecht, Utrecht, Utrecht, <sup>5</sup>Image Science Institute, Utrecht, Utrecht
- 35 WTh Age differences in plastic response to a single session of non-invasive brain stimulation**  
*Traian Popa<sup>1,2</sup>, Eric Bertasi<sup>1,2</sup>, Cecile Galea<sup>1,2</sup>, Frederic Bernard<sup>3</sup>, Richard Frackowiak<sup>4</sup>, Stephane Lehericy<sup>1,2</sup>*  
<sup>1</sup>Centre de NeuroImagerie de Recherche (CENIR), Groupe Hospitalier Pitié-Salpêtrière, Paris, France, <sup>2</sup>Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière (CRICM), UPMC – Paris 6, Inserm UMR-S975, CNRS UMR 7225, Paris, France, <sup>3</sup>Laboratoire d'Imagerie et de Neurosciences Cognitives (CNRS-UDS), Université de Strasbourg, Strasbourg, France, <sup>4</sup>LREN, Département des Neurosciences Cliniques, CHUV, Université de Lausanne, Lausanne, Switzerland, Lausanne, Switzerland
- 36 WTh Baboon Validations of the Cortical Column TMS Aiming Strategy: CBF dependence on Coil Orientation**  
*Felipe Salinas<sup>1</sup>, Shalini Narayana<sup>1</sup>, Wei Zhang<sup>1</sup>, Lisa Jones<sup>2</sup>, M. Michelle Leland<sup>2</sup>, Jack Lancaster<sup>1</sup>, Peter Fox<sup>1</sup>*  
<sup>1</sup>Research Imaging Institute, UTHSCSA, San Antonio, TX, <sup>2</sup>Dept. of Lab Animal Resources, UTHSCSA, San Antonio, TX
- 37 WTh Modeling transcranial magnetic stimulation induced synaptic plasticity**  
*Roberto Sotero<sup>1</sup>, Ramon Martinez-Cancino<sup>2</sup>, Ajay Venkateswaran<sup>1</sup>, Amir Shmuel<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Canada, <sup>2</sup>National Bioinformatics Center (BIOINFO), Havana, Cuba
- 38 WTh Voluntary Muscle Fatigue alters Motor Cortical Maps- A Transcranial Magnetic Stimulation study**  
*Alexandria Wyant<sup>1</sup>, Corin Bonnett<sup>1</sup>, David Cunningham<sup>1</sup>, Ela Plow<sup>1</sup>, Vlodek Siemionow<sup>1</sup>, Guang Yue<sup>2</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH, <sup>2</sup>Cleveland Clinic & Kessler Foundation Research Center, Cleveland, OH & West Orange, NJ

## DISORDERS OF THE NERVOUS SYSTEM

### Addictions

- 39 WTh Mapping the impact of cannabis on regular smokers during a visuo-motor task**  
*Giovanni Battistella*<sup>1</sup>, *Eleonora Fornari*<sup>2</sup>, *Jean-Frédéric Mall*<sup>3</sup>, *Marie Fabritius*<sup>4</sup>, *Kim Dao Vicente*<sup>5</sup>, *Monique Appenzeller*<sup>6</sup>, *Jean-Marie Annoni*<sup>6</sup>, *Thierry Buclin*<sup>5</sup>, *Bernard Favrat*<sup>7</sup>, *Christian Giroud*<sup>4</sup>, *Philippe Maeder*<sup>1</sup>  
<sup>1</sup>Dept. of Radiology, CHUV Lausanne and University of Lausanne, Lausanne, Switzerland, <sup>2</sup>Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland, <sup>3</sup>Department of Psychiatry, SUPAA (Service Universitaire de Psychiatrie de l'Age Avancé), CHUV, Lausanne, Switzerland, <sup>4</sup>CURML (University Center of Legal Medicine), (UTCF) Forensic Toxicology and Chemistry Unit, Lausanne, Switzerland, <sup>5</sup>Division of Clinical Pharmacology and Toxicology, CHUV, Lausanne, Switzerland, <sup>6</sup>University of Geneva, Geneva, Switzerland, <sup>7</sup>CURML, UMPT (Unit of Psychology and Traffic Medicine), Lausanne and Geneva, Switzerland
- 40 WTh Relapse in alcohol dependence: the impact of brain structure, brain function and brain connectivity**  
*Anne Beck*<sup>1</sup>, *Torsten Wüstenberg*<sup>2</sup>, *Alexander Genauck*<sup>2</sup>, *Wrase Jana*<sup>2</sup>, *Schlagenhauf Florian*<sup>2</sup>, *Michael Smolka*<sup>3</sup>, *Karl Mann*<sup>4</sup>, *Andreas Heinz*<sup>2</sup>  
<sup>1</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>3</sup>Technische Universität Dresden, Dresden, Germany, <sup>4</sup>Central Institute of Mental Health, Mannheim, Germany
- 41 WTh An investigation into response inhibition processes in current adolescent heavy cannabis users**  
*Brendan Behan*<sup>1</sup>, *Adam Stone*<sup>1</sup>, *Sameer Datwani*<sup>1</sup>, *Marika Doucet*<sup>1</sup>, *Jelena Ivanovic*<sup>1</sup>, *Bobby Smyth*<sup>2</sup>, *Hugh Garavan*<sup>3</sup>  
<sup>1</sup>Trinity College Institute of Neuroscience (TCIN), Dublin, Ireland, <sup>2</sup>Health Service Executive Ireland, Dublin, Ireland, <sup>3</sup>University of Vermont, Burlington, VT
- 42 WTh fMRI shows recovery of function in the response inhibition circuit of abstinent cocaine abusers**  
*Ryan Bell*<sup>1,2</sup>, *John Foxe*<sup>1,2</sup>, *Lars Ross*<sup>1,2</sup>, *Hugh Garavan*<sup>3</sup>  
<sup>1</sup>Albert Einstein College of Medicine, New York, NY, <sup>2</sup>Cognitive Neurophysiology Laboratory, New York, NY, <sup>3</sup>University of Vermont, Burlington, VT
- 43 WTh Resting-state functional connectivity in networks mediating self-perception in chronic cannabis use**  
*Laura Blanco-Hinojo*<sup>1,2</sup>, *Jesus Pujol*<sup>3</sup>, *Ana B Fagundo*<sup>2</sup>, *Marina López-Solà*<sup>1,4</sup>, *Carles Soriano-Mas*<sup>4</sup>, *Ben J Harrison*<sup>5</sup>, *Oren Contreras Rodríguez*<sup>1,4</sup>, *Joan Deus*<sup>6</sup>, *Marta Torrens*<sup>2</sup>, *Rafael de la Torre*<sup>2</sup>, *Magí Farré*<sup>2</sup>, *Rocío Martín-Santos*<sup>2,7</sup>  
<sup>1</sup>IAT-PRBB, CRC-Hospital del Mar, Barcelona, Spain, <sup>2</sup>Neuroscience Research Program, Pharmacology Unit, IMIM-Parc de Salut Mar, Barcelona, Spain, <sup>3</sup>IAT-PRBB, CRC-Hospital del Mar, Barcelona, Spain, <sup>4</sup>Bellvitge University Hospital-IDIBELL, CIBERSAM, Barcelona, Spain, <sup>5</sup>The University of Melbourne, Melbourne, Australia, <sup>6</sup>Universitat Autònoma de Barcelona, Barcelona, Spain, <sup>7</sup>Clinical Institute of Neuroscience, Hospital Clínic, IDIBAPS, CIBERSAM, and University of Barcelona, Barcelona, Spain
- 44 WTh White matter deficits of impaired cognition in heroin users after methadone maintenance treatment**  
*Kun-Hsien Chou*<sup>1</sup>, *Wei-Che Lin*<sup>2</sup>, *Chu-Chung Huang*<sup>3</sup>, *Chien-Chih Chen*<sup>4</sup>, *Hsiu-Ling Chen*<sup>2</sup>, *Cheng-Hsien Lu*<sup>5</sup>, *Shau-Hsuan Li*<sup>6</sup>, *Ya-Ling Wang*<sup>4</sup>, *Yu-Fan Cheng*<sup>2</sup>, *Ching-Po Lin*<sup>7</sup>  
<sup>1</sup>Institute of Neuroscience, National Yang-Ming University, <sup>2</sup>Department of Diagnostic Radiology, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University, Kaohsiung, Chinese Taipei, <sup>3</sup>Institute Of Biomedical Imaging And Radiological Sciences, National Yang-Ming University, Taipei, <sup>4</sup>Department of Psychiatry, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University, Kaohsiung, Chinese Taipei, <sup>5</sup>Department of Neurology, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University, Kaohsiung, Chinese Taipei, <sup>6</sup>Department of Internal Medicine, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University, Kaohsiung, Chinese Taipei, <sup>7</sup>National Yang-Ming University, Taipei, Chinese Taipei
- 45 WTh Nicotine Effects on Ventral Striatal Activation Patterns in Smokers and Non-Smokers**  
*Uraina Clark*<sup>1</sup>, *Lawrence Sweet*<sup>2</sup>, *Colleen Finnerty*<sup>3</sup>, *Raymond Niaura*<sup>4</sup>  
<sup>1</sup>Brown University, Providence, RI, <sup>2</sup>Alpert Medical School of Brown University, Providence, RI, <sup>3</sup>Rutgers University, Newark, NJ, <sup>4</sup>American Legacy Foundation, The Schroeder Institute for Tobacco Research and Policy Studies, Washington, DC
- 46 WTh Approach-bias predicts cannabis problem severity: results from a prospective fMRI study**  
*Janna Cousijn*<sup>1</sup>, *Anna Goudriaan*<sup>2</sup>, *K. Richard Ridderinkhof*<sup>1</sup>, *Wim van den Brink*<sup>2</sup>, *Dick Veltman*<sup>3</sup>, *Reinout Wiers*<sup>1</sup>  
<sup>1</sup>Department of Psychology, University of Amsterdam, Amsterdam, Netherlands, <sup>2</sup>Department of Psychiatry, Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands, <sup>3</sup>Department of Psychiatry, VU University medical center, Amsterdam, Netherlands

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## DISORDERS OF THE NERVOUS SYSTEM

### Addictions, continued

- 47 WTh Exploring Nicotine Addiction: Resting State and DTI Measures Linked To Physical Dependence**  
*Joseph DiFranza<sup>1</sup>, Wei Huang<sup>1</sup>, Nanyin Zhang<sup>1</sup>, Sanouri Ursprung<sup>1</sup>, David Kennedy<sup>1</sup>, Jean King<sup>1</sup>*  
<sup>1</sup>University of Massachusetts Medical School, Worcester, United States
- 48 WTh Drug Cue Reactivity in Heroin Dependents under Methadone Maintenance and Abstinence Based Treatments**  
*Hamed Ekhtiari<sup>1</sup>, Hossein Tabatabaei<sup>2</sup>, Habib Ganjgah<sup>3</sup>, Peyman Hassani-Abharian<sup>4</sup>, Mohammad Ali Oghabian<sup>5</sup>*  
<sup>1</sup>Iranian National Center for Addiction Studies, Tehran, <sup>2</sup>Iranian National Center for Addiction Studies, Tehran, Iran, Islamic Republic of, <sup>3</sup>Iranian National Center For Addiction Studies, Iran, Islamic Republic of, <sup>4</sup>Institute for Cognitive Science Studies, Tehran, Iran, Islamic Republic of, <sup>5</sup>Tehran University of Medical Sciences, Tehran, Iran, Islamic Republic of
- 49 WTh Functional Connectivity Analysis Confirms Reward Network Involvement During Cue-Elicited Craving**  
*Francesca Filbey<sup>1</sup>, Joseph Dunlop<sup>2</sup>*  
<sup>1</sup>Center for BrainHealth, University of Texas at Dallas, Dallas, United States, <sup>2</sup>The University of Texas at Dallas, N/A
- 50 WTh Volumetric changes in brain structure in males with pathological gambling**  
*Eva Hasselmann<sup>1</sup>, Saskia Köhler<sup>1,2</sup>, Torsten Wüstenberg<sup>1</sup>, Andreas Heinz<sup>1,2</sup>, Nina Seifert<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Charité – Universitätsmedizin Berlin, CCM, Berlin, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany
- 51 WTh Independent Component Analysis of Decision Making in Methamphetamine Dependent and Control Subjects**  
*William Hoffman<sup>1</sup>, Marilyn Huckans<sup>2</sup>, Suzanne Mitchell<sup>3</sup>, Daniel Schwartz<sup>2</sup>, Britta Tremblay<sup>2</sup>*  
<sup>1</sup>Department of Veterans Affairs, Portland, United States, <sup>2</sup>Portland VA Medical Center, Portland, OR, <sup>3</sup>Oregon health & science university, Portland, OR
- 52 WTh Corticostriatal Ratio of Grey Matter Volume Predicts Cocaine Dependence**  
*Yuzheng Hu<sup>1</sup>, Hong Gu<sup>1</sup>, Betty Jo Salmeron<sup>1</sup>, Xia Liang<sup>1,2</sup>, Feiyan Chen<sup>1,3</sup>, Elliot Stein<sup>1</sup>, Yihong Yang<sup>1</sup>*  
<sup>1</sup>Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD 21224, United States, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>3</sup>Bio-X Lab, Department of Physics, Zhejiang University, Hangzhou, China
- 53 WTh Relating Treatment Outcome To Reward Processing in Cocaine Dependence: A SVC ROI-Based fMRI Study**  
*Zhiru Jia<sup>1</sup>, Patrick Worhunsky<sup>2</sup>, Kathleen Carroll<sup>2</sup>, Bruce Rounsaville<sup>2</sup>, Michael Stevens<sup>3</sup>, Godfrey Pearlson<sup>3</sup>, Marc Potenza<sup>4</sup>*  
<sup>1</sup>Department of Psychiatry, Weill Cornell Medical College of Cornell University, 21 Bloomingdale Road, White Plains, NY, United States, <sup>2</sup>Department of Psychiatry, Yale University School of Medicine, VA CT Healthcare, West Haven, CT, United States, <sup>3</sup>Department of Psychiatry, Yale University School of Medicine, Olin Research Center, Hartford, CT, United States, <sup>4</sup>Department of Psychiatry and Child Study Center, Yale University School of Medicine, New Haven, CT, United States
- 54 WTh Human brain anatomical network related to the increased impulsivity in heroin addicts**  
*Guihua Jiang<sup>1</sup>, Ruibin Zhang<sup>2</sup>, Xue Wen<sup>2</sup>, Yingwei Qiu<sup>1</sup>, Yong Xu<sup>2</sup>, Bin Wang<sup>2</sup>, Shumei Li<sup>2</sup>, Junzhang Tian<sup>1</sup>, Ming Liu<sup>2</sup>, Ruiwang Huang<sup>2</sup>*  
<sup>1</sup>Department of Medical Imaging, Guangdong No. 2 Provincial People's Hospital, Guangzhou 510317, P.R. China, <sup>2</sup>Center for the Study of Applied Psychology, Key Lab of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou 510631, P.R. China
- 55 WTh Neural substrates of acupuncture in the modulation of smoking-related visual cues induced craving**  
*O-SEOK KANG<sup>1</sup>, Geon-Ho Jahng<sup>2</sup>, Hackjin Kim<sup>3</sup>, Hi-Joon Park<sup>1</sup>, Younbyoung Chae<sup>1,3</sup>*  
<sup>1</sup>Acupuncture and Meridian Science Research Center, Kyung Hee University, Seoul, Korea, Republic of, <sup>2</sup>Dept. of Radiology, East-West Neo Medical Center, School of Medicine, Kyung Hee University, Seoul, Korea, Republic of, <sup>3</sup>Dept. of Brain and Cognitive Engineering, Korea University, Seoul, Korea, Republic of
- 56 WTh Increased functional connectivity between middle frontal gyrus and striatum in pathological gambling**  
*Saskia Köhler<sup>1,2</sup>, Smadar Ovadia-Caro<sup>1,3</sup>, Arno Villringer<sup>1,3</sup>, Andreas Heinz<sup>1,2</sup>, Nina Seifert<sup>2</sup>, Daniel Margulies<sup>1,3</sup>*  
<sup>1</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Charité – Universitätsmedizin Berlin, CCM, Berlin, Germany, <sup>3</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 57 WTh The effect of acute alcohol and stimulus salience on conflict monitoring and error processing**  
*Ozlem Korucuoglu<sup>1</sup>, Thomas Gladwin<sup>1</sup>, Prof. Dr. Reinout Wiers<sup>1</sup>*  
<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands

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## DISORDERS OF THE NERVOUS SYSTEM

### Addictions, continued

- 58 **WTh Does the medial orbitofrontal activation reflect smoking desire? Functional MRI study**  
*HanGil Lee<sup>1</sup>, Dong-Youl Kim<sup>1</sup>, Yong-Hwan Kim<sup>1</sup>, Jong-Hwan Lee<sup>1</sup>*  
<sup>1</sup>Korea University, Seoul, Korea, Republic of
- 59 **WTh Cortical Thickness Alterations in Heroin Dependence**  
*Meng Li<sup>1</sup>, Junzhang Tian<sup>2</sup>, Xue Wen<sup>1</sup>, Guihua Jiang<sup>2</sup>, Junjing Wang<sup>1</sup>, Yingwei Qiu<sup>2</sup>, Ruibin Zhang<sup>1</sup>, Xiaoling Peng<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
<sup>1</sup>Center for the Study of Applied Psychology, Key Lab of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou 510631, China, <sup>2</sup>Department of Medical Imaging, Guangdong No. 2 Provincial People's Hospital, Guangzhou 510317, China
- 60 **WTh Abnormal degree centrality of brain functional network in chronic cocaine users**  
*xia liang<sup>1,2</sup>, Hong Gu<sup>1</sup>, Yuzheng Hu<sup>1</sup>, Betty Jo Salmeron<sup>1</sup>, Yong He<sup>2</sup>, Elliot Stein<sup>1</sup>, Yihong Yang<sup>1</sup>*  
<sup>1</sup>Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, MD, USA, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 61 **WTh Altered Local Efficiency of Brain Functional Networks in Heavy Smokers**  
*Fuchun Lin<sup>1</sup>, Guangyao Wu<sup>2</sup>, Hao Lei<sup>1</sup>*  
<sup>1</sup>Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China, <sup>2</sup>Zhongnan Hospital, Wuhan University, Wuhan, China
- 62 **WTh Naltrexone accentuates fMRI BOLD response to facial expressions in treatment seeking alcoholics**  
*Reza Momenan<sup>1</sup>, Caitlin Durkee<sup>1</sup>, Lishu Zhang<sup>1</sup>, Vijay Ramchandani<sup>1</sup>, David George<sup>1</sup>, Daniel Hommer<sup>1</sup>*  
<sup>1</sup>NIAAA, NIH, Bethesda, United States
- 63 **WTh Recovery of inhibitory mechanisms in abstinent drug users and the effects of stimulus valence**  
*Kristen Morie<sup>1</sup>, Hugh Garavan<sup>2</sup>, Ryan Bell<sup>3</sup>, Pierfilippo De Sanctis<sup>4</sup>, Menachem Krakowski<sup>5</sup>, John Foxe<sup>4</sup>*  
<sup>1</sup>City College of NY, NY, NY, <sup>2</sup>University of Vermont, Burlington, VT, <sup>3</sup>City College of NY, NY, NY, <sup>4</sup>Albert Einstein College of Medicine, Bronx, NY, <sup>5</sup>Nathan Kline Institute, Orangeburg, NY
- 64 **WTh Frontoparietal, Medial Prefrontal, and Limbic Connectivity is Altered in Nicotine-Dependent Smokers**  
*Lisa Nickerson<sup>1</sup>, Amy Janes<sup>2</sup>, Blaise Frederick<sup>2</sup>, Marc Kaufman<sup>2</sup>*  
<sup>1</sup>McLean Hospital Harvard Medical School, Belmont, United States, <sup>2</sup>McLean Hospital, Harvard Medical School, Belmont, MA
- 65 **WTh Brain substrates associated with processing happiness among abstinent alcoholics**  
*Mi-Sook Park<sup>1</sup>, Ji-Eun Park<sup>1</sup>, Sunju Sohn<sup>2</sup>, Sook-Hee Kim<sup>3</sup>, Jin-Hun Sohn<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Institute for Brain Research, Chungnam National University, Daejeon, Korea, Republic of, <sup>2</sup>Department of Social Work, Cheongju University, Cheongju, Korea, Republic of, <sup>3</sup>US Army Substance Abuse Program, Pyeongtaek, Korea, Republic of
- 66 **WTh Changed brain functional networks in heroin addicts based on a wide range of sparsity thresholds**  
*Yingwei Qiu<sup>1</sup>, Xue Wen<sup>2</sup>, Ruibin Zhang<sup>2</sup>, Guihua Jiang<sup>1</sup>, Yuanyuan Fan<sup>2</sup>, Junjing Wang<sup>2</sup>, Meng Li<sup>2</sup>, Junzhang Tian<sup>1</sup>, Ming Liu<sup>2</sup>, Ruiwang Huang<sup>2</sup>*  
<sup>1</sup>Department of Medical Imaging, Guangdong No. 2 Provincial People's Hospital, Guangzhou 510317, China, <sup>2</sup>Center for the Study of Applied Psychology, Key Lab of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou 510631, China
- 67 **WTh Dopaminergic dysfunction in amphetamine users during a reward task before and after methylphenidate**  
*Marieke Schouw<sup>1</sup>, marco bottelier<sup>1</sup>, A. Kaag<sup>1</sup>, ramon lindauer<sup>1</sup>, Michiel de Ruiter<sup>2</sup>, L. Reneman<sup>1</sup>*  
<sup>1</sup>Academic Medical Center, Amsterdam, the Netherlands, <sup>2</sup>Netherlands Cancer Institute, Amsterdam, the Netherlands
- 68 **WTh Methamphetamine Dependent Individuals Have Decreased Connectivity in the Frontoparietal Network**  
*Daniel Schwartz<sup>1</sup>, Suzanne Mitchell<sup>2</sup>, Britta Tremblay<sup>1</sup>, Marilyn Huckans<sup>1</sup>, William Hoffman<sup>3</sup>*  
<sup>1</sup>Portland VA Medical Center, Portland, OR, <sup>2</sup>Oregon health & science university, Portland, OR, <sup>3</sup>Department of Veterans Affairs, Portland, United States
- 69 **WTh Neuronal changes of reward sensitivity in pathological gambling**  
*Nina Seiferth<sup>1,2</sup>, Saskia Koehler<sup>3,2</sup>, Eva Hasselmann<sup>2</sup>, Torsten Wüstenberg<sup>2</sup>, Andreas Heinz<sup>2</sup>*  
<sup>1</sup>Charite Berlin, Berlin, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Charité – Universitätsmedizin Berlin, CCM, Berlin, Germany, <sup>3</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany

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## DISORDERS OF THE NERVOUS SYSTEM

### Addictions, continued

- 70 WTh Habit formation in alcohol dependence: neural correlates of instrumental learning**  
*Zsuzsika Sjoerds<sup>1</sup>, Sanne de Wit<sup>2</sup>, Wim van den Brink<sup>3</sup>, Brenda Penninx<sup>1</sup>, Dick Veltman<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry, VU University Medical Center, Amsterdam, Netherlands, <sup>2</sup>Department of Clinical Psychology and Cognitive Science Center Amsterdam, University of Amsterdam, Amsterdam, Netherlands, <sup>3</sup>Department of Psychiatry, Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands
- 71 WTh Neural responses towards BEGIN- and END-smoking stimuli under the influence of cigarette reward**  
*Bastian Stippekohl<sup>1</sup>, Bertram Walter<sup>2</sup>, Markus Winkler<sup>3</sup>, Ronald Mucha<sup>3</sup>, Dieter Vaitl<sup>2</sup>, Paul Pauli<sup>3</sup>, Rudolf Stark<sup>2</sup>*  
<sup>1</sup>Bender Institute of Neuroimaging, Gießen, Germany, <sup>2</sup>Bender Institute of Neuroimaging, Giessen, Germany, <sup>3</sup>Department of Psychology, University of Würzburg, Würzburg, Germany
- 72 WTh Disrupted Brain Functional Network in Internet Addiction Disorder**  
*Chong-Yaw Wee<sup>1</sup>, Zhimin Zhao<sup>2</sup>, Pew-Thian Yap<sup>1</sup>, Yasong Du<sup>2</sup>, Jianrong Xu<sup>3</sup>, Yan Zhou<sup>3</sup>, Dinggang Shen<sup>1</sup>*  
<sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, United States, <sup>2</sup>Shanghai Jiao Tong University, Shanghai, China, <sup>3</sup>Shanghai Jiao Tong University Medical School, Shanghai, China
- 73 WTh Functional Connectivity of Frontoparietal and Attention Networks Relates to Drink Volume in Youth**  
*Barbara Weiland<sup>1</sup>, Robert Welsh<sup>2</sup>, Mary Soules<sup>1</sup>, Crosby Modrowski<sup>3</sup>, Jon-Kar Zubieta<sup>1</sup>, Robert Zucker<sup>1</sup>, Mary Heitzeg<sup>1</sup>*  
<sup>1</sup>University of Michigan, Ann Arbor, MI, <sup>2</sup>UNIVERSITY OF MICHIGAN DEPARTMENT OF RADIOLOGY, Ann Arbor, United States, <sup>3</sup>University of Michigan, Ann Arbor, MA
- 74 WTh Neural Network Potential Predicts Impulsivity in Abstinent Heroin Addicts**  
*Zheng Yang<sup>1</sup>, Chunming xie<sup>1,2</sup>, Tianye Zhai<sup>1,2</sup>, Liping Fu<sup>1</sup>, Yongcong Shao<sup>1</sup>, Guohua Bi<sup>1</sup>, Gang Chen<sup>2</sup>, Wenjun Li<sup>2</sup>, Guangyu Chen<sup>2</sup>, Enmao Ye<sup>1</sup>, Lin Ma<sup>3</sup>, Shi-Jiang Li<sup>2</sup>*  
<sup>1</sup>Beijing Institute of Basic Medical Science, Beijing, Beijing, <sup>2</sup>Medical College of Wisconsin, Milwaukee, WI, <sup>3</sup>The PLA General Hospital, Beijing, Beijing

- 75 WTh Altered Hippocampal Connectivity Network Associated with Impulsivity in Abstinent Heroin Addicts**  
*Tianye Zhai<sup>1,2,3</sup>, Chunming Xie<sup>1,2</sup>, Wenjun Li<sup>2</sup>, Zheng Yang<sup>1</sup>, Shi-Jiang Li<sup>2</sup>*  
<sup>1</sup>Center of Brain and Cognition, Beijing Institute of Basic Medical Science, Beijing, P.R.China, 100850, <sup>2</sup>Department of Biophysics, Medical College of Wisconsin, Milwaukee, WI, US, 53226, <sup>3</sup>Department of Biomedical Engineering, Peking Union Medical College, Beijing, P.R.China, 100005

## DISORDERS OF THE NERVOUS SYSTEM

### Autism

- \*76 WTh Underconnectivity of STS predicts socio-cognitive deficits in Autism (O-W1)**  
*Kaat Alaerts<sup>1</sup>, Daniel Woolley<sup>2</sup>, Stephan Swinnen<sup>3</sup>, Nici Wenderoth<sup>1</sup>*  
<sup>1</sup>Katholieke Universiteit Leuven, Leuven, <sup>2</sup>KU Leuven, Leuven, Belgium, <sup>3</sup>Katholieke Universiteit Leuven, Leuven, Belgium
- 77 WTh Atypical Brain Activity Related to Gesture Imitation in Autism**  
*Elise B. Barbeau<sup>1</sup>, Laurent Mottron<sup>1</sup>, Marie-Pier Poulin-Lord<sup>1</sup>, Tom Zeffiro<sup>2</sup>*  
<sup>1</sup>Centre d'excellence en troubles envahissants de développement de l'Université de Montréal (CETEDUM), Montreal, Quebec, <sup>2</sup>Neural Systems Group, Boston, MA
- \*78 WTh Robust prediction of autism diagnosis from brain responses to biological motion (O-W1)**  
*Malin Bjornsdotter<sup>1</sup>, Kevin Pelphrey<sup>1</sup>, Nancy Wang<sup>1</sup>, Martha Kaiser<sup>1</sup>*  
<sup>1</sup>Yale Child Study Center, New Haven, CT
- 79 WTh Differences in functional networks involving the insula: contrasting with ASD**  
*Leonardo Cerliani<sup>1,2</sup>, Rajat Thomas<sup>2</sup>, Marc Thioux<sup>2,1</sup>, Christian Keysers<sup>2,1</sup>*  
<sup>1</sup>University Medical Center Groningen, Rijksuniversiteit Groningen, Groningen, Netherlands, <sup>2</sup>Netherlands Institute for Neuroscience, Royal Netherlands Academy for Arts and Sciences, Amsterdam, Netherlands

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## DISORDERS OF THE NERVOUS SYSTEM

### Autism, continued

- \*80 WTh The Autism Brain Imaging Data Exchange (ABIDE) consortium: open sharing of autism resting state fMRI (O-M4)**  
*Adriana Di Martino<sup>1</sup>, F. Xavier Castellanos<sup>1,2</sup>, Jeffrey Anderson<sup>3</sup>, Kaat Alaerts<sup>4</sup>, Michal Assaf<sup>6,6</sup>, Marlene Behrmann<sup>7</sup>, Ben Deen<sup>8</sup>, Damien Fair<sup>9</sup>, Louise Gallagher<sup>10</sup>, Janet Lainhart<sup>3</sup>, Catherine Lord<sup>11</sup>, Beatriz Luna<sup>7</sup>, Nancy Minshew<sup>7</sup>, Christopher Monk<sup>12</sup>, Ralph-Axel Müller<sup>13</sup>, Joel Nigg<sup>9</sup>, Kirsten O'Hearn<sup>7</sup>, Kevin Pelphrey<sup>14</sup>, Scott Peltier<sup>12</sup>, Stefan Sunaert<sup>4</sup>, Judith Verhoeven<sup>4</sup>, Nicole Wenderoth<sup>4</sup>, Jillian Wiggins<sup>12</sup>, Michael Milham<sup>15,2</sup>, Stewart Mostofsky<sup>16</sup>*  
<sup>1</sup>New York University Child Study Center, New York, NY, <sup>2</sup>Nathan Kline Institute, Orangeburg, NY, <sup>3</sup>University of Utah School of Medicine, Salt Lake City, UT, <sup>4</sup>University of Leuven, Leuven, Belgium, <sup>5</sup>Olin Center, Institute of Living at Hartford Hospital, Hartford, CT, <sup>6</sup>Yale School of Medicine, New Haven, CT, <sup>7</sup>University of Pittsburgh School of Medicine, Pittsburgh, PA, <sup>8</sup>Massachusetts Institute of Technology, Cambridge, MA, <sup>9</sup>Oregon Health & Science University, Portland, OR, <sup>10</sup>Trinity Centre for Health Sciences St. James's Hospital, Dublin, Ireland, <sup>11</sup>Weill-Cornell Medical College, New York, NY, <sup>12</sup>University of Michigan, Ann Arbor, MI, <sup>13</sup>San Diego State University, San Diego, CA, <sup>14</sup>Yale Child Study Center, New Haven, CT, <sup>15</sup>Child Mind Institute, New York, NY, <sup>16</sup>Kennedy Krieger Institute, Baltimore, MD
- 81 WTh Pursuing biomarkers of verbal proficiency in Autism using resting state fMRI**  
*Adriana Di Martino<sup>1</sup>, Clare Kelly<sup>1</sup>, Maarten Mennes<sup>2,1</sup>, Rebecca Grzadzinski<sup>1</sup>, Ariel Schvarcz<sup>1</sup>, Dana Levy<sup>1</sup>, Nicoletta Adamo<sup>1</sup>, Jessica Raithel<sup>1</sup>, Jennifer Rodman<sup>1</sup>, Manuel Garcia-Garcia<sup>1</sup>, Erin Denio<sup>1</sup>, Eva Petkova<sup>1</sup>, Catherine Lord<sup>3</sup>, F. Xavier Castellanos<sup>1,4</sup>, Michael Milham<sup>5,4</sup>*  
<sup>1</sup>NYU Child Study Center, New York, NY, <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands, <sup>3</sup>Weill-Cornell Medical College, New York, NY, <sup>4</sup>Nathan Kline Institute, Orangeburg, NY, <sup>5</sup>Child Mind Institute, New York, NY
- 82 WTh Similar brain network in children with autism spectrum disorder and their unaffected siblings**  
*Hyeyin Kang<sup>1</sup>, Hyekyoung Lee<sup>1</sup>, Moo Chung<sup>2</sup>, Bung-Nyun Kim<sup>1</sup>, Dong Soo Lee<sup>1</sup>*  
<sup>1</sup>Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>University of Wisconsin, Madison, WI
- \*\*83 WTh Neural Correlates of Empathy for Social Pain in Autism**  
*Soeren Krach<sup>1</sup>, Inge Kamp-Becker<sup>2</sup>, Marius Blanke<sup>3</sup>, Laura Müller-Pinzler<sup>4</sup>, Jens Sommer<sup>1</sup>, Andreas Jansen<sup>1</sup>, Tilo Kircher<sup>1</sup>, Katja Becker<sup>2</sup>, Frank Bremmer<sup>5</sup>, Wolfgang Einhäuser<sup>5</sup>, Frieder Paulus<sup>6</sup>*  
<sup>1</sup>Philipps-University, Marburg, Germany, <sup>2</sup>Department of Child- and Adolescent Psychiatry and Psychotherapy, Marburg, Germany, <sup>3</sup>Department of Neurophysics, Philipps-University, Marburg, Germany, <sup>4</sup>Psychiatry, University of Marburg, Marburg, Germany, <sup>5</sup>Department of Neurophysics, Philipps-University Marburg, Marburg, Germany, <sup>6</sup>Department of Psychiatry, Philipps University Marburg, Germany, Marburg, Germany
- 84 WTh Brain Atypicality in Women but not Men with Autism Overlaps with Sexually Dimorphic Regions**  
*Meng-Chuan Lai<sup>1</sup>, Michael Lombardo<sup>1</sup>, John Suckling<sup>2</sup>, Amber Ruigrok<sup>1</sup>, Bhismadev Chakrabarti<sup>1</sup>, Edward Bullmore<sup>2</sup>, MRC AIMS Consortium<sup>3</sup>, Simon Baron-Cohen<sup>1</sup>*  
<sup>1</sup>Autism Research Centre, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Institute of Psychiatry, King's College London; University of Cambridge; University of Oxford, London, Cambridge, Oxford, United Kingdom
- 85 WTh Atypical Functional Connectivity of the Posterior Medial Cortex in Children with Autism**  
*Charles Lynch<sup>1</sup>, Lucina Uddin<sup>1</sup>, Kaustubh Supekar<sup>1</sup>, Amirah Khouzam<sup>1</sup>, Vinod Menon<sup>1</sup>*  
<sup>1</sup>Stanford University School of Medicine, Stanford, United States
- 86 WTh Deficient Network Coherence During an Word Segmentation Task in Children and Adolescents with ASD**  
*Leonardo Moore<sup>1</sup>, Jesse Brown<sup>2</sup>, Jeffrey Rudie<sup>3</sup>, Mirella Dapretto<sup>2</sup>, SUSAN Bookheimer<sup>1</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States, <sup>2</sup>UCLA, Los Angeles, CA, <sup>3</sup>N/A, United States
- 87 WTh Atypical neural response to spontaneous attention towards positive emotion in ASD**  
*Eric Murphy<sup>1</sup>, Megan Norr<sup>1</sup>, Jenni Sokoloff<sup>2</sup>, William Gaillard<sup>2</sup>, Lauren Kenworthy<sup>2</sup>, Chandan Vaidya<sup>1</sup>*  
<sup>1</sup>Georgetown University, Washington, DC, <sup>2</sup>Children's National Medical Center, Washington, DC
- 88 WTh Cerebral correlates of moral reasoning in high-functioning autism**  
*Katharina Pauly<sup>1</sup>, Karla Schneider<sup>1</sup>, Frank Schneider<sup>1</sup>, Ute Habel<sup>1</sup>*  
<sup>1</sup>RWTH Aachen University, Aachen, Germany

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## DISORDERS OF THE NERVOUS SYSTEM

### Autism, continued

- 89 WTh Altered Cerebral Effective Connectivity in Theory-of-Mind in Autism Spectrum Disorders**  
*Karthik Sreenivasan<sup>1</sup>, Gopikrishna Deshpande<sup>1,2</sup>, Hrishikesh Deshpande<sup>3</sup>, Rajesh Kana<sup>4</sup>*  
<sup>1</sup>AU MRI Research Center, Department of Electrical and Computer Engineering, Auburn University, Auburn, Alabama, United States, <sup>2</sup>Department of Psychology, Auburn University, Auburn, Alabama, United States, <sup>3</sup>Department of Biomedical Engineering, University of Alabama, Birmingham, Alabama, United States, <sup>4</sup>Department of Psychology, University of Alabama, Birmingham, Alabama, United States
- \*90 WTh Widespread brain hyper-connectivity in children with autism (O-W1)**  
*Kaustubh Supekar<sup>1</sup>, Lucina Uddin<sup>2</sup>, Amirah Khouzam<sup>3</sup>, Jennifer Phillips<sup>3</sup>, William Gaillard<sup>4</sup>, Lauren Kenworthy<sup>4</sup>, Ben Yerys<sup>4</sup>, Chandan Vaidya<sup>5</sup>, Vinod Menon<sup>6</sup>*  
<sup>1</sup>Stanford University School of Medicine, Stanford, United States, <sup>2</sup>Stanford University, Stanford, United States, <sup>3</sup>Stanford University School of Medicine, Stanford, CA, <sup>4</sup>Children's National Medical Center, Washington, DC, <sup>5</sup>Georgetown University, Washington, DC, <sup>6</sup>Stanford school of medicine, Palo Alto, CA
- 91 WTh Atypical causal influences from the insula in autism**  
*Lucina Uddin<sup>1</sup>, Kaustubh Supekar<sup>2</sup>, Charles Lynch<sup>3</sup>, Amirah Khouzam<sup>4</sup>, Srikanth Ryali<sup>5</sup>, Vinod Menon<sup>6</sup>*  
<sup>1</sup>Stanford University, Stanford, United States, <sup>2</sup>Stanford University School of Medicine, Stanford, United States, <sup>3</sup>Stanford University, Palo Alto, United States, <sup>4</sup>Stanford University School of Medicine, Stanford, CA, <sup>5</sup>Stanford University School of Medicine, Palo Alto, United States, <sup>6</sup>Stanford school of medicine, Palo Alto, CA
- 92 WTh Mutual and averted eye gaze elicit distinct cortical responses in Autism Spectrum Conditions**  
*Elisabeth von dem Hagen<sup>1</sup>, Raliza Stoyanova<sup>1</sup>, James Rowe<sup>2</sup>, Simon Baron-Cohen<sup>3</sup>, Andrew Calder<sup>1</sup>*  
<sup>1</sup>MRC Cognition & Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Cambridge University, Cambridge, United Kingdom, <sup>3</sup>Autism Research Centre, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom

- 93 WTh Absence of Developmental Increase in DMN Connectivity in Autism Spectrum Disorders**  
*Stuart Washington<sup>1</sup>, Evan Gordon<sup>2</sup>, Jasmit Brar<sup>1</sup>, Laura Girton<sup>1</sup>, Ayichew Hailu<sup>1</sup>, Amanda Wolfe-Vogel<sup>1</sup>, Samantha Warburton<sup>1</sup>, Juma Mbwana<sup>1</sup>, William Gaillard<sup>3</sup>, Layne Kalbfleisch<sup>4</sup>, John VanMeter<sup>5</sup>*  
<sup>1</sup>Georgetown University Medical Center, Washington, DC, <sup>2</sup>Georgetown University, Washington, DC, <sup>3</sup>Children's National Medical Center, Washington, DC, <sup>4</sup>George Mason University, Fairfax, VA, <sup>5</sup>Georgetown University, Washington DC, United States
- 94 WTh Atypical development of local and distant intrinsic functional connectivity in ASD**  
*Xiaozhen You<sup>1</sup>, Megan Norr<sup>1</sup>, Eric Murphy<sup>1</sup>, Jenni Sokoloff<sup>2</sup>, Benjamin Yerys<sup>2,3</sup>, William Gaillard<sup>2</sup>, Lauren Kenworthy<sup>2</sup>, Kaustubh Supekar<sup>4</sup>, Lucina Uddin<sup>4</sup>, Vinod Menon<sup>4</sup>, Chandan Vaidya<sup>1,2</sup>*  
<sup>1</sup>Department of Psychology, Georgetown University, Washington, DC, <sup>2</sup>Children's Research Institute, Children's National Medical Center, Washington, DC, <sup>3</sup>Center for Autism Research, Children's Hospital of Philadelphia, Philadelphia, PA, <sup>4</sup>Psychiatry and Behavioral Science, Child and Adolescent Psychiatry, Stanford University, Stanford, CA

## DISORDERS OF THE NERVOUS SYSTEM

### Developmental Disorders

- 95 WTh Weak effects of spatial working memory on activation and connectivity in developmental dyscalculia**  
*Sarit Ashkenazi<sup>1</sup>, Miriam Rosenberg-Lee<sup>2</sup>, Arron Metcalfe<sup>2</sup>, Vinod Menon<sup>3</sup>*  
<sup>1</sup>Stanford University School of Medicine, N/A, <sup>2</sup>Stanford, Palo Alto, CA, <sup>3</sup>Stanford school of medicine, Palo Alto, CA
- 96 WTh Methylphenidate affects emotional behaviour in d-amphetamine users: implications for ADHD patients**  
*Marco Bottelier<sup>1</sup>, Michiel de Ruiter<sup>2</sup>, Marieke Schouw<sup>3</sup>, Wim van den Brink<sup>4</sup>, Ramon Lindauer<sup>1</sup>, Liesbeth Reneman<sup>1</sup>*  
<sup>1</sup>amc, Amsterdam, Netherlands, <sup>2</sup>Netherlands Cancer Institute, Amsterdam, Netherlands, <sup>3</sup>Academic Medical Center Amsterdam, N/A, <sup>4</sup>Department of Psychiatry, Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands

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## DISORDERS OF THE NERVOUS SYSTEM

### Developmental Disorders, continued

- 97 WTh Brain activation in NVLD children during a mental rotation task**  
*xavier caldu<sup>1,2</sup>, Josep Serra-Grabulosa<sup>3,4</sup>, Bet Ristol Orricols<sup>5</sup>, Roser Colomé Roura<sup>5</sup>, Anna López-Sala<sup>5</sup>, Cristina Boix<sup>5</sup>, María Ruiz Perea<sup>3</sup>, Anna Sans Fitó<sup>5</sup>*  
<sup>1</sup>Department of Psychiatry and Clinical Psychobiology. University of Barcelona, Barcelona, Spain, <sup>2</sup>Institut for Brain, Cognition and Behavior (IR3C), Barcelona, Spain, <sup>3</sup>Department of Psychiatry and Clinical Psychobiology. University of Barcelona., Barcelona, Spain, <sup>4</sup>Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), Barcelona, Spain, <sup>5</sup>Department of Neurology, Hospital Sant Joan de Déu, Barcelona, Spain
- 98 WTh Neonatal and adult neurobehavior and structural brain changes due to IUGR in a rabbit model**  
*Elisenda Eixarch<sup>1,2,3</sup>, Dafnis Batalle<sup>1,2,3</sup>, Miriam Illa<sup>1,2,3</sup>, Emma Muñoz-Moreno<sup>4,2,3</sup>, Ariadna Arbat-Plana<sup>1,2,3</sup>, Francesc Figueras<sup>1,2,3</sup>, Eduard Gratacos<sup>1,2,3</sup>*  
<sup>1</sup>Department of Maternal-Fetal Medicine, ICGON, Hospital Clinic of Barcelona, Barcelona, Spain, <sup>2</sup>Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), University of Barcelona, Barcelona, Spain, <sup>3</sup>Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Barcelona, Spain, <sup>4</sup>Department of Maternal-Fetal Medicine, Hospital Clinic, Barcelona, Spain
- 99 WTh Abnormal Functional Network Connectivity in Down Syndrome**  
*Michael Ferguson<sup>1</sup>, Li Da<sup>2</sup>, Guido Gerig<sup>2</sup>, Julie Korenberg<sup>2</sup>, Janet Lainhart<sup>2</sup>, Nicholas Lange<sup>3</sup>, Andrew Alexander<sup>4</sup>, Jeffrey Anderson<sup>2</sup>, Erin Bigler<sup>5</sup>, Melissa Burback<sup>2</sup>, Annahir Cariello<sup>2</sup>, Jason Cooperrider<sup>2</sup>, Molly DuBray<sup>2</sup>, Alyson Froehlich<sup>2</sup>, Jared Nielsen<sup>2</sup>*  
<sup>1</sup>University of Utah, Salt Lake City, United States, <sup>2</sup>University of Utah, Salt Lake City, UT, <sup>3</sup>Harvard University, Boston, MA, <sup>4</sup>University of Wisconsin, Madison, WI, <sup>5</sup>Brigham Young University, Provo, UT
- 100 WTh Foetal Alcohol Syndrome microcephaly: a preliminary study with spectral analysis of gyrification**  
*David Germanaud<sup>1,2,3</sup>, Julien Lefèvre<sup>4</sup>, Marc Bintner<sup>5</sup>, Marie-Claude Candapin<sup>5</sup>, Sylvie Martins<sup>1</sup>, Clara Fischer<sup>6</sup>, Jean-François Mangin<sup>6,3</sup>, Roberto Toro<sup>7</sup>, Denis Lamblin<sup>8</sup>, Lucie Hertz-Pannier<sup>1,2,3</sup>*  
<sup>1</sup>INSERM - Paris Descartes Univ., UMR663, Paris, France, <sup>2</sup>CEA, DSV, I2BM, NeuroSpin, LBIOM, Gif/Yvette, France, <sup>3</sup>IFR49, Paris, France, <sup>4</sup>CNRS - Aix-Marseille Univ., LSIS, UMR6168, Marseille, France, <sup>5</sup>GH Sud-Réunion, Service de neuroradiologie, St-Pierre (974), France, <sup>6</sup>CEA, DSV, I2BM, NeuroSpin, LNAO, Gif/Yvette, France, <sup>7</sup>CNRS URA 2182 'Genes, synapses and cognition', Institut Pasteur, Paris, France, <sup>8</sup>Fondation Père Favron, IMS Charles Isautier, CAMPS, St-Denis (974), France
- 101 WTh Morphometric differences in children with X chromosome aneuploidies**  
*David Hong<sup>1</sup>, Fumiko Hoef<sup>2,1</sup>, Matthew Marzelli<sup>1</sup>, Jean-Francois Lepage<sup>1</sup>, Allan Reiss<sup>1</sup>*  
<sup>1</sup>Stanford University, Stanford, CA, <sup>2</sup>UCSF, San Francisco, CA
- 102 WTh Altered network interactions during working memory in children with prenatal alcohol exposure: fMRI**  
*Pranav Jagtap<sup>1</sup>, Ernesta Meintjes<sup>2</sup>, Sandra Jacobson<sup>3</sup>, Christopher Molteno<sup>2</sup>, Rohan Bhalla<sup>1</sup>, Joseph Jacobson<sup>3</sup>, Vaibhav Diwadkar<sup>4</sup>*  
<sup>1</sup>Wayne State University, Detroit, MI, <sup>2</sup>University of Cape Town Faculty of Health Sciences, Cape Town, South Africa, <sup>3</sup>Wayne State University School of Medicine, Detroit, MI, <sup>4</sup>Wayne State University School of Medicine, Detroit, United States
- 103 WTh Association of Corpus Callosum Abnormalities with Facial Dysmorphology in Fetal Alcohol Syndrome**  
*Shantanu Joshi<sup>1</sup>, Owen Phillips<sup>1</sup>, Eric Kan<sup>2</sup>, Roger Woods<sup>3</sup>, Arthur Toga<sup>1</sup>, Sarah Mattson<sup>4</sup>, Ed Riley<sup>4</sup>, Kenneth Jones<sup>5</sup>, Colleen Adnams<sup>6</sup>, Philip May<sup>7</sup>, Mary O'Connor<sup>3</sup>, Katherine Narr<sup>3</sup>, Elizabeth Sowell<sup>8</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA, <sup>2</sup>Children's Hospital, Los Angeles, Los Angeles, CA, <sup>3</sup>University of California at Los Angeles, Los Angeles, CA, <sup>4</sup>San Diego State University, San Diego, CA, <sup>5</sup>University of San Diego, La Jolla, CA, <sup>6</sup>University of Cape Town, Cape Town, South Africa, <sup>7</sup>University of North Carolina, Chapel Hill, NC, <sup>8</sup>University of Southern California, Los Angeles, CA
- 104 WTh Phonological and Orthographic Deficits During Fast Implicit Print Processing in Dyslexic Adolescents**  
*Jens Kronschnabel<sup>1</sup>, Raffaella Schmid<sup>1</sup>, Urs Maurer<sup>2</sup>, Daniel Brandeis<sup>1,3</sup>*  
<sup>1</sup>Department of Child and Adolescent Psychiatry, University of Zurich, Zurich, Switzerland, <sup>2</sup>Department of Psychology, University of Zurich, Zurich, Switzerland, <sup>3</sup>Central Institute of Mental Health, Medical Faculty Mannheim/ Heidelberg University, Mannheim, Germany
- 105 WTh Relationships between brain development and facial dysmorphology in fetal alcohol spectrum disorders**  
*Catherine Lebel<sup>1</sup>, Eric Kan<sup>2</sup>, Sarah Mattson<sup>3</sup>, Ed Riley<sup>3</sup>, Kenneth Jones<sup>4</sup>, Colleen Adnams<sup>5</sup>, Philip May<sup>6</sup>, Mary O'Connor<sup>7</sup>, Katherine Narr<sup>7</sup>, Elizabeth Sowell<sup>8</sup>*  
<sup>1</sup>University of California at Los Angeles, Los Angeles, United States, <sup>2</sup>Children's Hospital, Los Angeles, Los Angeles, CA, <sup>3</sup>San Diego State University, San Diego, CA, <sup>4</sup>University of San Diego, La Jolla, CA, <sup>5</sup>University of Cape Town, Cape Town, South Africa, <sup>6</sup>University of North Carolina, Chapel Hill, NC, <sup>7</sup>University of California at Los Angeles, Los Angeles, CA, <sup>8</sup>University of Southern California, Los Angeles, CA

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## DISORDERS OF THE NERVOUS SYSTEM

### Developmental Disorders, continued

- 106 WTh Chinese dyslexia shows neural abnormality in morphological processing**  
*Li Liu<sup>1</sup>, Ran Tao<sup>1</sup>, Wenjing Wang<sup>1</sup>, Wenping You<sup>2</sup>, Yi Li<sup>1</sup>, Danling Peng<sup>1</sup>, James Booth<sup>3</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL
- 107 WTh Treatment-Assisted Brain Plasticity in Developmental Stuttering**  
*Chunming Lu<sup>1</sup>, Danling Peng<sup>1</sup>, Peter Howell<sup>2</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Division of Psychology and Language Sciences, University College London, UK, London, United Kingdom
- 108 WTh Impaired intrinsic connectivity networks in adolescents with ADHD**  
*Maarten Mennes<sup>1,2</sup>, Daniel Von Rhein<sup>1,2</sup>, Marcel Zwiers<sup>1,2</sup>, Erik van Oort<sup>3,1</sup>, Barbara Franke<sup>4</sup>, Catherina Hartman<sup>5</sup>, Pieter Hoekstra<sup>6</sup>, Marjolein Luman<sup>6</sup>, Jaap Oosterlaan<sup>6</sup>, Christian Beckmann<sup>7,1</sup>, Jan Buitelaar<sup>2,1</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behavior, Nijmegen, Netherlands, <sup>2</sup>Cognitive Neuroscience, UMC St. Radboud, Nijmegen, Netherlands, <sup>3</sup>MIRA Institute, University of Twente, Enschede, Netherlands, <sup>4</sup>Genetics, University Medical Center, Radboud University, Nijmegen, Netherlands, <sup>5</sup>Child Psychiatry, UMCG, Groningen, Netherlands, <sup>6</sup>Clinical Neuropsychology, VU, Amsterdam, Netherlands, <sup>7</sup>University of Twente, Enschede, Netherlands
- 109 WTh Executive, default-mode, and salience network abnormalities in ADHD revealed in resting state fMRI**  
*Teena Moody<sup>1</sup>, Jamie Feusner<sup>1</sup>, Casey Armstrong<sup>1</sup>, Ronald Ly<sup>1</sup>, Joseph O'Neill<sup>1</sup>, Jennifer Levitt<sup>1</sup>*  
<sup>1</sup>UCLA, Westwood, CA
- 110 WTh Withdrawn**
- 111 WTh A Reading and Age matched fMRI study of Motion Perception in Dyslexic Children**  
*Olumide Olulade<sup>1</sup>, Eileen Napoliello<sup>1</sup>, Megan Luetje<sup>1</sup>, Guinevere Eden<sup>1</sup>*  
<sup>1</sup>Center for the Study of Learning, Georgetown University, Washington, DC, USA
- 112 WTh Forethought in ADHD: a fMRI study of the neural correlates**  
*helene poissant<sup>1</sup>, Adrianna Mendrek<sup>2</sup>, Noureddine Senhadji<sup>3</sup>, Lucile Rapin<sup>1</sup>*  
<sup>1</sup>UQÀM, Montreal, Canada, <sup>2</sup>UdeM, Montreal, Canada, <sup>3</sup>IUGM, Montreal, Canada
- 113 WTh Withdrawn**
- 114 WTh Structural abnormalities in the dyslexic brain: A meta-analysis of Voxel Based Morphometry studies**  
*Fabio Richlan<sup>1</sup>, Martin Kronbichler<sup>1</sup>, Heinz Wimmer<sup>1</sup>*  
<sup>1</sup>University of Salzburg, Salzburg, Austria
- 115 WTh Functional and Structural Connectivity of the Motor Area in a Double Cortex Patient**  
*Gonzalo Rojas<sup>1</sup>, Marcelo Galvez<sup>1</sup>, Maria de la Iglesia-Vayá<sup>2</sup>*  
<sup>1</sup>Department of Radiology, Las Condes Clinic, Santiago, Chile, <sup>2</sup>Centro de Excelencia de Imagen Biomédica (CEIB) Conselleria de Sanitat Valencia, Valencia, Spain
- 116 WTh Volumetric Changes in Frontal Cortical Regions in Adolescents with Prenatal Cocaine Exposure**  
*Florence Roussotte<sup>1</sup>, Tamara Warner<sup>2</sup>, Katherine Narr<sup>1</sup>, Catherine Lebel<sup>1</sup>, Marylou Behnke<sup>2</sup>, Elyer Davis<sup>2</sup>, Elizabeth Sowell<sup>3</sup>*  
<sup>1</sup>University of California - Los Angeles, Los Angeles, CA, <sup>2</sup>University of Florida, Gainesville, FL, <sup>3</sup>University of Southern California, Los Angeles, CA
- 117 WTh Disrupted Structural Connectome in Attention Deficit Hyperactivity Disorder**  
*Ni Shu<sup>1</sup>, Qingjiu Cao<sup>2</sup>, Li Sun<sup>2</sup>, Li An<sup>2</sup>, Peng Wang<sup>2</sup>, Mingrui Xia<sup>1</sup>, Jinhui Wang<sup>1</sup>, Yufeng Wang<sup>2</sup>, Yong He<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Institute of Mental Health, Peking University, Beijing, China
- 118 WTh DACC modulation of fronto-parietal regions increases with working memory load in children with ADHD**  
*Jeffrey Stanley<sup>1</sup>, Dalal Khatib<sup>1</sup>, Tudor Puiu<sup>1</sup>, Ashley Burgess<sup>1</sup>, Richard White<sup>1</sup>, Vaibhav Diwadkar<sup>1</sup>*  
<sup>1</sup>Wayne State University School of Medicine, Detroit, MI

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## DISORDERS OF THE NERVOUS SYSTEM

### Developmental Disorders, continued

- \*119 WTh Children with fetal alcohol spectrum disorders undergo less developmental cortical thinning (O-M1)**  
*Sarah Treit<sup>1</sup>, Dongming Zhou<sup>2</sup>, Catherine Lebe<sup>2</sup>, Carmen Rasmussen<sup>3</sup>, Gail Andrew<sup>4</sup>, Alan Evans<sup>5</sup>, Christian Beaulieu<sup>2</sup>*  
<sup>1</sup>Centre for Neuroscience, University of Alberta, Edmonton, Alberta, <sup>2</sup>Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, <sup>3</sup>Department of Pediatrics, University of Alberta, Edmonton, Alberta, <sup>4</sup>FASD Diagnostic Clinic, Glenrose Rehabilitation Hospital, Edmonton, Alberta, <sup>5</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec
- 120 WTh 3D Statistical Parametric Mapping of quiet sleep EEG in the first year of life**  
*Pedro A. Valdes-Sosa<sup>1</sup>, Jorge Bosch-Bayard<sup>1</sup>, Thalía Fernandez<sup>2</sup>, Gloria Otero<sup>3</sup>, Bernardo Pliego Rivero<sup>3</sup>, Josefina Ricardo-Garcell<sup>2</sup>, Berta González-Frankenberger<sup>2</sup>, Lídice Galán-García<sup>1</sup>, Agustín Lage-Castellanos<sup>1</sup>, Antonio Fernandez-Bouzas<sup>2</sup>, Eduardo Aubert-Vazquez<sup>1</sup>, René Rodríguez-Valdés<sup>1</sup>, Thalia Harmony-Baillet<sup>2</sup>*  
<sup>1</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba, <sup>2</sup>Instituto de Neurobiología Queretaro UNAM, Queretaro, Mexico, <sup>3</sup>Facultad de Medicina UAEM, Toluca, Mexico
- 121 WTh Regional brain volume increases relate to cognitive function in Neurofibromatosis type 1**  
*Ines Violante<sup>1</sup>, Maria Ribeiro<sup>1</sup>, Inês Bernardino<sup>1</sup>, Gil Cunha<sup>1</sup>, Eduardo Silva<sup>1</sup>, Miguel Castelo-Branco<sup>1</sup>*  
<sup>1</sup>Visual Neurosciences Lab, IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal
- 122 WTh Gray Matter Asymmetry of Dorsal Anterior Cingulate Cortex in Typical Developmental Children and ADHD**  
*Jue Wang<sup>1</sup>, Li Sun<sup>2</sup>, Hong Yang<sup>3</sup>, Xi-Nian Zuo<sup>4</sup>, Zhao Qing<sup>5</sup>, Han Zhang<sup>1</sup>, Yu-Feng Zang<sup>1,5</sup>*  
<sup>1</sup>Center for Cognition and Brain Disorders, Affiliated Hospital, Hangzhou Normal University, Hangzhou, China, <sup>2</sup>Institute of Mental Health, Peking University, Beijing, China, <sup>3</sup>The First Affiliated Hospital of College of Medicine, Zhejiang University, Hangzhou, China, <sup>4</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>5</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 123 WTh The Corpus Callosum and its relation to Motor Function in Children with Hemiplegic Cerebral Palsy**  
*Maya Weinstein<sup>1,2</sup>, Dido Green<sup>3,4</sup>, Ronny Geva<sup>5</sup>, Vicki Myers<sup>1</sup>, Moran Artzi<sup>1</sup>, Shelly Shiran<sup>6</sup>, Andrew Gordon<sup>7</sup>, Liat Ben-Sira<sup>6</sup>, Mitchell Schertz<sup>8</sup>, Aviva Fattal-Valevski<sup>8</sup>, Dafna Ben Bashat<sup>1</sup>*  
<sup>1</sup>Functional Brain Center, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, <sup>2</sup>Gonda Multidisciplinary Brain Research Center, Bar Ilan University, Ramat-Gan, Israel, <sup>3</sup>Department occupational therapy, Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, <sup>4</sup>Health and Life Sciences, Oxford Brookes University, Oxford, United Kingdom, <sup>5</sup>Gonda Multidisciplinary Brain Research Center, Bar Ilan University, Ramat Gan, Israel, <sup>6</sup>Department of Radiology, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, <sup>7</sup>Department of Biobehavioral Sciences, Columbia University, New York, United States, <sup>8</sup>Paediatric Neurology Unit, Tel Aviv Medical Center, Tel Aviv, Israel
- 124 WTh Dyscalculia and dyslexia in adults: Findings from the Auckland Comorbidity study**  
*Anna Wilson<sup>1,2</sup>, Geoffrey Scott<sup>1</sup>, Janine Keir<sup>2</sup>, Victoria Rowe<sup>2</sup>, Stuart Andrewes<sup>2</sup>, Kimberley Maskell<sup>2</sup>, Karen Waldie<sup>2</sup>*  
<sup>1</sup>University of Canterbury, Christchurch, New Zealand, <sup>2</sup>The University of Auckland, Auckland, New Zealand
- 125 WTh Variations in Frontal and Striatal Morphology Associate with Psychopathic Traits in Adolescents**  
*Yaling Yang<sup>1</sup>, Laura Baker<sup>2</sup>, Adrian Raine<sup>3</sup>, Pan Wang<sup>4</sup>, Anand Joshi<sup>5</sup>, Shantanu Joshi<sup>6</sup>, Katherine Narr<sup>7</sup>, Paul Thompson<sup>8</sup>*  
<sup>1</sup>Developmental Cognitive Neuroimaging Laboratory, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>Department of Psychology, University of Southern California, Los Angeles, CA, <sup>3</sup>Departments of Criminology, Psychiatry, and Psychology, University of Pennsylvania, Philadelphia, CA, <sup>4</sup>Department of Psychology, University of Southern California, Los Angeles, United States, <sup>5</sup>USC, Los Angeles, United States, <sup>6</sup>N/A, Los Angeles, United States, <sup>7</sup>UCLA, Los Angeles, CA, <sup>8</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 126 WTh Thicker Temporal Cortex Associates with a Developmental Propensity for Psychopathic Traits**  
*Yaling Yang<sup>1</sup>, Pan Wang<sup>2</sup>, Laura Baker<sup>3</sup>, Anand Joshi<sup>4</sup>, Shantanu Joshi<sup>5</sup>, Katherine Narr<sup>6</sup>, Adrian Raine<sup>7</sup>, Paul Thompson<sup>8</sup>*  
<sup>1</sup>Developmental Cognitive Neuroimaging Laboratory, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>Department of Psychology, University of Southern California, Los Angeles, United States, <sup>3</sup>Department of Psychology, University of Southern California, Los Angeles, CA, <sup>4</sup>USC, Los Angeles, United States, <sup>5</sup>N/A, Los Angeles, United States, <sup>6</sup>UCLA, Los Angeles, CA, <sup>7</sup>Departments of Criminology, Psychiatry, and Psychology, University of Pennsylvania, Philadelphia, CA, <sup>8</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA

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### Developmental Disorders, continued

- 127 WTh Altered White Matter Integrity of the Cognitive Network in Duchenne Muscular Dystrophy**  
*Woo-Kyoung Yoo<sup>1</sup>, Young-Chul Cho<sup>2</sup>, Kwang Ik Jung<sup>1</sup>, Suk Hoon Ohn<sup>1</sup>, Yoon Ghil Park<sup>2</sup>*  
<sup>1</sup>Hallym University, Anyang, Korea, Republic of, <sup>2</sup>Yonsei University College of Medicine, Seoul, Korea, Republic of
- 128 WTh Reduced Activation in VWFA During Spoken Word Rhyming in ESL Children with English Impairment**  
*Hanlin You<sup>1</sup>, Amy Desroches<sup>2</sup>, Nadine Gaab<sup>3</sup>, Guosheng Ding<sup>4</sup>, Xiangzhi Meng<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China, <sup>2</sup>Department of Psychology, University of Winnipeg, Winnipeg, Canada, <sup>3</sup>Children's Hospital Boston, Boston, United States, <sup>4</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 129 WTh Sample size and brain regions jointly affect the anatomical difference between ADHD and Normal brain**  
*Wei-Hsiang Yu<sup>1</sup>, Chun-Chia Kung<sup>1</sup>*  
<sup>1</sup>Department of Psychology, National Cheng-Kung University, Tainan, Chinese Taipei
- 130 WTh Aberrant Attention and Default Mode Networks in ADHD: a Multicenter Resting-State fMRI Study**  
*Han Zhang<sup>1</sup>, Li Sun<sup>2</sup>, Xi-Nian Zuo<sup>3</sup>, Jue Wang<sup>1</sup>, Zhao Qing<sup>4</sup>, Yu-Feng Zang<sup>1</sup>*  
<sup>1</sup>Center for Cognition and Brain Disorders, Hangzhou Normal University, Hangzhou, China, <sup>2</sup>Institute of Mental Health, Peking University, Beijing, China, <sup>3</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China

## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders

- 131 WTh Global brain volume in bipolar disorder: The effect of lithium and age**  
*Lucija Abramovic<sup>1</sup>, Neeltje van Haren<sup>1</sup>, Marco Boks<sup>1</sup>, Florian Bootsman<sup>1</sup>, Rachel Brouwer<sup>1</sup>, Hugo Schnack<sup>1</sup>, Hilleke Hulshoff Pol<sup>1</sup>, René Kahn<sup>1</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Department of Psychiatry, Utrecht, Netherlands
- 132 WTh Neural activity during Emotional Memory as Predictor of Depressive Symptom Improvement**  
*Hui Ai<sup>1</sup>, Esther Opmeer<sup>1</sup>, Marie-Jose van Tol<sup>1,2</sup>, Jan-Bernard Marsman<sup>1</sup>, Rudie Kortekaas<sup>1</sup>, Saskia Woudstra<sup>3,4,5,6</sup>, Nic van der Wee<sup>4,7</sup>, Mark van Buchem<sup>7,8</sup>, Dick Veltman<sup>5</sup>, A. Aleman<sup>1,9</sup>*  
<sup>1</sup>Neuroimaging Center, University Medical Center Groningen, Groningen, Netherlands, <sup>2</sup>Clinical Affective Neuroimaging Laboratory, Otto von Guericke University Magdeburg, Magdeburg, Germany, <sup>3</sup>Neuroscience Campus Amsterdam, VU University, Amsterdam, Netherlands, <sup>4</sup>Department of Psychiatry, Leiden University Medical Center, Leiden, Netherlands, <sup>5</sup>Department of Medical Genomics, VU University Medical Center, Amsterdam, Netherlands, <sup>6</sup>Department of Psychiatry, VU University Medical Center, Amsterdam, Netherlands, <sup>7</sup>Leiden Institute for Brain and Cognition, Leiden University, Leiden, Netherlands, <sup>8</sup>Department of Radiology, Leiden University Medical Center, Leiden, Netherlands, <sup>9</sup>Department of Psychology, University of Groningen, Groningen, Netherlands
- \*133 WTh Altered Resting State Functional Connectivity in the Limbic System in Social Anxiety Disorder (O-W1)**  
*Sheeba Anteraper<sup>1</sup>, Susan Whitfield-Gabrieli<sup>2</sup>, Alice Sawyer<sup>3</sup>, John Gabrieli<sup>2</sup>, Christina Triantafyllou<sup>1,4</sup>*  
<sup>1</sup>A. A. Martinos Imaging Center at McGovern Institute for Brain Research, MIT, Cambridge, MA, <sup>2</sup>Department of Brain and Cognitive Sciences, MIT, Cambridge, MA, <sup>3</sup>Program in Clinical Psychology, Boston University, Boston, MA, <sup>4</sup>Dept. of Radiology, Harvard Medical School, A. A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Cambridge, MA
- 134 WTh State-dependent changes in grey matter in the hippocampal region in depression**  
*Danilo Arnone<sup>1</sup>, Shane McKie<sup>1</sup>, Rebecca Elliott<sup>1</sup>, Gabriella Juhasz<sup>1</sup>, EJ Thomas<sup>1</sup>, Darragh Downey<sup>2</sup>, Steve Williams<sup>2</sup>, JF William Deakin<sup>1</sup>, Ian Anderson<sup>1</sup>*  
<sup>1</sup>University of Manchester, Neuroscience and Psychiatry Unit, Manchester, United Kingdom, <sup>2</sup>University of Manchester, Imaging Science and Biomedical Engineering, Manchester, United Kingdom

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## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders, continued

- 135 WTh Emotion Processing in Remitted Depression – an fMRI Study with Happy and Fearful Music**  
*Sabine Aust<sup>1</sup>, Karin Filip<sup>1</sup>, Stefan Koelsch<sup>1</sup>, Malek Bajbouj<sup>2</sup>*  
<sup>1</sup>Freie Universität Berlin, Languages of Emotion, Berlin, Germany, <sup>2</sup>Department of Psychiatry, Charité-Universitätsmedizin Berlin, Berlin, Germany
- 136 WTh Genetic and Environmental Influences on Cortical Surface Area and Thickness in Bipolar Disorder**  
*Florian Bootsman<sup>1</sup>, Neeltje van Haren<sup>1</sup>, Caroline van Baal<sup>1</sup>, Hugo Schnack<sup>1</sup>, Astrid van der Schot<sup>1</sup>, Hilleke Hulshoff Pol<sup>1</sup>, Willem Nolen<sup>2</sup>, René Kahn<sup>1</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Department of Psychiatry, Utrecht, Netherlands, <sup>2</sup>Department of Psychiatry, University Medical Center Groningen, University of Groningen, Groningen, Netherlands
- 137 WTh Detecting Rich-club Associations of Bipolar Disorder in Large Neuroimaging Data: using meta-analysis**  
*Congying Chu<sup>1</sup>, Lingzhong Fan<sup>2</sup>, Tianzi Jiang<sup>3</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institution of Automation, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Institute Of Automation, Chinese Academy Of Sciences, Beijing, China
- 138 WTh Dysfunctional cortical-amygdala coupling in social anxiety patients during speech anticipation**  
*Henk Cremers<sup>1</sup>, Ilya Veer<sup>2</sup>, Tor Wager<sup>3</sup>, Philip Spinhoven<sup>4</sup>, Serge Rombouts<sup>2</sup>, Karin Roelofs<sup>1</sup>*  
<sup>1</sup>Behavioural Science Institute, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>3</sup>Department of Psychology and Neuroscience, University of Colorado at Boulder, Boulder, CO, <sup>4</sup>Leiden University - Institute of Psychology, Leiden, Netherlands
- 139 WTh Uncinate fasciculus integrity reflects functional connectivity within ventral affective network**  
*Bart de kwaasteniet<sup>1</sup>, Eric Ruhe<sup>2</sup>, damiaan denys<sup>3</sup>, Matthan Caan<sup>4</sup>*  
<sup>1</sup>Academic medical centre Amsterdam, N/A, <sup>2</sup>academic medical center, amsterdam, Netherlands, <sup>3</sup>AMC, Amsterdam, Netherlands, <sup>4</sup>Academic Medical Center Amsterdam, Amsterdam, Netherlands
- 140 WTh Neural processing of emotional faces in social anxiety disorder**  
*Jonas Engman<sup>1</sup>, Andreas Frick<sup>1</sup>, Ulrika Wallenquist<sup>1</sup>, Vanda Faria<sup>1</sup>, Thomas Ågren<sup>1</sup>, Elna-Marie Larsson<sup>2</sup>, Mats Fredrikson<sup>1</sup>, Tomas Furmark<sup>1</sup>*  
<sup>1</sup>Dept. of Psychology, Uppsala University, Uppsala, Sweden, <sup>2</sup>Dept. of Radiology, Uppsala University, Uppsala, Sweden
- 141 WTh CACNA1C variant impairs hippocampal and frontolimbic function in relatives of patients with psychosis**  
*Susanne Erk<sup>1</sup>, Andreas Meyer-Lindenberg<sup>2</sup>, Sebastian Mohnke<sup>1</sup>, Phoebe Schmierer<sup>1</sup>, Björn Schott<sup>1</sup>, Claudia Schütz<sup>3</sup>, Knut Schnell<sup>4</sup>, Leila Haddad<sup>2</sup>, Grimm Oliver<sup>2</sup>, Peter Kirsch<sup>2</sup>, Christine Esslinger<sup>5</sup>, Nina Seiferth<sup>1</sup>, Andreas Heinz<sup>1</sup>, Thomas Mühleisen<sup>3</sup>, Manuel Mattheisen<sup>6,3</sup>, Markus Nöthen<sup>3,7</sup>, Vanessa Nieratschker<sup>2</sup>, Stephanie Witt<sup>8</sup>, Sven Cichon<sup>8,3</sup>, Marcella Rietsche<sup>9</sup>, Henrik Walter<sup>9</sup>*  
<sup>1</sup>Charité Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Central Institute of Mental Health, Mannheim, Germany, <sup>3</sup>University of Bonn, Bonn, Germany, <sup>4</sup>University of Heidelberg, Heidelberg, Germany, <sup>5</sup>Otto-von-Guericke-University, Magdeburg, Germany, <sup>6</sup>Harvard School of Public Health, Boston, MA, <sup>7</sup>German Center for Neurodegenerative Diseases, Bonn, Germany, <sup>8</sup>Research Center Jülich, Jülich, Germany, <sup>9</sup>Charité Universitätsmedizin, Berlin, Germany
- 142 WTh Subregional Amygdala Responsivity in Responders and Nonresponders to SSRIs in Patients with Social A**  
*Vanda Faria<sup>1</sup>, Massimo Bani<sup>2</sup>, Paolo Bettica<sup>2</sup>, Örfan Frans<sup>1</sup>, Clas Linnman<sup>3</sup>, Anna Pissioti<sup>1</sup>, Kurt Wahlstedt<sup>4</sup>, Fredrik Åhs<sup>5</sup>, Lieuwe Appel<sup>6</sup>, Mats Fredrikson<sup>1</sup>, Tomas Furmark<sup>1</sup>*  
<sup>1</sup>Dept. of Psychology Uppsala University, Uppsala, Sweden, <sup>2</sup>GlaxoSmithKline, Verona, Italy, <sup>3</sup>Harvard, Boston, MA, <sup>4</sup>Uppsala University Hospital and Quintiles AB Phase I Services, Uppsala, Sweden, <sup>5</sup>Duke University, Durham, NC, <sup>6</sup>Uppsala Imanet, Uppsala, Sweden
- 143 WTh Grey matter reductions in bipolar disorder and their relationship to neuropsychological performance**  
*Andreas Finkelmeyer<sup>1</sup>, Adrian Lloyd<sup>1</sup>, Peter Gallagher<sup>1</sup>, Stuart Watson<sup>1</sup>, David Cousins<sup>1</sup>, Jill Thompson<sup>2</sup>, Allan Young<sup>3</sup>, Nicol Ferrier<sup>1</sup>*  
<sup>1</sup>Newcastle University, Newcastle Upon Tyne, United Kingdom, <sup>2</sup>AstraZeneca UK, Luton, United Kingdom, <sup>3</sup>Imperial College, London, United Kingdom
- 144 WTh Altered fusiform connectivity when viewing fearful faces in social phobia: an fMRI study**  
*Andreas Frick<sup>1</sup>, Katarina Howner<sup>2</sup>, Håkan Fischer<sup>3</sup>, Thomas Ågren<sup>1</sup>, Marianne Kristiansson<sup>2</sup>, Tomas Furmark<sup>1</sup>*  
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DISORDERS OF THE NERVOUS SYSTEM  
Mood and Anxiety Disorders, continued

- 145 WTh Differences in BOLD Response to Emotional Faces Predict Antidepressant Response to Scopolamine**  
*Maura Furey<sup>1</sup>, Wayne Drevets<sup>2</sup>, Joanna Szczepanik<sup>3</sup>, Ashish Khanna<sup>4</sup>, Allison Nugent<sup>5</sup>, Carlos Zarate, Jr<sup>3</sup>*  
<sup>1</sup>Experimental Therapeutics and Pathophysiology Branch, NIH/NIMH, Bethesda, MD, <sup>2</sup>Laureate Institute for Brain Research, Tulsa, OK, <sup>3</sup>NIMH/NIH, Bethesda, MD, <sup>4</sup>American University of the Caribbean School of Medicine, Coral Gables, FL, <sup>5</sup>NIMH, Bethesda, United States
- 146 WTh Evaluation of the anxiety tasks to assess amygdala activities using fMRI**  
*Yoshiyuki Hirano<sup>1</sup>, Takayuki Obata<sup>2</sup>, Daisuke Matsuzawa<sup>1</sup>, Chihiro Sutoh<sup>1</sup>, Sudesna Chakraborty<sup>1</sup>, Eiji Shimizu<sup>1</sup>*  
<sup>1</sup>Chiba University, Chiba, Japan, <sup>2</sup>National Institutes of Radiological Sciences, Chiba, Japan
- 147 WTh Impaired fronto-thalamic circuitry in major depression with a history of suicidal behavior**  
*zhiyun Jia<sup>1</sup>, Yuqing Wang<sup>1</sup>, Weihong Kuang<sup>2</sup>, Qizhu Wu<sup>1</sup>, Su Lui<sup>1</sup>, xiaoqi huang<sup>1</sup>, Raymond Chan<sup>3</sup>, Sweeney John<sup>4</sup>, Qiyong Gong<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center, Department of Radiology, West China Hospital of Sichuan University, chengdu, sichuan, <sup>2</sup>Department of Psychiatry, State Key Lab of Biotherapy, West China Hospital of Sichuan University, chengdu, sichuan, <sup>3</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Departments of Psychiatry and Pediatrics, University of Texas Southwestern, Dallas TX, Dallas TX, TX
- 148 WTh Connectivity patterns in an affective network and “dysthymic personality traits”**  
*Tanja Kellermann<sup>1</sup>, Christian Roski<sup>2</sup>, Svenja Caspers<sup>3</sup>, Silke Lux<sup>4</sup>, Karl Zilles<sup>5</sup>, Simon Eickhoff<sup>6</sup>*  
<sup>1</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Germany, <sup>2</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Jülich, Germany, <sup>3</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany, <sup>4</sup>Institute of Neuroscience and Medicine, INM-1, Research Centre Jülich, Jülich, Germany, <sup>5</sup>Research Center Jülich, Jülich, Germany
- 149 WTh Cortical Thickness and Folding Pattern Abnormalities in Pediatric Bipolar Disorder**  
*Bryn Levitan<sup>1</sup>, Minjie Wu<sup>2</sup>, Mani Pavuluri<sup>3</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, United States, <sup>2</sup>University of Illinois, Chicago, United States, <sup>3</sup>University of Illinois at Chicago, Chicago, IL
- 150 WTh Altered Pattern of Sad Emotion Processing Procedure in Major Depressive Disorder**  
*Haoran Li<sup>1</sup>, Qing Lu<sup>1</sup>, Zhijian Yao<sup>2</sup>*  
<sup>1</sup>Research Center for Learning Science, Southeast University, Nanjing, China, <sup>2</sup>Academic Department of Psychiatry, Nanjing Brain Hospital, Nanjing Medical University, Nanjing, China
- 151 WTh Cortical thickness alterations in default mode network in major depressive disorder**  
*Meng Li<sup>1,2</sup>, Nora Hilla<sup>2</sup>, Dorothea Horn<sup>2</sup>, Annemarie Osoba<sup>2</sup>, Coraline Metzger<sup>2</sup>, Marie-Jose van Tol<sup>2,3</sup>, Wenjing Li<sup>1,2</sup>, Joern Kaufmann<sup>4</sup>, Johann Steiner<sup>2</sup>, Kolja Schiltz<sup>2</sup>, Bernhard Bogerts<sup>2</sup>, Huiguang He<sup>1</sup>, Martin Walter<sup>2,3</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Psychiatry and Psychotherapie, Otto-von-Guericke University, Magdeburg, Germany, <sup>3</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>4</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany
- 152 WTh Regional spontaneous activity alterations in elderly individuals with moderate depressive symptoms**  
*Rui Li<sup>1</sup>, Zhenling Ma<sup>2</sup>, Jing Yu<sup>3</sup>, Juan Li<sup>3</sup>*  
<sup>1</sup>Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>School of Nursing, Peking Union Medical College, Beijing, China, <sup>3</sup>Key Laboratory of Mental Health, Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 153 WTh Spontaneous BOLD fluctuations reveal efficacy of TMS treatment on major depressive disorder**  
*Shang-Hua Lin<sup>1</sup>, Changwei Wu<sup>2</sup>, Kun-Hsien Chou<sup>3</sup>, Cheng-Ta Li<sup>4</sup>, Tung-Ping Su<sup>5</sup>, Ching-Po Lin<sup>6</sup>*  
<sup>1</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, <sup>2</sup>Graduate Institute of Biomedical Engineering, National Central University, Taoyuan, Chinese Taipei, <sup>3</sup>National Yang Ming University, <sup>4</sup>Department of Psychiatry, Taipei Veterans General Hospital, Taipei, Chinese Taipei, <sup>5</sup>Institute of Neuroscience, School of Life Science, National Yang-Ming University, Taipei, Chinese Taipei, <sup>6</sup>National Yang-Ming University, Taipei, Chinese Taipei
- 154 WTh Abnormal Baseline Brain Activity In Major Depressive Disorder And Their Siblings**  
*chunhong liu<sup>1</sup>, Xia Wu<sup>2</sup>, Chuan-Yue Wang Wang<sup>3</sup>*  
<sup>1</sup>Department of Radiology, Beijing Anding Hospital, Capital Medical University, Beijing, China, <sup>2</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China, <sup>3</sup>Laboratory of Clinical Psychopharmacology, Beijing Normal University, Beijing, China

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## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders, continued

- 155 WTh Investigating the diagnostic value of whole-brain functional connectivity in social anxiety disorder**  
*Feng Liu<sup>1</sup>, Jianwei Zhang<sup>1</sup>, Shanshan Wang<sup>1</sup>, Ling Zeng<sup>1</sup>, Qing Gao<sup>1</sup>, Huafu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China
- 156 WTh MR Spectroscopy of Amygdala: abnormal neurobiochemistry revealed in Pediatric and Adolescent Patient**  
*Mengqi Liu<sup>1</sup>, Qizhu Wu<sup>1</sup>, Jun Li<sup>2</sup>, Qiyong Gong<sup>1</sup>, Qiang Yue<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center (HMRRCC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>Department of geriatrics, West China Hospital of Sichuan University, Chengdu, China
- 157 WTh Disrupted Topological Patterns of structural network in Major Depressive Disorder**  
*Zhiliang Long<sup>1</sup>, Jun Li<sup>1</sup>, Chaoqiong Ma<sup>1</sup>, Ling Zeng<sup>1</sup>, Qing Gao<sup>1</sup>, Huafu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China
- 158 WTh Voxel-Based Morphometry and Resting-State Functional Connectivity Investigation in Major Depression**  
*Chaoqiong Ma<sup>1</sup>, Jun Li<sup>1</sup>, Chunyan Zheng<sup>1</sup>, Ling Zeng<sup>1</sup>, Qing Gao<sup>2</sup>, Huafu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>University of Electronic Science and Technology of China, Cheng Du, China
- 159 WTh Network specific influence of Glutamate on BOLD responses in healthy controls and depressed patients**  
*Coraline Metzger<sup>1,2</sup>, Marie-José van Tol<sup>3,2</sup>, Dorothea Horn<sup>3</sup>, Johann Steiner<sup>3</sup>, Joern Kaufmann<sup>4</sup>, Bernhard Bogerts<sup>3</sup>, Constanze Seidenbecher<sup>2</sup>, Martin Walter<sup>3,2</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapie, Otto-von-Guericke University, Magdeburg, Germany, <sup>2</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>3</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>4</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany
- 160 WTh Impact of Blood Cholesterol Levels on Striatal and Frontal Functional Connectivity**  
*Bernhard Meyer<sup>1</sup>, Ulrich Rabl<sup>1</sup>, Lucie Bartova<sup>1</sup>, Manuel Kuhn<sup>1</sup>, Kersten Diers<sup>2</sup>, Andreas Berger<sup>1</sup>, Christian Scharinger<sup>1</sup>, Ana Popovic<sup>1</sup>, Lisa Ott<sup>1</sup>, Klaudius Kalcher<sup>3</sup>, Wolfgang Huf<sup>3</sup>, Thomas Perkmann<sup>4</sup>, Helmuth Haslacher<sup>4</sup>, Christian Windischberger<sup>3</sup>, Harald Esterbauer<sup>4</sup>, Burkhard Brocke<sup>2</sup>, Siegfried Kasper<sup>1</sup>, Ewald Moser<sup>3</sup>, Harald Sitte<sup>4</sup>, Lukas Pezawas<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Technical University of Dresden, Dresden, Germany, <sup>3</sup>MR Center, Medical University of Vienna, Vienna, Austria, <sup>4</sup>Medical University of Vienna, Vienna, Austria
- 161 WTh Dissociation, PTSD and parenting: An fMRI study involving child video-stimuli**  
*Dominik Moser<sup>1</sup>, Tatjana Aue<sup>2</sup>, Zhishun Wang<sup>3</sup>, Bradley S Peterson<sup>4</sup>, Daniel Schechter<sup>1</sup>*  
<sup>1</sup>Hôpitaux Universitaires de Genève, Geneva, Switzerland, <sup>2</sup>University of Geneva, Geneva, Switzerland, <sup>3</sup>Columbia University and NYSPI, N/A, <sup>4</sup>MRI unit, Columbia University Department of Psychiatry, & New York State Psychiatric Institute, New York, United States
- 162 WTh Neural Correlates with parental rearing and temperament in individuals with major depression**  
*Mami Nakashima<sup>1</sup>, Koji Matsuo<sup>2</sup>, Masayuki Nakano<sup>1</sup>, Kazuteru Egashira<sup>3</sup>, Toshio Watanuki<sup>1</sup>, Toshio Matsubara<sup>1</sup>, Yoshifumi Watanabe<sup>1</sup>*  
<sup>1</sup>Yamaguchi University Graduate School Of Medicine, Ube, Yamaguchi, Japan, <sup>2</sup>Yamaguchi University Graduate School Of Medicine, Ube, Yamaguchi, Japan, <sup>3</sup>Department of Psychiatry, Yamaguchi Grand Medical Center, Yamaguchi, Japan, Ube, Yamaguchi, Japan
- 163 WTh Structural plasticity in fronto-limbic regions in patients with major depression treated with ECT**  
*Katherine Narr<sup>1</sup>, Owen Phillips<sup>1</sup>, Roger Woods<sup>1</sup>, Boris Gutman<sup>1</sup>, Paul Thompson<sup>1</sup>, Jeffrey Alger<sup>1</sup>, Randall Espinoza<sup>1</sup>*  
<sup>1</sup>David Geffen School of Medicine at UCLA, Los Angeles, CA, United States
- 164 WTh Abnormalities in Mood Disorders During Performance of a Working Memory Task: An MEG Study**  
*Allison Nugent<sup>1</sup>, Craig Marquardt<sup>1</sup>, Giacomo Salvatore<sup>2</sup>, Maura Furey<sup>1</sup>, Carlos Zarate, Jr.<sup>1</sup>*  
<sup>1</sup>Experimental Therapeutics and Pathophysiology Branch, NIH/NIMH, Bethesda, MD, <sup>2</sup>Johnson and Johnson, Titusville, NJ

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- 165 WTh Effects of DISC1 genotype and affective psychopathology on brain function and structure**  
*Esther Opmeer<sup>1</sup>, Marie-Jose van Tol<sup>2</sup>, Rudie Kortekaas<sup>3</sup>, Nic Wee<sup>4</sup>, Saskia Woudstra<sup>5</sup>, Mark van Buchem<sup>6</sup>, Brenda Penninx<sup>7</sup>, Dick Veltman<sup>8</sup>, A. Aleman<sup>9</sup>*  
<sup>1</sup>university medical center groningen, N/A, <sup>2</sup>University Medical Center Groningen, Groningen, Netherlands, <sup>3</sup>Department of Neuroscience, University Medical Center Groningen and University of Groningen, Groning, Groningen, Netherlands, <sup>4</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>5</sup>Department of Pyschiatry, VU University Medical Center, Amsterdam, Netherlands, <sup>6</sup>Leiden Institute for Brain and Cognition, leiden, Netherlands, <sup>7</sup>Department of Psychiatry, VU University Medical Center, Amsterdam, Netherlands, <sup>8</sup>Department of Psychiatry, VU University medical center, Amsterdam, Netherlands, <sup>9</sup>NeuroImaging Center, Groningen, Netherlands
- 166 WTh Electroconvulsive Therapy Reduces Frontal Cortical Connectivity in Severe Depressive**  
*Jennifer Perrin<sup>1</sup>, Susa Merz<sup>1</sup>, Daniel Bennett<sup>1</sup>, James Currie<sup>1</sup>, Douglas Steele<sup>2</sup>, Ian Reid<sup>1</sup>, Christian Schwarzbauer<sup>1</sup>*  
<sup>1</sup>University of Aberdeen, Aberdeen, United Kingdom, <sup>2</sup>University of Dundee, Dundee, United Kingdom
- 167 WTh Grey Matter Changes Following Electroconvulsive Therapy (ECT) for the Treatment of Depression**  
*Jennifer Perrin<sup>1</sup>, Daniel Bennett<sup>1</sup>, James Currie<sup>1</sup>, Douglas Steele<sup>2</sup>, Gordon Fernie<sup>1</sup>, Ian Reid<sup>1</sup>*  
<sup>1</sup>University of Aberdeen, Aberdeen, United Kingdom, <sup>2</sup>University of Dundee, Dundee, United Kingdom
- 168 WTh Decreased Nucleus Accumbens Activation in Depression in Response to Anticipation of Loss**  
*Patrick Pruitt<sup>1</sup>, Annie Weldon<sup>1</sup>, Brian Mickey<sup>1</sup>, Wai-Ying Yau<sup>1</sup>, Kortni Meyers<sup>1</sup>, David Hsu<sup>1</sup>, Stephan Taylor<sup>1</sup>, Mary Heitzeg<sup>1</sup>, Jon-Kar Zubieta<sup>1</sup>, Scott Langenecker<sup>1</sup>*  
<sup>1</sup>University of Michigan, Ann Arbor, MI, United States
- 169 WTh Volumetric and Geometric Change of Gray Matter in First-episode, Drug-naive Major Depression**  
*Lihua Qiu<sup>1</sup>, Xiaoqi Huang<sup>1</sup>, shiguang li<sup>1</sup>, Qizhu Wu<sup>1</sup>, Su Lui<sup>1</sup>, junran zhang<sup>1</sup>, Yuqing Wang<sup>1</sup>, Qiyong Gong<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China
- \*\*170 WTh COMT Val158Met and Life Stress Load Interact with Hippocampal Volume and Connectivity**  
*Ulrich Rabl<sup>1</sup>, Kersten Diers<sup>2</sup>, Bernhard Meyer<sup>1</sup>, Wolfgang Huf<sup>1,3,4</sup>, Klaudius Kalcher<sup>3</sup>, Lucie Bartova<sup>1</sup>, Andreas Berger<sup>1</sup>, Raphaela Oswald<sup>1</sup>, Viktor Szilagy<sup>1</sup>, Christian Scharinger<sup>1</sup>, Ana Popovic<sup>1</sup>, Helmuth Haslacher<sup>5</sup>, Thomas Perkmann<sup>5</sup>, Burkhard Brocke<sup>2</sup>, Christian Windischberger<sup>3</sup>, Harald Esterbauer<sup>6</sup>, Siegfried Kasper<sup>1</sup>, Ewald Moser<sup>3</sup>, Lukas Pezawas<sup>6</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychology, Technical University of Dresden, Dresden, Germany, <sup>3</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>4</sup>Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria, Vienna, Austria, <sup>5</sup>Department of Laboratory Medicine, Medical University of Vienna, Vienna, Austria, <sup>6</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Wien, Austria
- 171 WTh Functional Connectivity Density Mapping to Explore TMEM 132D, a New Candidate for Anxiety Phenotypes**  
*Philipp Sämann<sup>1</sup>, Angelika Erhardt<sup>1</sup>, Sara Kiem<sup>1</sup>, Michael Czisch<sup>1</sup>, David Höhn<sup>1</sup>, Florian Holsboer<sup>1</sup>, Bertram Müller-Myhsok<sup>1</sup>, Oliver Gruber<sup>2</sup>, Elisabeth Binder<sup>1</sup>*  
<sup>1</sup>Max Planck Institute of Psychiatry, Munich, Germany, <sup>2</sup>Georg-August-Universität, Göttingen, Germany
- 172 WTh Blood Serotonin Levels Predict Anterior Cingulate Activity**  
*Christian Scharinger<sup>1</sup>, Christian Kasess<sup>1</sup>, Ulrich Rabl<sup>1</sup>, Tina Hofmaier<sup>1</sup>, Kersten Diers<sup>2</sup>, Lucie Bartova<sup>1</sup>, Gerald Pail<sup>1</sup>, Wolfgang Huf<sup>1</sup>, Zeljko Uzelac<sup>1</sup>, Beate Hartinger<sup>1</sup>, Klaudius Kalcher<sup>1</sup>, Thomas Perkmann<sup>1</sup>, Andreas Meyer-Lindenberg<sup>3</sup>, Siegfried Kasper<sup>1</sup>, Michael Freissmuth<sup>1</sup>, Christian Windischberger<sup>1</sup>, Matthaeus Willeit<sup>1</sup>, Rupert Lanzenberger<sup>1</sup>, Harald Esterbauer<sup>1</sup>, Burkhard Brocke<sup>2</sup>, Ewald Moser<sup>1</sup>, Harald Sitte<sup>1</sup>, Lukas Pezawas<sup>1</sup>*  
<sup>1</sup>Medical University of Vienna, Vienna, Austria, <sup>2</sup>Technical University of Dresden, Dresden, Germany, <sup>3</sup>Central Institute of Mental Health, Mannheim, Germany
- 173 WTh Defining the human hypothalamus in vivo by high-resolution 7 Tesla magnetic resonance imaging**  
*Peter Schoenkecht<sup>1</sup>, Stephanie Schindler<sup>1</sup>, Laura Schmidt<sup>1</sup>, Robert Trampel<sup>2</sup>, Maria Strauß<sup>1</sup>, Ulrich Hegerl<sup>1</sup>, Robert Turner<sup>2</sup>, Stefan Geyer<sup>2</sup>*  
<sup>1</sup>University Hospital Leipzig, Dpt. of Psychiatry, Leipzig, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

- 174 WTh Validating S100B as biomarker for the human brain – A combined serum, gene expression and MRI study**  
Matthias Schroeter<sup>1</sup>, Katrin Arelin<sup>2</sup>, Juergen Kratzsch<sup>3</sup>, Johann Steiner<sup>4</sup>, Daniel-Paolo Streitbuerger<sup>2</sup>, Arno Villringer<sup>2</sup>, Karsten Mueller<sup>1</sup>  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Institute of Laboratory Medicine, Clinical Chemistry and Molecular Diagnostics, Leipzig University, Leipzig, Germany, <sup>4</sup>Department of Psychiatry, University of Magdeburg, Germany, Magdeburg, Germany
- 175 WTh Negative emotion processing in Bipolar Disorder: an fMRI study**  
Gianna Sepede<sup>1</sup>, Francesco Gambi<sup>1</sup>, Domenico De Berardis<sup>2</sup>, Daniela Campanella<sup>2</sup>, Mauro Perrucci<sup>1</sup>, Antonio Ferretti<sup>3</sup>, Nicola Serroni<sup>2</sup>, Rosa Maria Salerno<sup>3</sup>, Marco Onofri<sup>3</sup>, Gian Luca Roman<sup>3,4</sup>, Massimo Di Giannantonio<sup>3,5</sup>  
<sup>1</sup>Department of Neuroscience and Imaging, Gabriele D'Annunzio University, Chieti, Italy, <sup>2</sup>Department of Mental Health, National Health Trust, Teramo, Italy, <sup>3</sup>Department of Neuroscience and Imaging, Gabriele D'Annunzio University, Chieti, Italy, <sup>4</sup>Gabriele D'Annunzio University Foundation, Chieti, Italy, <sup>5</sup>Department of Mental Health, National Health Trust, Chieti, Italy
- 176 WTh Neural correlates of worry in neuroticism**  
M.N. Servaas<sup>1</sup>, H. Riese<sup>2</sup>, J. Ormel<sup>1</sup>, A. Aleman<sup>1</sup>  
<sup>1</sup>NeuroImaging Center, Groningen, Netherlands, <sup>2</sup>Interdisciplinary Center for Psychiatric Epidemiology, Groningen, Netherlands
- 177 WTh Altered Fiber Tract Integrity in Traffic Accident Victims: A Diffusion Tensor Imaging Study**  
Feng Shi<sup>1</sup>, Yan Zhou<sup>2</sup>, Zhen Wang<sup>3</sup>, Dinggang Shen<sup>1</sup>  
<sup>1</sup>University of North Carolina at Chapel Hill, NC, United States, <sup>2</sup>Renji Hospital, Shanghai Jiao Tong University, Shanghai, China, <sup>3</sup>Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China
- 178 WTh FMRI of increased habituation in the amygdala and orbitofrontal cortex in social anxiety disorder**  
Ronald Sladky<sup>1</sup>, Anna Höflich<sup>2</sup>, Jasmin Tröstl<sup>1</sup>, Christoph Kraus<sup>2</sup>, Pia Baldinger<sup>2</sup>, Ewald Moser<sup>1</sup>, Rupert Lanzenberger<sup>2</sup>, Christian Windischberger<sup>1</sup>  
<sup>1</sup>MR Centre of Excellence, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria
- 179 WTh The Effect of CBT on Aversive Conditioning: A Multi-Center fMRI Study in Panic Disorder**  
Benjamin Straube<sup>1</sup>, Thilo Kellermann<sup>2</sup>, Ulrike Lueken<sup>3</sup>, Isabelle Reinhardt<sup>2</sup>, Andreas Jansen<sup>1</sup>, Hans-Ulrich Wittchen<sup>3</sup>, André Wittmann<sup>4</sup>, Andreas Ströhle<sup>4</sup>, Bettina Pfleiderer<sup>5</sup>, Carsten Konrad<sup>1</sup>, Volker Arolt<sup>6</sup>, Tilo Kircher<sup>1</sup>  
<sup>1</sup>Philipps-University, Marburg, Germany, <sup>2</sup>RWTH-Aachen, Aachen, Germany, <sup>3</sup>Department of Psychology, University of Technology, Dresden, Germany, <sup>4</sup>Department of Psychiatry and Psychotherapy, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>5</sup>Department of Clinical Radiology, University of Münster, Münster, Germany, <sup>6</sup>Dept. of Psychiatry, University of Muenster, Muenster, Germany
- 180 WTh Traces of Stress: Cortisol Related Sustained Enhancement of Amygdala-Hippocampal Connectivity**  
Sharon Vaisvaser<sup>1,2</sup>, Tamar Lin<sup>3,4</sup>, Ilana Podlipsky<sup>5</sup>, Yona Greenman<sup>6</sup>, Naftali Stern<sup>6</sup>, Eyal Fruchter<sup>7</sup>, Yair Bar-Haim<sup>4</sup>, Roe Admon<sup>3,8</sup>, Talma Hendler<sup>3,8,9</sup>  
<sup>1</sup>Sourasky Medical Center; Tel Aviv University, Tel Aviv, Israel, <sup>2</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, <sup>3</sup>Wohl Institute for Advanced Imaging, Sourasky Medical Center, Tel-Aviv, Israel, <sup>4</sup>Department of Psychology, Tel Aviv University, Tel-Aviv, Israel, <sup>5</sup>Wohl Institute for Advanced Imaging, Sourasky Medical Center, Tel-Aviv, Israel, <sup>6</sup>Institute of Endocrinology, Metabolism and Hypertension, Sourasky Medical Center, Tel-Aviv, Israel, <sup>7</sup>Division of Mental Health, Medical Corps, IDF, Tel Hashomer, Israel, <sup>8</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel, <sup>9</sup>Department of Psychology, Tel Aviv University, Tel-Aviv, Israel
- 181 WTh Glutamatergic metabolism affects resting state functional connectivity in health and depression**  
Marie-Jose van Tol<sup>1,2</sup>, Coraline Metzger<sup>3</sup>, Catie Chang<sup>4</sup>, Johann Steiner<sup>5</sup>, Axel Genz<sup>2</sup>, Dorothea Horn<sup>2</sup>, Joern Kaufman<sup>6</sup>, Berhard Bogerts<sup>2</sup>, Martin Walter<sup>7,1,2</sup>  
<sup>1</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>2</sup>Department of Psychiatry, Otto von Guericke University, Magdeburg, Germany, <sup>3</sup>Clinical Affective Neuroimaging Laboratory, Department of Psychiatry, Otto-von-Guericke University, Magdeburg, Germany, <sup>4</sup>NINDS/NIH, Bethesda, MD, <sup>5</sup>Department of Psychiatry, University of Magdeburg, Germany, Magdeburg, Germany, <sup>6</sup>Department of Neurology, Otto von Guericke University, Magdeburg, Germany, <sup>7</sup>Clinical Affective Neuroimaging Laboratory, Magdeburg, Germany

## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders, continued

- 182 WTh Recovering from combat stress: reversible and persistent mesofrontal plasticity**  
*Guido van Wingen<sup>1</sup>, Elbert Geuze<sup>2</sup>, Matthan Caan<sup>1</sup>, Tamas Kozicz<sup>3</sup>, Silvia Olabarriaga<sup>1</sup>, damiaan denys<sup>1</sup>, Eric Vermetten<sup>2</sup>, Guillén Fernández<sup>4</sup>*  
<sup>1</sup>Academic Medical Center Amsterdam, Amsterdam, Netherlands, <sup>2</sup>Military Mental Health, Utrecht, Netherlands, <sup>3</sup>Radboud University Nijmegen, Nijmegen, Netherlands, <sup>4</sup>Radboud University Medical Centre, Nijmegen, Netherlands
- 183 WTh The amygdala in PTSD following childhood trauma: anatomy, activation, and functional connectivity**  
*Ilya Veer<sup>1,2,3</sup>, Nicole Oei<sup>1,2,4</sup>, Philip Spinhoven<sup>1,3</sup>, Mark van Buchem<sup>1,2</sup>, Bernet Elzinga<sup>1,3</sup>, Serge Rombouts<sup>1,2,3</sup>*  
<sup>1</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>2</sup>Leiden University Medical Center, Dept. of Radiology, Leiden, Netherlands, <sup>3</sup>Leiden University - Institute of Psychology, Leiden, Netherlands, <sup>4</sup>Leiden University Medical Center, Dept. of Gerontology and Geriatrics, Leiden, Netherlands
- 184 WTh Gray Matter Changes in Adolescents with Subthreshold Depression**  
*Helene VULSER<sup>1,2,3</sup>, Marie-Laure Paillère Martinot<sup>1,2,3,4</sup>, Jean-Luc Martinot<sup>1,2,3</sup>, Eric Artiges<sup>1,2,3</sup>, Ruben MIRANDA<sup>1,2,3</sup>, Robert Goodman<sup>5</sup>, Jari Penttilä<sup>6</sup>, Maren STRUVE<sup>7</sup>, Tamine FADA<sup>8</sup>, Viola JUCKSCH<sup>9</sup>, Luise POUTSKA<sup>7</sup>, Patricia Conrod<sup>10</sup>, Tobias Banaschewski<sup>7</sup>, Christian Büchel<sup>11</sup>, Herta Flor<sup>7</sup>, Juergen GALLINAT<sup>9</sup>, Hugh Garavan<sup>12</sup>, Andreas Heinz<sup>13</sup>, Tomas Paus<sup>14</sup>, Marcella Rietschel<sup>7</sup>, Michael Smolka<sup>15</sup>, Alexis BARBOT<sup>16</sup>, Jean-Baptiste Poline<sup>17</sup>, Gunter Schumann<sup>18</sup>, Herve Lemaitre<sup>19</sup>, Consortium IMAGEN<sup>20</sup>*  
<sup>1</sup>UMR INSERM-CEA U1000, Orsay, France, <sup>2</sup>Universite Paris Descartes, Paris, France, <sup>3</sup>University Paris-Sud 11, Orsay, France, <sup>4</sup>APHP, Hôpital Cochin, Paris, France, <sup>5</sup>Department of Neurology, Columbia University College of Physicians and Surgeons, New York, NY, <sup>6</sup>Aivon Oy, Espoo, Finland, <sup>7</sup>Central Institute of Mental Health, Mannheim, Germany, <sup>8</sup>Universitaetsklinikum Hamburg Eppendorf, Hamburg, Germany, <sup>9</sup>Department of Psychiatry and Psychotherapy, Campus Charité Mitte, Charité – Universitätsmedizin, Berlin, Germany, <sup>10</sup>King's College London, Institute of Psychiatry, London, United Kingdom, <sup>11</sup>University Medical Center Hamburg-Eppendorf, Department of Systems Neuroscience, Hamburg, Germany, <sup>12</sup>University of Vermont, Burlington, VT, <sup>13</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>14</sup>Rotman Research Institute - Baycrest Centre, Toronto, ON, <sup>15</sup>Technische Universität Dresden, Dresden, Germany, <sup>16</sup>I2BM-Neurospin CEA, Gif-sur-Yvette, France, <sup>17</sup>CEA, Neurospin, Gif-sur-Yvette, France, <sup>18</sup>King's College London, London, United Kingdom, <sup>19</sup>INSERM - CEA - Faculté de Médecine Paris Sud 11, Orsay, France, <sup>20</sup>Consortium IMAGEN, Europe
- 185 WTh Alteration of negative emotional processing during the initial weeks after trauma**  
*xin Wang<sup>1,2</sup>, Hong Xie<sup>1</sup>, Marijo Tamburrino<sup>1</sup>, Andrew Cotton<sup>1</sup>, Jennifer Smirnov<sup>1</sup>, Michael Dennis<sup>1</sup>, Teresa Biehn<sup>1</sup>, Ateka Contractor<sup>1</sup>, Kristopher Brickman<sup>1</sup>, Samuel McLean<sup>3</sup>, Jon Elhai<sup>1</sup>, Israel Liberzon<sup>2</sup>*  
<sup>1</sup>University of Toledo, Toledo, OH, <sup>2</sup>University of Michigan, Ann Arbor, MI, <sup>3</sup>University of North Carolina at Chapel Hill, Chapel Hill, NC
- 186 WTh Dynamic gamma band phase synchronization in depression:MEG study**  
*Yi Wang<sup>1</sup>, Zhijian Yao<sup>2</sup>, Qing Lu<sup>1</sup>*  
<sup>1</sup>Research Center for Learning Science, Southeast University, Nanjing, China, <sup>2</sup>Academic Department of Psychiatry, Nanjing Brain Hospital, Nanjing Medical University, Nanjing, China
- 187 WTh Diffusion Tensor Imaging Reveals U-fibers Abnormalities in Pediatric Bipolar Disorder**  
*Minjie Wu<sup>1</sup>, Lisa Lu<sup>1,2</sup>, Bryn Levitan<sup>1</sup>, Alessandra Passarotti<sup>1</sup>, Joe Zhou<sup>1</sup>, Mani Pavuluri<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, United States, <sup>2</sup>Roosevelt University, Chicago, IL
- 188 WTh Altered Affective, Executive and Sensorimotor Resting State Networks in Pediatric Mania**  
*Minjie Wu<sup>1</sup>, Lisa Lu<sup>1,2</sup>, Alessandra Passarotti<sup>1</sup>, Ezra Wegbreit<sup>1</sup>, Jacklynn Fitzgerald<sup>1</sup>, Mani Pavuluri<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, IL, <sup>2</sup>Roosevelt University, Chicago, IL
- 189 WTh Spontaneous brain activity in combat-related PTSD**  
*Xiaodan Yan<sup>1</sup>, Charles Marmar<sup>2</sup>*  
<sup>1</sup>New York University, New York, NY, United States, <sup>2</sup>New York University, New York, NY, United States
- 190 WTh Relations of Default-Mode Network Connectivity and amygdala volume in Major Depressive Disorder**  
*Chuan-Chih Yang<sup>1</sup>, Marie-Jose van Tol<sup>1,2</sup>, Meng Li<sup>3</sup>, Coraline Metzger<sup>1,2</sup>, Annemarie Osoba<sup>4</sup>, Johann Steiner<sup>2</sup>, Joern Kaufmann<sup>5</sup>, Bernhard Bogerts<sup>2</sup>, Martin Walter<sup>1,2</sup>*  
<sup>1</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>3</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Otto-von-Guericke University, Magdeburg, Germany, <sup>5</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany

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## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders, continued

- 191 WTh Abnormality of default mode and the stable task control network in major depressive disorder**  
*Liqin YANG<sup>1</sup>, Fuchun Lin<sup>1</sup>, Hao Lei<sup>1</sup>*  
<sup>1</sup>Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, China
- 192 WTh Effects of Type 2 Diabetes and Major Depression on Subcortical Biophysical Abnormalities: A MT Study**  
*Shaolin Yang<sup>1</sup>, Olusola Ajilore<sup>1</sup>, Minjie Wu<sup>1</sup>, Melissa Lamar<sup>1</sup>, Anand Kumar<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, United States
- 193 WTh Biophysical Abnormalities in Focal Gray and White Matter Regions in Late-Life Major Depression**  
*Shaolin Yang<sup>1</sup>, Olusola Ajilore<sup>1</sup>, Minjie Wu<sup>1</sup>, Melissa Lamar<sup>1</sup>, Anand Kumar<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, United States
- 194 WTh Depressed Adolescents Demonstrate Abnormal Amygdala Activation and Functional Connectivity**  
*TONY YANG<sup>1</sup>*  
<sup>1</sup>UNIVERSITY OF CALIFORNIA SAN DIEGO, SAN DIEGO, United States
- 195 WTh Neural correlates of semantic priming in panic disorder with agoraphobia using panic related stimuli**  
*Yunbo Yang<sup>1</sup>, Benjamin Straube<sup>1</sup>, Ulrike Lueken<sup>2</sup>, Hans-Ulrich Wittchen<sup>2</sup>, André Wittmann<sup>3</sup>, Andreas Ströhle<sup>3</sup>, Bettina Pfleiderer<sup>4</sup>, Martin Herrmann<sup>5</sup>, Jürgen Deckert<sup>6</sup>, Alfons Hamm<sup>6</sup>, martin lotze<sup>7</sup>, Volker Arolt<sup>8</sup>, Tilo Kircher<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Philipps-University Marburg, Marburg, Germany, <sup>2</sup>Department of Psychology, University of Technology, Dresden, Germany, <sup>3</sup>Department of Psychiatry and Psychotherapy, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>4</sup>Department of Clinical Radiology, University of Münster, Münster, Germany, <sup>5</sup>Department of Psychiatry, Psychosomatics and Psychotherapy, University of Würzburg, Würzburg, Germany, <sup>6</sup>Department of Biological and Clinical Psychology, University of Greifswald, Greifswald, Germany, <sup>7</sup>Center for Diagnostic Radiology and Neuroradiology, University of Greifswald, Greifswald, Germany, <sup>8</sup>Department of Psychiatry, University of Münster, Münster, Germany
- 196 WTh Spectral Analysis of Resting State in Recurrent Major Depression: a Magnetoencephalography Study**  
*Zhijian Yao<sup>1</sup>, Hao Tang<sup>1</sup>, Guoping Luo<sup>2</sup>, Li Han<sup>1</sup>, Qing Lu<sup>2</sup>*  
<sup>1</sup>Academic Department of Psychiatry, Affiliated Nanjing Brain Hospital of Nanjing Medical University, Nanjing, China, <sup>2</sup>Research Centre for learning Science, Southeast University, Nanjing, China
- 197 WTh FMRI of autobiographical memory deficits in individuals with, and at risk for, developing depression**  
*Kymerly Young<sup>1</sup>, Patrick Bellgowan<sup>2</sup>, Jerzy Bodurka<sup>2</sup>, Wayne Drevets<sup>2</sup>*  
<sup>1</sup>Laureate Institute For Brain Research, Tulsa, OK, <sup>2</sup>Laureate Institute for Brain Research, Tulsa, OK
- 198 WTh Depression alters dorsolateral prefrontal cortex response to anticipated picture viewing**  
*Bin Zhang<sup>1</sup>, Coraline Metzger<sup>1,2</sup>, Marie-José van Tol<sup>1,2</sup>, Annemarie Osoba<sup>1</sup>, Dorothea Horn<sup>1</sup>, Maryam Roayaei<sup>1</sup>, Axel Genz<sup>1</sup>, Johann Steiner<sup>1</sup>, Claus Tempelmann<sup>3</sup>, Bernhard Bogerts<sup>1</sup>, Martin Walter<sup>1,2</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>2</sup>Leibniz Institute for Neurobiology, magdeburg, Germany, <sup>3</sup>Department of Neurology, Otto-von-Guericke University, Magdeburg, Germany
- 199 WTh Neurochemical Changes in the Anterior Cingulate Cortex Link with ECT Treatment in Major Depression**  
*Jingjing Zhang<sup>1</sup>, Katherine Narr<sup>1</sup>, Roger Woods<sup>1</sup>, Owen Phillips<sup>1</sup>, Jeffry Alger<sup>1</sup>, Randall Espinoza<sup>1</sup>*  
<sup>1</sup>David Geffen School of Medicine at UCLA, Los Angeles, United States
- 200 WTh Regional cortical thickness reduction in remitted depression is associated with childhood trauma**  
*Kai Zhang<sup>1,2,3,4</sup>, Sabine Aust<sup>1,2,3</sup>, Simone Grimm<sup>1,2,3,5</sup>, Malek Bajbouj<sup>1,2,3</sup>*  
<sup>1</sup>Cluster of Excellence 'Languages of Emotion', Freie Universität Berlin, Berlin, Germany, <sup>2</sup>Dahlem Institute for Neuroimaging of Emotion, Freie Universität Berlin, Berlin, Germany, <sup>3</sup>Department of Psychiatry, Charité, CBF, Berlin, Germany, <sup>4</sup>Department of Education and Psychology, Freie Universität Berlin, Berlin, Germany, <sup>5</sup>Department of Psychiatry, University Zurich, Zurich, Switzerland
- 201 WTh Abnormal functional networks in major depression**  
*Chunyan Zheng<sup>1</sup>, Chaoqiong Ma<sup>1</sup>, Jun Li<sup>1</sup>, Qing Gao<sup>1</sup>, Huaifu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China

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## DISORDERS OF THE NERVOUS SYSTEM

### Mood and Anxiety Disorders, continued

- 202 WTh Amplitude of Low Frequency Fluctuation of BOLD Signal and Functional Connectivity Analysis in PTSD**  
*Hong-Ru Zhu<sup>1</sup>, Jun-Ran Zhang<sup>2</sup>, Chang-Jian Qiu<sup>3</sup>, Rui-Zhi Wu<sup>3</sup>, Ya-jing Meng<sup>3</sup>, Hao-Fei Cui<sup>3</sup>, Wei Zhang<sup>3</sup>, Qi-Yong Gong<sup>4</sup>*  
<sup>1</sup>Mental Health Center, West China Hospital of Sichuan University, ChengDu, China, <sup>2</sup>School of Electrical Engineering and Information, Sichuan University, ChengDu, China, <sup>3</sup>Mental Health Center, West China Hospital of Sichuan University, Chengdu, China, <sup>4</sup>Huaxi MR Research Center (HMRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China
- 203 WTh A study between the resting-state default mode network connectivity and the self in Major Depression**  
*xueling zhu<sup>1</sup>, Xiaofeng Yang<sup>2</sup>, Yuan Zhong<sup>3</sup>, Fangcheng Long<sup>1</sup>, Dongsheng Liao<sup>1</sup>*  
<sup>1</sup>the School of Humanities and Social Sciences, National University of Defense Technology, Changsha, China, <sup>2</sup>Emory University, Atlanta, United States, <sup>3</sup>Department of Psychology, Nanjing Normal University, Nanjing, China

## DISORDERS OF THE NERVOUS SYSTEM

### Obsessive-Compulsive Disorder and Tourette Syndrome

- 204 WTh Shut down of caudate-prefrontal circuits and cognitive control during symptom provocation in OCD**  
*Paula Banca<sup>1</sup>, Fernando Pocinho<sup>2</sup>, Joao Relvas<sup>2</sup>, Gregor Philipiak<sup>1</sup>, Carlos Ferreira<sup>1</sup>, Miguel Castelo-Branco<sup>1</sup>*  
<sup>1</sup>IBILI, Coimbra, Portugal, <sup>2</sup>Hospital of University of Coimbra, Coimbra, Portugal
- 205 WTh Neural correlates of abnormal 'guilt processing' in patients with obsessive compulsive disorder**  
*Barbara Basile<sup>1,2</sup>, Francesco Mancini<sup>2</sup>, Emiliano Macaluso<sup>3</sup>, Marco Bozzali<sup>4</sup>*  
<sup>1</sup>Santa Lucia Foundation, N/A, <sup>2</sup>School of Cognitive Psychotherapy, Rome, Italy, <sup>3</sup>Santa Lucia Foundation, Roma, Italy, <sup>4</sup>Santa Lucia Foundation, Rome, Italy
- 206 WTh Neuroimaging changes after psychotherapy in pediatric patients with obsessive compulsive disorder**  
*Chaim Huyser<sup>1</sup>, Dick Veltman<sup>2</sup>, Odile van den Heuvel<sup>3</sup>, Lidewij Wolters<sup>4</sup>, Else de Haan<sup>5</sup>, Frits Boer<sup>6</sup>*  
<sup>1</sup>De Bascule/AMC, Amsterdam, Netherlands, <sup>2</sup>Department of Psychiatry, VU University medical center, Amsterdam, Netherlands, <sup>3</sup>Vrije Universiteit, Amsterdam, Netherlands, <sup>4</sup>University of Amsterdam, Amsterdam, Netherlands, <sup>5</sup>University of Amsterdam/De Bascule, Amsterdam, Netherlands, <sup>6</sup>University of Amsterdam / De Bascule, Amsterdam, Netherlands
- 207 WTh Altered functional connectivity during reward processing in obsessive-compulsive disorder**  
*Wi Hoon Jung<sup>1</sup>, Joon Hwan Jang<sup>2</sup>, Sung Nyun Kim<sup>2</sup>, Jae Yeon Hwang<sup>3</sup>, Euitae Kim<sup>2</sup>, Jun Soo Kwon<sup>3</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Seoul National University Hospital, Seoul, Korea, Republic of, <sup>3</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 208 WTh Altered Properties in the Cortical Thickness Network of Patients with Obsessive-Compulsive Disorder**  
*Seung-Goo Kim<sup>1</sup>, Moo Chung<sup>2</sup>, Wi Hoon Jung<sup>1</sup>, Joon Hwan Jang<sup>3</sup>, Jun Soo Kwon<sup>3</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>University of Wisconsin, Madison, WI, <sup>3</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 209 WTh Withdrawn**

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## DISORDERS OF THE NERVOUS SYSTEM

### Obsessive-Compulsive Disorder and Tourette Syndrome, continued

- 210 WTh Hair-pulling disorder (trichotillomania): White matter changes and its clinical correlates**  
*Annerine Roos<sup>1</sup>, Jean-Paul Fouché<sup>1</sup>, Bruce Spottiswoode<sup>2</sup>, Dan Stein<sup>2</sup>, Christine Lochner<sup>1</sup>*  
<sup>1</sup>Stellenbosch University, Cape Town, South Africa, <sup>2</sup>University of Cape Town, Cape Town, South Africa
- 211 WTh Disrupted Small-World Architecture of Default Mode Network in Obsessive-Compulsive Disorder**  
*Da-Jung Shin<sup>1</sup>, Wi Hoon Jung<sup>2</sup>, Geumsook Shim<sup>3</sup>, Sung Nyun Kim<sup>4</sup>, Hye Yeon Park<sup>3</sup>, Min Soo Byun<sup>3</sup>, Jun Soo Kwon<sup>3</sup>*  
<sup>1</sup>Department of Brain and Cognitive Science, Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Interdisciplinary Program in Neuroscience, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of, <sup>3</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Seoul National University Hospital, Seoul, Korea, Republic of
- 212 WTh Altered structure of cortico-striato-pallido-thalamic circuits in Gilles de la Tourette syndrome**  
*Yulia Worbe<sup>1,2</sup>, Linda Marrakchi-Kacem<sup>3</sup>, Sophie Lecomte<sup>3</sup>, Romaine Valabregue<sup>4</sup>, Fabrice Poupon<sup>3</sup>, Pamela Guevara<sup>3</sup>, Marie Vidailhet<sup>5</sup>, Stephane Lehericy<sup>4</sup>, Andreas Hartmann<sup>5</sup>, Cyril Poupon<sup>3</sup>*  
<sup>1</sup>Behavioral and Clinical Neuroscience Institute, Cambridge, United Kingdom, <sup>2</sup>Université Pierre et Marie Curie-Paris 6, Centre de Recherche de l'Institut du Cerveau et de la Moelle épinière, UMR-S975, Paris, France, <sup>3</sup>NeuroSpin, CEA, Gif-Sur-Yvette, France, <sup>4</sup>Centre de NeuroImagerie de Recherche – CENIR, Paris, France, <sup>5</sup>Université Pierre et Marie Curie-Paris 6, Centre de Recherche de l'Institut du Cerveau et de la Moe, Paris, France
- 213 WTh Brain structural changes in adolescents obsessive-compulsive disorder**  
*Mojtaba Zarei<sup>1,2</sup>, David Mataix-Cols<sup>3</sup>, Isobel Heyman<sup>3</sup>, Morgan Hough<sup>2</sup>, Joanne Doherty<sup>4</sup>, Sunita Nijhawan<sup>4</sup>, Louise Winmill<sup>4</sup>, Linda Burge<sup>4</sup>, Paul Matthews<sup>5,6</sup>, Anthony James<sup>2,7</sup>*  
<sup>1</sup>National Brain Mapping Centre, Tehran, Iran, Islamic Republic of, <sup>2</sup>University of Oxford, Oxford, United Kingdom, <sup>3</sup>Institute of Psychiatry, London, United Kingdom, <sup>4</sup>Warneford Hospital, Oxford, United Kingdom, <sup>5</sup>GSK Clinical Imaging Centre, London, United Kingdom, <sup>6</sup>Centre for Neuroscience, Imperial College London, London, United Kingdom, <sup>7</sup>Warnford Hospital, Oxford, United Kingdom

## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders

- 214 WTh Reversing pathological neuronal synchrony and tinnitus symptoms by acoustic CR neuromodulation**  
*Ilya Adamchic<sup>1</sup>, Christian Hauptmann<sup>1</sup>, Peter Tass<sup>1,2</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine–Neuromodulation, Research Center Jülich, Jülich, Germany, <sup>2</sup>Department of Stereotactic and Functional Neurosurgery, University of Cologne, Cologne, Germany
- 215 WTh Relationship between neurocognition and brain volumes in adolescents with and without PTSD**  
*Fatima Ahmed<sup>1</sup>, Paul Carey<sup>2</sup>, Soraya Seedat<sup>3</sup>, Bruce Spottiswoode<sup>4</sup>, Dan Stein<sup>4</sup>*  
<sup>1</sup>University of Stellenbosch, Cape Town, South Africa, <sup>2</sup>Department of Psychiatry, Stellenbosch University, Cape Town, South Africa, <sup>3</sup>South African Research Chairs Initiative in PTSD, Department of Psychiatry, Stellenbosch University, Cape Town, South Africa, <sup>4</sup>University of Cape Town, Cape Town, South Africa
- 216 WTh Neuroimaging Interpersonal Trust in Combat Veterans with Post Traumatic Stress Disorder**  
*Jason Aimone<sup>1</sup>, Jessica Eiseman<sup>2</sup>, B. Frueh<sup>3</sup>, David Graham<sup>2</sup>, Rob McNamara<sup>4</sup>, Wright Williams<sup>2</sup>, Katherine McCurry<sup>5</sup>, Pearl Chiu<sup>1</sup>, BROOKS KING-CASAS<sup>6</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, United States, <sup>2</sup>Michael E. DeBakey VA Medical Center, Houston, United States, <sup>3</sup>University of Hawaii at Hilo, Hilo, United States, <sup>4</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, <sup>5</sup>Virginia Tech Carilion Research Institute, N/A, <sup>6</sup>Virginia Tech Carilion Research Institute, ROANOKE, VA
- 217 WTh Brain's white matter alterations in lower limb amputees: a DTI study**  
*Sarael Alcauter<sup>1</sup>, Fernando Barrios<sup>2</sup>, Erick Pasaye<sup>3</sup>*  
<sup>1</sup>Instituto Nacional de Psiquiatria, INPRF, MEXICO D.F., Mexico, <sup>2</sup>Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, Mexico, <sup>3</sup>Universidad Nacional Autónoma de México, Querétaro, QRO
- 218 WTh Neuroanatomical changes associated with binge eating disorder**  
*Miguel Alonso-Alonso<sup>1</sup>, Cleofé Peña-Gómez<sup>2</sup>, Greta Magerowski<sup>1</sup>, Frederick Ifert-Miller<sup>1</sup>, George Blackburn<sup>1</sup>, Alvaro Pascual-Leone<sup>1</sup>*  
<sup>1</sup>Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA, <sup>2</sup>Facultat de Medicina, Departament de Psiquiatria i Psicobiologia Clínica, Universitat de Barcelona, Barcelona, Spain

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## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders, continued

- 219 WTh The EEG dynamic in emotional face recognition in the patients with the vertebrogenic pain syndrom**  
*Andrew Baikalov<sup>1</sup>, Alexander Krutko<sup>1</sup>, Dmitry Dyachkov<sup>2</sup>, Alexander Savostyanov<sup>2</sup>*  
<sup>1</sup>Research Institute of Traumatology and Orthopedics, Novosibirsk, Russian Federation, <sup>2</sup>Institute of Physiology SB RAMS, Novosibirsk, Russian Federation
- 220 WTh Abnormal emotional processing in Multiple Sclerosis: an fMRI investigation**  
*Barbara Basile<sup>1</sup>, Ugo Nocentini<sup>2</sup>, Carlo Caltagirone<sup>3</sup>, Marco Bozzali<sup>2</sup>*  
<sup>1</sup>Santa Lucia Foundation, N/A, <sup>2</sup>Santa Lucia Foundation, Rome, Italy, <sup>3</sup>University of Rome "Tor Vergata", IRCCS Santa Lucia Foundation, Rome, Italy
- 221 WTh Connectivity of pain regulating brain regions is different in episodic and chronic daily migraineurs**  
*Erik Beall<sup>1</sup>, Stuart Tepper<sup>1</sup>, Jian Lin<sup>1</sup>, Kecheng Liu<sup>2</sup>, Stephen Jones<sup>1</sup>, Mark Stillman<sup>1</sup>, Mary Horvat<sup>1</sup>, Mark Lowe<sup>1</sup>, Micheal Phillips<sup>1</sup>*  
<sup>1</sup>Cleveland Clinic, Cleveland, OH, <sup>2</sup>Siemens Medical Solutions, Inc, Malvern, PA
- 222 WTh Disorganization of cortico-motor tracts in motor deficient HIV-1 subjects**  
*Charlotte Bernard<sup>1</sup>, Bixente Dilharreguy<sup>1</sup>, Michèle Allard<sup>1</sup>, Hélène Amieva<sup>2</sup>, Bonnet Fabrice<sup>3</sup>, Bruyand Mathias<sup>2</sup>, Dauchy Frederic<sup>3</sup>, Creib Carinne<sup>3</sup>, Dehail Patrick<sup>3,4</sup>, Gwénaëlle Catheline<sup>1</sup>*  
<sup>1</sup>Univ. Bordeaux, INCIA, UMR 5287, Bordeaux, France, <sup>2</sup>ISPED, INSERM U 897, Bordeaux, France, <sup>3</sup>CHU, Bordeaux, France, <sup>4</sup>Univ. Bordeaux, EA 4136, Bordeaux, France
- \*\*223 WTh Negative Affect and Neural Response to Taste in Bulimia Nervosa: Activation and Connectivity**  
*Cara Bohon<sup>1</sup>, Eric Stice<sup>2</sup>*  
<sup>1</sup>University of California - Los Angeles, Los Angeles, CA, <sup>2</sup>Oregon Research Institute, Eugene, OR
- 224 WTh Diffusion tensor and voxel based morphometry study in patients with amyotrophic lateral sclerosis**  
*Paola Caroppo<sup>1</sup>, Federico D'Agata<sup>2</sup>, Maria Federica Ferrio<sup>1</sup>, Mario Coriasco<sup>1</sup>, Andrea Calvo<sup>1</sup>, Adriano Chiò<sup>1</sup>, Dorico Righi<sup>1</sup>, Paolo Mortara<sup>3</sup>, Gianni Boris Bradac<sup>1</sup>, Mauro Bergui<sup>1</sup>*  
<sup>1</sup>University of Turin, Turin, Italy, <sup>2</sup>N/A, Turin, Italy, <sup>3</sup>University Of Turin, Turin, Italy
- 225 WTh Cognitive Impairment in Patients with Myasthenia Gravis during a Spatial Working Memory Task**  
*Wen-li Chen<sup>1</sup>, Min-min Zhang<sup>2</sup>, Yi Wang<sup>3</sup>, Wei-jun Tang<sup>3</sup>, Matthew Norris<sup>4</sup>, James Eliassen<sup>4</sup>, Jing-Huei Lee<sup>4</sup>*  
<sup>1</sup>Kunhua Hospital Affiliated to Kunming Medical College, Kunming, Yunnan, <sup>2</sup>Second Military Medical University, Shanghai, China, <sup>3</sup>Huashan Hospital Affiliated to Fudan University, Shanghai, China, <sup>4</sup>University of Cincinnati, Cincinnati, OH
- 226 WTh White Matter Damage After Carbon Monoxide Intoxication with/without Delay Syndrome**  
*Wang Chih Hsueh<sup>1</sup>, Lin Wei-Che<sup>2</sup>, Lo Chun-Yi<sup>1</sup>, Ching-Po Lin<sup>1</sup>*  
<sup>1</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>Department of Diagnostic Radiology, Chang Gung Memorial Hospital, Kaohsiung, Chinese Taipei
- 227 WTh Reconciling variable findings in Major Depressive Disorder white matter integrity**  
*KI SUENG CHOI<sup>1</sup>, Paul Holtzheimer<sup>2</sup>, Alexandre Franco<sup>3</sup>, Xiaoping Hu<sup>4</sup>, Helen Mayberg<sup>5</sup>*  
<sup>1</sup>Georgia Institute of Technology / Emory University, Atlanta, United States, <sup>2</sup>Dartmouth Medical School, Lebanon, NH, <sup>3</sup>Pontificia Universidade Católica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, <sup>4</sup>Georgia Tech/Emory University, Atlanta, GA, <sup>5</sup>Emory University, Atlanta, GA
- 228 WTh Identifying whole-brain anatomical alterations in criminal psychopathy**  
*Oren Contreras Rodríguez<sup>1,2</sup>, Jesus Pujol<sup>1</sup>, Iolanda Batalla<sup>3</sup>, Carles Soriano-Mas<sup>2</sup>, Ben J Harrison<sup>4</sup>, Eva Real<sup>2</sup>, Vanesa Pera<sup>3</sup>, Rosa Hernández-Ribas<sup>2</sup>, Laura Bossa<sup>3</sup>, Joan Deus<sup>5</sup>, Marina López-Solà<sup>1,2</sup>, Josep Pifarré<sup>3</sup>, Laura Blanco-Hinojo<sup>1,6</sup>, Jose Menchón<sup>2</sup>, Narcis Cardoner<sup>2</sup>*  
<sup>1</sup>IAT-PRBB, CRC-Hospital del Mar, Barcelona, Spain, <sup>2</sup>Bellvitge University Hospital IDIBELL-CIBERSAM, Barcelona, Spain, <sup>3</sup>Hospital de Santa Maria de Lleida, Lleida, Spain, <sup>4</sup>The University of Melbourne, Melbourne, Australia, <sup>5</sup>Universitat Autònoma de Barcelona, Barcelona, Spain, <sup>6</sup>Neuroscience Research Programme IMIM- Parc de Salut Mar, Barcelona, Spain
- 229 WTh Preliminary results of neuropsychological and morphofunctional alterations in Eating Disorders**  
*Federico D'Agata<sup>1</sup>, Paola Caroppo<sup>1</sup>, Luca Lavagnino<sup>1</sup>, Marcella Caglio<sup>1</sup>, Angela Spalatro<sup>1</sup>, Carmen Settanta<sup>1</sup>, Mario Coriasco<sup>1</sup>, Maria Federica Ferrio<sup>1</sup>, Mauro Bergui<sup>1</sup>, Federico Amianto<sup>1</sup>, Secondo Fassino<sup>1</sup>, Paolo Mortara<sup>1</sup>*  
<sup>1</sup>University of Turin, Turin, Italy

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## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders, continued

- 230 WTh Structural Alterations in Suicidal Patients: A Neuroimaging study using both VBM and SBM**  
*Yang Ding<sup>1</sup>, Natalia Lawrence<sup>2</sup>, Gustavo Turecki<sup>3</sup>, Mary Phillips<sup>4</sup>, Fabrice Jollant<sup>5</sup>*  
<sup>1</sup>McGill Group for Suicide Studies, Douglas Mental Health University Institute, Montreal, Quebec, Canada, <sup>2</sup>Wales Institute of Cognitive Neuroscience, School of Psychology, Cardiff University, Cardiff, Wales, <sup>3</sup>McGill Group for Suicide Studies, Douglas Mental Health University Institute, McGill University, Montreal, Québec, <sup>4</sup>Clinical and Translational Affective Neuroscience Program, University of Pittsburgh School of Medicine, Pittsburgh, PA, <sup>5</sup>McGill Group for Suicide Studies, Douglas Mental Health University Institute, McGill University, Montreal, Quebec, Canada
- 231 WTh The EEG dynamic in Stop-signal paradigm in the patients with the vertebro-genic pain syndrome**  
*Dmitry Dyachkov<sup>1</sup>, Alexander Savostyanov<sup>1</sup>, Andrew Baikov<sup>2</sup>, Alexander Krutko<sup>2</sup>, Evgeny Levin<sup>1</sup>*  
<sup>1</sup>Institute of Physiology of SB RAMS, Novosibirsk, Russian Federation, <sup>2</sup>Research Institute of Traumatology and Orthopedics, Novosibirsk, Russian Federation
- 232 WTh DTI study of the cerebellar peduncles in children with fetal alcohol spectrum disorders**  
*Jia Fan<sup>1,2</sup>, Sandra Jacobson<sup>3,2,4</sup>, Alkathafi Alhamud<sup>1,2</sup>, Roland Baasch<sup>1,2</sup>, Christopher Molteno<sup>4</sup>, Joseph Jacobson<sup>3,2,4</sup>, Bruce Spottiswoode<sup>1,2</sup>, Ernesta Meintjes<sup>1,2</sup>*  
<sup>1</sup>MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, South Africa, <sup>2</sup>Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>3</sup>Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, <sup>4</sup>Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa
- 233 WTh Evidence for cortical thinning in HIV positive children on highly active antiretroviral treatment**  
*Jean-Paul Fouche<sup>1,2,3</sup>, Bruce Spottiswoode<sup>1,4</sup>, Dan Stein<sup>3</sup>, Jacqueline Hoare<sup>3</sup>*  
<sup>1</sup>Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>2</sup>Department of Psychiatry, University of Stellenbosch, Cape Town, South Africa, <sup>3</sup>Department of Psychiatry, University of Cape Town, Cape Town, South Africa, <sup>4</sup>Department of Radiology, University of Stellenbosch, Cape Town, South Africa
- 234 WTh Reliability of single subject fMRI in the context of presurgical planning**  
*Krzysztof Gorgolewski<sup>1</sup>, Mark Bastin<sup>1</sup>, Cyril Pernet<sup>1</sup>, Amos Storkey<sup>1</sup>*  
<sup>1</sup>University of Edinburgh, Edinburgh, United Kingdom
- 235 WTh Brain damage associated with reduced consciousness in patients with disorders of consciousness**  
*Pieter Guldenmund<sup>1</sup>, Andrea Soddu<sup>1</sup>, Luaba Tshibanda<sup>2</sup>, Audrey Vanhauwenhuysse<sup>1</sup>, Christophe Phillips<sup>3</sup>, Steven Laureys<sup>1</sup>, Francisco Gómez<sup>1</sup>*  
<sup>1</sup>Coma Science Group, Cyclotron Research Center, University of Liège, Liège, Belgium, <sup>2</sup>Department of Radiology, CHU Sart Tilman Hospital, University of Liège, Liège, Belgium, <sup>3</sup>Cyclotron Research Centre, University of Liège, Liège, Belgium
- 236 WTh The “third” gender: neural correlates of gender stereotype processing in transsexuals**  
*Ute Habel<sup>1</sup>, Jessica Bath<sup>1</sup>, Christiane Neuschaefer-Rube<sup>1</sup>, Joseph Neulen<sup>1</sup>, Christian Kohler<sup>2</sup>, Frank Schneider<sup>1</sup>, Katharina Pauly<sup>1</sup>*  
<sup>1</sup>RWTH Aachen University, Aachen, Germany, <sup>2</sup>University of Pennsylvania, Philadelphia, PA
- 237 WTh Gray Matter and Microstructure Alternations in Children with Trichotillomania**  
*Geon-Ho Jahng<sup>1</sup>, So-Youn Shin<sup>1</sup>, Jee A Lee<sup>2</sup>, Geon-Ho Bahn<sup>2</sup>, Min-Ji Kim<sup>1</sup>, Hyuk Gi Kim<sup>1</sup>, Chang-Woo Ryu<sup>1</sup>*  
<sup>1</sup>Kyung Hee University Hospital at Gangdong, Kyung Hee University, Seoul, Korea, Republic of, <sup>2</sup>Kyung Hee University Hospital, Kyung Hee University, Seoul, Korea, Republic of
- 238 WTh Peripheral Neuropathy Increases Brain Wiring Cost and Randomizes Mid-Short Functional Connectivity**  
*Tun Jao<sup>1</sup>, Paul-Chen Hsieh<sup>2</sup>, Ming-Tsung Tseng<sup>3</sup>, Aaron F. Alexander-Bloch<sup>1</sup>, Sung-Tsang Hsieh<sup>4</sup>, Edward Bullmore<sup>1,5</sup>*  
<sup>1</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>Department of Medicine, National Taiwan University College of Medicine, Taipei, <sup>3</sup>Oxford Center for Functional MRI of the Brain, University of Oxford, Oxford, United Kingdom, <sup>4</sup>Department of Neurology, National Taiwan University Hospital, Taipei, <sup>5</sup>GlaxoSmithKline, Cambridge, United Kingdom
- \*\*239 WTh Changes on gray matter density and cortical thickness in postlingual deaf by CCA and jICA**  
*Eunkyoung Kim<sup>1</sup>, Hyekeyoung Lee<sup>2</sup>, Hyejin Kang<sup>2</sup>, Hyo-Jeong Lee<sup>3</sup>, Seung-Ha Oh<sup>2</sup>, Dong Soo Lee<sup>2</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Hallym University College of Medicine, Anyang-Si, Gyeonggido

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## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders, continued

- 240 WTh Novel insights into MS pathology using a combination of post-mortem MRI and quantitative histology**  
*James Kolasinski<sup>1</sup>, Charlotte Stagg<sup>1</sup>, Steven Chance<sup>1</sup>, Margaret Esiri<sup>1</sup>, Eun-Hyuk Chang<sup>1</sup>, Jacqueline Palace<sup>1</sup>, Jennifer McNab<sup>2</sup>, Mark Jenkinson<sup>1</sup>, Karla Miller<sup>1</sup>, Heidi Johansen-Berg<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>Massachusetts General Hospital, Boston, MA
- 241 WTh Spinal Cord fMRI: Task-anticorrelated neuronal activity differs in Failed Back Surgery Syndrome**  
*Jennifer Kornelsen<sup>1</sup>, Uta Sbotto-Frankenstein<sup>1</sup>, Theresa McIver<sup>1</sup>, Patricia Gervai<sup>1</sup>, Neil Berrington<sup>2</sup>, Paul Wacnik<sup>3</sup>, Boguslaw Tomanek<sup>1</sup>*  
<sup>1</sup>National Research Council Canada Institute For Biodiagnostics, Winnipeg, Canada, <sup>2</sup>Neurosurgery, Faculty of Medicine, University of Manitoba, Winnipeg, Canada, <sup>3</sup>Department of Neuromodulation, Medtronic, Minneapolis, United States
- 242 WTh Investigating the disabling matrix from MIDAS and cortical thickness in patients with migraine**  
*YI-CHIA KUNG<sup>1</sup>, Tzu-Hsien La<sup>2</sup>, Jong-Ling Fuh<sup>3</sup>, Kun-Hsien Chou<sup>4</sup>, Jiing-Feng Lirng<sup>5</sup>, Ching-Po Lin<sup>6</sup>, Shuu-Jiun Wang<sup>3</sup>*  
<sup>1</sup>National Yang-Ming University, Taipei City, Chinese Taipei, <sup>2</sup>Institute of Neuroscience and Department of Medicine, National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>Neurological Institute, Taipei Veterans General Hospital, Taipei, Chinese Taipei, <sup>4</sup>National Yang Ming University, <sup>5</sup>Department of Radiology, National Yang-Ming University School of Medicine, Taipei, Chinese Taipei, <sup>6</sup>National Yang-Ming University, Taipei, Chinese Taipei
- 243 WTh White Matter Integrity on FA Maps in Encephalopathic Neonates with Normal-Appearing MR**  
*Earn Chun Christabel Lee<sup>1</sup>, Neha Kwatra<sup>2</sup>, Gilbert Vezina<sup>2</sup>, Zarir Khademian<sup>2</sup>*  
<sup>1</sup>Georgetown University Hospital, Washington DC, United States, <sup>2</sup>Children's National Medical Center, Washington, DC
- 244 WTh Altered intra- and inter-regional synchronization of superior temporal cortex in deaf people**  
*Yanyan Li<sup>1</sup>, James Booth<sup>2</sup>, Danling Peng<sup>1</sup>, Yufeng Zang<sup>1</sup>, Junhong Li<sup>1</sup>, Chaogan Yan<sup>1</sup>, Guosheng Ding<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Department of Communication Sciences and Disorders, Northwestern University, Evanston, IL
- 245 WTh Altered resting state complex network in attention-deficit/hyperactivity disorder**  
*Mei Lin Liang<sup>1</sup>, Sheng Ge<sup>2</sup>, Cheng Yu Lee<sup>1</sup>, Xin Liu<sup>1</sup>, Pan Lin<sup>1</sup>*  
<sup>1</sup>Key Laboratory of Biomedical Information Engineering of Education Ministry, Xi'an Jiaotong University, Xi'an, China, <sup>2</sup>Nanjing University of Science and Technology, Nanjing, China
- 246 WTh A Control Study of Regional Homogeneity of Brain Activity in Resting State before and after 72 Hours**  
*Yang Liao<sup>1</sup>, Xufeng Liu<sup>1</sup>, Jingsong Zhang<sup>2</sup>, Zhiping Huang<sup>1</sup>, Shun Qi<sup>2</sup>*  
<sup>1</sup>Department of Psychology, School of Aerospace Medicine, Fourth Military Medical University, Xi'an, China, <sup>2</sup>Department of Radiology, Xijing Hospital, Fourth Military Medical University, Xi'an, China
- 247 WTh Self-Regulation Dysfunction in Antisocial Personality Disorder**  
*Huasheng Liu<sup>1</sup>, Yan Tang<sup>1</sup>, Weixiong Jiang<sup>1</sup>, Yin Liu<sup>1</sup>, Wei Wang<sup>1</sup>*  
<sup>1</sup>Department of Radiology, the Third Xiangya Hospital of Central South University, Changsha, Hunan, China
- 248 WTh Social Cognition Alteration in Antisocial Personality Disorder: Structural Imaging Analysis Study**  
*Huasheng Liu<sup>1</sup>, Yan Tang<sup>1</sup>, Weixiong Jiang<sup>1</sup>, Yin Liu<sup>1</sup>, Wei Wang<sup>1</sup>*  
<sup>1</sup>Department of Radiology, the Third Xiangya Hospital of Central South University, Changsha, Hunan, China
- 249 WTh Reduced brain responses to visual and auditory stimulation in Fibromyalgia patients**  
*Marina López-Solà<sup>1,2,3</sup>, Jesus Pujol<sup>4</sup>, Oren Contreras Rodríguez<sup>1</sup>, Alba García-Fontanals<sup>1</sup>, Monica Gimenez-Navarro<sup>1</sup>, Laura Blanco-Hinojo<sup>1,5</sup>, Marta Amor<sup>1</sup>, Carles Soriano-Mas<sup>2</sup>, Ben J Harrison<sup>6</sup>, Hector Ortiz<sup>1</sup>, Rosa Hernández-Ribas<sup>2</sup>, Narcis Cardoner<sup>2</sup>, Jose Menchón<sup>7</sup>, Joan Deus<sup>8</sup>*  
<sup>1</sup>IAT-PRBB, CRC-Hospital del Mar, Barcelona, Spain, <sup>2</sup>Bellvitge University Hospital IDIBELL- CIBERSAM, Barcelona, Spain, <sup>3</sup>Department of Psychology, University of Colorado, Boulder, Colorado, United States, <sup>4</sup>IAT-PRBB, CRC-Hospital del Mar, Barcelona, Spain, <sup>5</sup>Neuroscience Research Programme IMIM- Parc de Salut Mar, Barcelona, Spain, <sup>6</sup>The University of Melbourne, Melbourne, Australia, <sup>7</sup>Bellvitge University Hospital IDIBELL- CIBERSAM, Barcelona, Spain, <sup>8</sup>Universitat Autònoma de Barcelona, Barcelona, Spain
- 250 WTh Resting-State Functional Connectivity in Early HIV Infection: Effect of Antiretroviral Treatment**  
*Riti Mahadevia<sup>1</sup>, Xue Wang<sup>1</sup>, Christina Sammet<sup>1</sup>, Ying Wu<sup>2</sup>, Todd Parish<sup>1</sup>, Ann Ragin<sup>1</sup>*  
<sup>1</sup>Northwestern University, Chicago, IL, <sup>2</sup>NorthShore University Health System, Evanston, IL

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## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders, continued

- 251 WTh Differential Response of Visual Cortex to Noxious Stimulation in Migraine Patients with Visual Aura**  
*Nasim Maleki<sup>1</sup>, Lino Becerra<sup>1,2</sup>, Jennifer Brawn<sup>1</sup>, Rami Burstein<sup>3</sup>, David Borsook<sup>1,2</sup>*  
<sup>1</sup>Department of Radiology, Children's Hospital Boston, Harvard Medical School, Boston, MA, <sup>2</sup>Department of Psychiatry, McLean Hospital, Harvard Medical School, Belmont, MA, <sup>3</sup>Department of Anesthesia, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA
- \*252 WTh Functional Changes in Language Areas of Brain Tumor Patients Revealed by fMRI and Group ICA (O-M3)**  
*hui mao<sup>1,2</sup>, Liya Wang<sup>1,2,3</sup>, Dandan Chen<sup>4,5</sup>, xiaofeng yang<sup>6</sup>, Jeffrey Olson<sup>7</sup>, Tianning Fan<sup>8</sup>*  
<sup>1</sup>Department of Radiology and Imaging Sciences, Emory University School of Medicine, Atlanta, GA, <sup>2</sup>Center for Systems Imaging, Emory University School of Medicine, Atlanta, GA, <sup>3</sup>Department of Radiology, Baoan Hospital, Shenzhen, Guangdong, China, <sup>4</sup>Physics, Emory University, Atlanta, GA, <sup>5</sup>School of Radiation Medicine & Protection, Soochow University, Suzhou, China, <sup>6</sup>Radiation Oncology, Emory University, Atlanta, GA, <sup>7</sup>Surgery, Emory University, Atlanta, GA, <sup>8</sup>Emory University, Atlanta, GA
- 253 WTh Differential brain activation on a virtual water maze task by fetal alcohol-exposed children**  
*Ernesta Meintjes<sup>1,2</sup>, Kevin Thomas<sup>3</sup>, Keri Woods<sup>1,2</sup>, Christopher Molteno<sup>4</sup>, Joseph Jacobson<sup>5,2,4</sup>, Sandra Jacobson<sup>5,2,4</sup>*  
<sup>1</sup>MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, South Africa, <sup>2</sup>Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>3</sup>Department of Psychology, University of Cape Town, Cape Town, South Africa, <sup>4</sup>Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa, <sup>5</sup>Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI
- 254 WTh TBM analysis of regional differences in brain volume in relation to prenatal alcohol exposure**  
*Ernesta Meintjes<sup>1,2</sup>, Sandra Jacobson<sup>3,2,4</sup>, Owen Phillips<sup>5</sup>, André Van der Kouwe<sup>6</sup>, Christopher Molteno<sup>4</sup>, Boris Gutman<sup>5</sup>, Roger Woods<sup>7</sup>, Paul Thompson<sup>5</sup>, Joseph Jacobson<sup>3,2,4</sup>, Katherine Narr<sup>5</sup>*  
<sup>1</sup>MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, South Africa, <sup>2</sup>Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>3</sup>Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, <sup>4</sup>Department of Psychiatry and Mental Health, University of Cape Town, Cape Town, South Africa, <sup>5</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>6</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, <sup>7</sup>Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 255 WTh Aberrant Individual Structural Connectivity Networks in Borderline Personality Disorder**  
*Chun Meng<sup>1,2</sup>, Junming Shao<sup>2</sup>, Anselm Dolf<sup>2</sup>, Valentin Riedl<sup>2</sup>, Afra Wohlschlaeger<sup>2</sup>, Christian Sorg<sup>2</sup>*  
<sup>1</sup>Ludwig Maximilian University, Munich, Germany, <sup>2</sup>Klinikum Rechts der Isar, TUM, Munich, Germany
- 256 WTh The correlation between brain structure and neuron-specific enolase in overweight and obese subjects**  
*Karsten Mueller<sup>1</sup>, Katrin Arelin<sup>1,2</sup>, Julia Sacher<sup>1,2</sup>, Juergen Kratzsch<sup>3</sup>, Matthias Schroeter<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Clinic for Cognitive Neurology, University of Leipzig, Leipzig, Germany, <sup>3</sup>Institute of Laboratory Medicine, Clinical Chemistry and Molecular Diagnostics, Leipzig University, Leipzig, Germany
- 257 WTh Intrinsic connectivity shift in Borderline Personality Disorder**  
*Valentin Riedl<sup>1</sup>, Anselm Dolf<sup>2</sup>, Afra Wohlschlaeger<sup>2</sup>, Christian Sorg<sup>2</sup>*  
<sup>1</sup>Department of Neuroradiology and Neurology, Technische Universität München, Munich, Germany, <sup>2</sup>Klinikum Rechts der Isar der TU Muenchen, Muenchen, Germany
- 258 WTh The Medial Longitudinal Fasciculus in Standard Space**  
*Ken Sakaie<sup>1</sup>, Masaya Takahashi<sup>2</sup>, Ivan Dimitrov<sup>3</sup>, Koji Sagiyama<sup>2</sup>, Gina Remington<sup>2</sup>, Teresa Frohman<sup>2</sup>, Elliot Frohman<sup>2</sup>, Mark Lowe<sup>1</sup>, Robert Fox<sup>4</sup>*  
<sup>1</sup>Imaging Institute, The Cleveland Clinic, Cleveland, United States, <sup>2</sup>University of Texas-Southwestern Medical Center, Dallas, United States, <sup>3</sup>Philips Medical Systems, Cleveland, United States, <sup>4</sup>Mellen Center, The Cleveland Clinic, Cleveland, United States

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## DISORDERS OF THE NERVOUS SYSTEM

### Other Disorders, continued

- 259 WTh Motor network of periventricular leukomalacia (PVL)**  
*MinHee Um<sup>1</sup>, Bumhee Park<sup>2</sup>, Hae-Jeong Park<sup>3</sup>*  
<sup>1</sup>Yonsei University, Seoul, Republic Of Korea, <sup>2</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 260 WTh Amphetamine-induced dopamine release and dopamine D<sub>2</sub> receptor availability in obesity**  
*Elsmarieke van de Giessen<sup>1</sup>, Jan Booij<sup>1</sup>, Funda Celik<sup>2</sup>, Dave Schweitzer<sup>3</sup>, Wim van den Brink<sup>4</sup>*  
<sup>1</sup>Academic Medical Center, Amsterdam, Netherlands, <sup>2</sup>Slotervaart Hospital, Amsterdam, Netherlands, <sup>3</sup>Reinier de Graaf Group, Delft, Netherlands, <sup>4</sup>Department of Psychiatry, Academic Medical Center, University of Amsterdam, Amsterdam, Netherlands
- 261 WTh Reduction of White Matter Integrity in Childhood Brain Tumor Survivors**  
*Liya Wang<sup>1,2</sup>, Tricia King<sup>3</sup>, Hui Mao<sup>1</sup>*  
<sup>1</sup>Department of Radiology and Imaging Sciences, Emory University School of Medicine, Atlanta, GA, <sup>2</sup>Department of Radiology, Baoan Hospital, Shenzhen, Guangdong, China, <sup>3</sup>Department of Psychology, Georgia State University, Atlanta, GA
- 262 WTh Mapping Gray Matter Atrophy with Voxel-based Morphometry in Transient Ischemic Attack**  
*Shanshan Wang<sup>1</sup>, Feng Liu<sup>1</sup>, Ling Zeng<sup>1</sup>, HuaFu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China
- 263 WTh Altered “driving” effect from amygdala to hypothalamus in Prader-Willi syndrome during resting state**  
*Yi Zhang<sup>1</sup>, Jie Tian<sup>2</sup>, Karen von Deneen<sup>1</sup>, Mark Gold<sup>3</sup>, Yijun Liu<sup>3</sup>*  
<sup>1</sup>Life Sciences Research Center, School of Life Sciences and Technology, Xidian University, Xi'an, Shaanxi, China, <sup>2</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Department of Psychiatry & McKnight Brain Institute, University of Florida, Gainesville, FL, USA
- 264 WTh Hemodynamic Responses to Visual Stimulation in Pediatric Survivors of Medulloblastoma**  
*Ping Zou<sup>1</sup>, Matthew Scoggins<sup>1</sup>, Carlos Parra<sup>1</sup>, Samina Taherbhoy<sup>1</sup>, Jones Mellissa<sup>1</sup>, Thomas Merchant<sup>1</sup>, Amar Gajjar<sup>1</sup>, Robert Ogg<sup>1</sup>*  
<sup>1</sup>St. Jude Children's Research Hospital, Memphis, TN, United States

## DISORDERS OF THE NERVOUS SYSTEM

### Parkinson's Disease and Movement Disorders

- \*\*265 WTh Neuromelanin MR Imaging: Detection of Locus Coeruleus Using T1 Weighted Gradient Echo Imaging**  
*Sinyeob Ahn<sup>1</sup>, Daniel Huddleston<sup>2</sup>, Xiangchuan Chen<sup>1</sup>, Govind Bhagavatheeshwaran<sup>3</sup>, Xiaoping Hu<sup>1</sup>*  
<sup>1</sup>Georgia Tech/Emory University, Atlanta, GA, <sup>2</sup>Emory Univ, Atlanta, GA, <sup>3</sup>NIH/NINDS, Bethesda, MD
- 266 WTh The analysis of correlation between cognition and fluorodeoxyglucose uptake in Parkinson's disease**  
*Eun Joo Chung<sup>1</sup>, Sang Jin Kim<sup>1</sup>*  
<sup>1</sup>Busan Paik Hospital, Inje Medical University, Busan, Korea, Republic of
- 267 WTh The Visual Defect of Parkinson's disease: a Resting State fMRI Study**  
*Jinnan Gong<sup>1</sup>, Cheng Luo<sup>1</sup>, Yang Xia<sup>1</sup>, Haibo Xu<sup>2</sup>, Dezhong Yao<sup>1</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of MOE, School of Life Science and Technology, UESTC, ChengDu, China, <sup>2</sup>Radiology Department of Union Hospital, Huazhong University of Science and Technology, Wuhan, China
- 268 WTh Discrete Mechanism Related to Improvement by Rehabilitation in Cerebellar Degenerative Disease**  
*Noriaki Hattori<sup>1,2</sup>, Ichiro Miyai<sup>1</sup>, Megumi Hatakenaka<sup>1</sup>, Masahito Mihara<sup>1</sup>, Hajime Yagura<sup>1</sup>, Teiji Kawano<sup>1</sup>, Taro Hino<sup>1</sup>, Mizuki Ito<sup>3</sup>, Gen Sobue<sup>3</sup>*  
<sup>1</sup>Morinomiya Hospital, Osaka, Japan, <sup>2</sup>PRESTO, JST, Saitama, Japan, <sup>3</sup>Department of Neurology, Nagoya University Graduate School of Medicine, Nagoya, Japan
- 269 WTh Personalizing fMRI Protocols for Studying Neural Substrates of Motor Deficits in Parkinson's Disease**  
*Štefan Holiga<sup>1</sup>, Karsten Mueller<sup>1</sup>, Harald Möller<sup>1</sup>, Tomáš Sieger<sup>2,3</sup>, Matthias Schroeter<sup>1,4</sup>, Robert Jech<sup>2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Department of Neurology and Center of Clinical Neuroscience, Charles University in Prague, Prague, Czech Republic, <sup>3</sup>Department of Cybernetics, Faculty of Electrical Engineering, Czech Technical University in Prague, Prague, Czech Republic, <sup>4</sup>Clinic for Cognitive Neurology, Leipzig, Germany
- 270 WTh Functional Connectivity in Parkinson's disease**  
*Silvina Horowitz<sup>1</sup>, David Moosavi<sup>1</sup>, Pritha Ghosh<sup>1</sup>, Sarah Kranick<sup>1</sup>, David Benninger<sup>1</sup>, Kathrin Czarnecki<sup>1</sup>, Mark Hallett<sup>1</sup>*  
<sup>1</sup>National Institute of Neurological Disorder and Stroke, Bethesda, MD, United States

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## DISORDERS OF THE NERVOUS SYSTEM

### Parkinson's Disease and Movement Disorders, continued

- 271 WTh DTI reveals neuroanatomical patterns of cerebral WM involvement in different motor neuron diseases**  
*Jan Kassubek<sup>1</sup>, Alexander Unrath<sup>1</sup>, Albert Ludolph<sup>1</sup>, Hans-Peter Müller<sup>1</sup>*  
<sup>1</sup>Dept. of Neurology, University of Ulm, Ulm, Germany
- 272 WTh Imaging Activated Microglia in Parkinson's disease: a PET study with a novel radiotracer, [18F]FEPPA**  
*Ji Hyun Ko<sup>1</sup>, Yuko Koshimori<sup>2</sup>, Romina Mizrahi<sup>2</sup>, Pablo Rusjan<sup>2</sup>, Alan Wilson<sup>2</sup>, Sylvain Houle<sup>2</sup>, AE Lang<sup>2</sup>, Antonio Strafella<sup>2</sup>*  
<sup>1</sup>University of Toronto, Toronto, Canada, <sup>2</sup>University of Toronto, Toronto, Canada
- 273 WTh Resting-State Functional Connectivity in Prodromal Huntington's Disease**  
*Katherine Koenig<sup>1</sup>, Stephen Rao<sup>1</sup>, Mark Lowe<sup>1</sup>, Jian Lin<sup>1</sup>, Deborah Harrington<sup>2</sup>, Dawei Liu<sup>3</sup>, Ken Sakaie<sup>1</sup>, Jane Paulsen<sup>3</sup>*  
<sup>1</sup>Cleveland Clinic Foundation, Cleveland, United States, <sup>2</sup>University of California, San Diego, San Diego, United States, <sup>3</sup>The University of Iowa, Iowa City, United States
- 274 WTh DTI measures correlate with performance on the Trail Making Test in prodromal Huntington's Disease**  
*Katherine Koenig<sup>1</sup>, Stephen Rao<sup>1</sup>, Mark Lowe<sup>1</sup>, Jian Lin<sup>1</sup>, Deborah Harrington<sup>2</sup>, Dawei Liu<sup>3</sup>, Ken Sakaie<sup>1</sup>, Jane Paulsen<sup>3</sup>*  
<sup>1</sup>Cleveland Clinic Foundation, Cleveland, United States, <sup>2</sup>University of California, San Diego, San Diego, United States, <sup>3</sup>The University of Iowa, Iowa City, United States
- 275 WTh Transcranial alternating current stimulation (tACS) in early Parkinson's disease**  
*Vanessa Krause<sup>1</sup>, Claudia Wach<sup>1</sup>, Martin Suedmeyer<sup>2</sup>, Stefano Ferrea<sup>2</sup>, Alfons Schnitzler<sup>1</sup>, Bettina Pollok<sup>1</sup>*  
<sup>1</sup>Institute of Clinical Neuroscience & Medical Psychology, Heinrich-Heine-University, Duesseldorf, Germany, <sup>2</sup>Department of Neurology, Heinrich-Heine-University, Duesseldorf, Germany
- 276 WTh Metabolite Decrease in Essential Tremor Patients Measured by Magnetic Resonance Spectroscopy**  
*Iva Latnerová<sup>1,2</sup>, Jiří Keller<sup>1,3</sup>, Aaron Rulseh<sup>1,2</sup>, Josef Vymazal<sup>1,2</sup>, Evžen Růžka<sup>4,2</sup>, Robert Jech<sup>5,2</sup>, Martina Hoskovicová<sup>5</sup>, Olga Ulmanová<sup>5</sup>, Antonín Škoch<sup>6</sup>, Filip Jir<sup>6</sup>*  
<sup>1</sup>Na Homolce Hospital, Prague, Czech Republic, <sup>2</sup>1st Medical Faculty, Charles University, Prague, Czech Republic, <sup>3</sup>3rd Medical Faculty, Charles University, Prague, Czech Republic, <sup>4</sup>Department of Neurology and Centre of Movement Disorders, General University Hospital, Prague, Czech Republic, <sup>5</sup>Department of Neurology and Center of Clinical Neuroscience, General University Hospital, Prague, Czech Republic, <sup>6</sup>IKEM, Prague, Czech Republic
- 277 WTh Impaired sensorimotor functional connectivity in writer's cramp: a resting-state fMRI study**  
*Yong Li<sup>1</sup>, Christian Dresel<sup>1</sup>, Verena Wilzeck<sup>1</sup>, Florian Castrop<sup>1</sup>, Claus Zimmer<sup>2</sup>, Bernhard Haslinger<sup>1</sup>*  
<sup>1</sup>Department of Neurology, Klinikum rechts der Isar, Technische Universitaet Muenchen, Munich, Germany, <sup>2</sup>Department of Neuroradiology, Klinikum rechts der Isar, Technische Universitaet Muenchen, Munich, Germany
- 278 WTh Olfactory Deficits in the Brain of Parkinson's Disease: Evidence from fMRI study**  
*Jiangtao Liu<sup>1</sup>, Jianli wang<sup>2</sup>, Kaiyuan Zhang<sup>1</sup>, Zhiqun Wang<sup>1</sup>, Yanhui Yang<sup>1</sup>, Qing X Yang<sup>2</sup>, Kuncheng Li<sup>1</sup>*  
<sup>1</sup>Department of Radiology, Xuanwu Hospital of Capital Medical University, Beijing, China, <sup>2</sup>Center for NMR Research, Penn State College of Medicine, Hershey, PA
- \*279 WTh Basal ganglia-cortical interactions in Parkinsonian patients (O-T2)**  
*Andre Marreiros<sup>1</sup>, Hayriye Cagnan<sup>1</sup>, Rosalyn Moran<sup>2</sup>, Karl Friston<sup>2</sup>, Peter Brown<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>University College London, London, United Kingdom
- 280 WTh Assessment of smell and sniff habituation using olfactory functional MR imaging**  
*Chan Hong Moon<sup>1</sup>, Ayaz Aghayev<sup>1</sup>, Serter Gumus<sup>1</sup>, Qing Yang<sup>2</sup>, Kyongtae Bae<sup>1</sup>*  
<sup>1</sup>Department of Radiology, University of Pittsburgh, Pittsburgh, PA, <sup>2</sup>Center for NMR Research, Department of Radiology, The Pennsylvania State University, Hershey, PA

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## DISORDERS OF THE NERVOUS SYSTEM

### Parkinson's Disease and Movement Disorders, continued

- 281 WTh Stroop Task in Patients with Parkinson's disease — a fMRI Study**  
*Martina Mrackova<sup>1,2</sup>, Radek Marecek<sup>2</sup>, Radka Kubikova<sup>2,1</sup>, Michal Mik<sup>2</sup>, Irena Rektorova<sup>2,1</sup>*  
<sup>1</sup>First Department of Neurology, St. Anne's Hospital and Faculty of Medicine, Masaryk University, Brno, Czech Republic, <sup>2</sup>Brain and Mind Research, Central European Institute of Technology, Masaryk University, Brno, Czech Republic
- 282 WTh Altered hemispheric asymmetry of network centrality in hemiplegia**  
*Bumhee Park<sup>1,2</sup>, MaengKeun Oh<sup>2</sup>, Jong Doo Lee<sup>1,2</sup>, Hae-Jeong Park<sup>1,2</sup>*  
<sup>1</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 283 WTh Multiclass classification of FDG-PET scans: Parkinson's disease vs. atypical parkinsonian syndromes**  
*Christophe Phillips<sup>1</sup>, Jessica Schrouff<sup>1</sup>, Eric Salmon<sup>1</sup>, Gaëtan Garraux<sup>1</sup>*  
<sup>1</sup>Cyclotron Research Centre, University of Liege, Liege, Belgium
- 284 WTh Withdrawn**
- 285 WTh SEEKING HUNTINGTON DISEASE BIOMARKERS BY MULTIMODAL, CROSS-SECTIONAL BASAL-GANGLIA IMAGING**  
*Cristina Sanchez Castaneda<sup>1,2</sup>, Andrea Cherubini<sup>1</sup>, Francesca Elifani<sup>3</sup>, Sara Orobello<sup>3</sup>, Umberto Sabatini<sup>1</sup>, Ferdinando Squitieri<sup>3</sup>*  
<sup>1</sup>Fondazione Santa Lucia, Rome, Italy, <sup>2</sup>Departament de Psiquiatria i Psicobiologia Clínica, Universitat de Barcelona, Barcelona, Spain, <sup>3</sup>Neurogenetics and Rare Diseases Center, IRCCS Neuromed, Pozzilli, Italy
- 286 WTh Forced exercise improves task-related overactivity in the default mode network in Parkinson Disease**  
*Chintan Shah<sup>1</sup>, Erik Beal<sup>2</sup>, Anneke Frankemolle<sup>3</sup>, Amanda Penko<sup>3</sup>, Micheal Phillips<sup>1</sup>, Mark Lowe<sup>2</sup>, Jay Alberts<sup>3</sup>*  
<sup>1</sup>Cleveland Clinic Foundation, Cleveland, United States, <sup>2</sup>Cleveland Clinic, Cleveland, United States, <sup>3</sup>Cleveland Clinic Foundation, Cleveland, OH
- 287 WTh Withdrawn**
- 288 WTh Motor fMRI in secondary dystonia due to Pantothenate Kinase Associated Neurodegeneration**  
*Peter Stoeter<sup>1</sup>, Rea Rodriguez-Raecke<sup>2</sup>, Pedro Roa<sup>1</sup>, Herwin Speckter<sup>1</sup>, Jairo Oviedo<sup>1</sup>, Rafael Fermin<sup>1</sup>, Eddi Perez-Then<sup>1</sup>*  
<sup>1</sup>CEDIMAT, Santo Domingo, Dominican Republic, <sup>2</sup>Medical University, Hannover, Germany
- 289 WTh Parkinson's Disease-Related Pattern: a Resting State Functional MRI Study**  
*Tao Wu<sup>1</sup>, Yilong Ma<sup>2</sup>, Zheng Zheng<sup>1</sup>, Shichun Peng<sup>2</sup>, xiaoli wu<sup>1</sup>, David Eidelberg<sup>2</sup>, piu chan<sup>1</sup>*  
<sup>1</sup>Xuanwu Hospital, Beijing, China, <sup>2</sup>Feinstein Institute for Medical Research, Manhasset, NY
- 290 WTh Altered resting-state functional connectivity of bilateral striatum in Parkinson's disease**  
*Jinping Xu<sup>1</sup>, Jiaojian Wang<sup>2</sup>, Yuanchao Zhang<sup>3</sup>, Tianzi Jiang<sup>3,4</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of the Ministry of Education, School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>Key Laboratory for NeuroInformation of the Ministry of Education, School of Life Science and Technol, Chengdu, China, <sup>3</sup>Key Laboratory for NeuroInformation of the Ministry of Education, School of Life Science and Technol, Chengdu, China, <sup>4</sup>LIAMA Center for Computational Medicine, National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 291 WTh DTI of Pathophysiological Characteristics in Impulse Control Disorder with Parkinson's Disease**  
*Hye Bin Yoo<sup>1</sup>, Jae Sung Lee<sup>1</sup>, Jee Young Lee<sup>2</sup>, Hyejin Kang<sup>3</sup>, Yu Kyeong Kim<sup>4</sup>, In Chan Song<sup>5</sup>, Beom Seok Jeon<sup>6</sup>, Dong Soo Lee<sup>3</sup>*  
<sup>1</sup>Department of Brain and Cognitive Sciences, College of Natural Sciences, Seoul National University, Seoul, Republic of Korea, <sup>2</sup>Department of Neurology, Seoul National University Boramae Medical Center, Seoul, Republic of Korea, <sup>3</sup>Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea, <sup>4</sup>Department of Nuclear Medicine, Seoul National University Bundang Hospital, Seoul, Republic of Korea, <sup>5</sup>Diagnostic Radiology, Seoul National University Hospital, Seoul, Republic of Korea, <sup>6</sup>Department of Neurology, College of Medicine, Seoul National University, Seoul, Republic of Korea

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## DISORDERS OF THE NERVOUS SYSTEM

### Parkinson's Disease and Movement Disorders, continued

- 292 WTh Intrinsic Functional Connectivity of Subcortical Motor Circuit in Patients with Parkinson's disease**  
*Kwangsun Yoo<sup>1</sup>, Sun Ju Chung<sup>2</sup>, Mi-Jung Kim<sup>2</sup>, Sooyeoun You<sup>2</sup>, William Sohn<sup>1</sup>, Yong Jeong<sup>1</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of, <sup>2</sup>Asan Medical Center, University of Ulsan College of Medicine, Ulsan, Korea, Republic of

## DISORDERS OF THE NERVOUS SYSTEM

### Schizophrenia and Psychotic Disorders

- 293 WTh Effects of Cognitive Behavioral Therapy in Schizophrenia: A Multicenter fMRI Study**  
*Maurice Cabanis<sup>1</sup>, Axel Krug<sup>1</sup>, Martin Pyka<sup>2</sup>, Stephanie Meh<sup>3</sup>, Henrik Walter<sup>4</sup>, Wolfgang Wölwer<sup>5</sup>, Bernhard Müller<sup>6</sup>, Kai Vogeley<sup>7</sup>, Georg Wiedemann<sup>8</sup>, Alexander Rapp<sup>9</sup>, Stefan Klingberg<sup>9</sup>, Tilo Kircher<sup>1</sup>*  
<sup>1</sup>Philipps-University, Marburg, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, Philipps-University Marburg, Marburg, Germany, <sup>3</sup>Philipps University, Marburg, Germany, <sup>4</sup>Charité Universitätsmedizin, Berlin, Germany, <sup>5</sup>Rhineland State Clinics for Psychiatry, Düsseldorf, Germany, <sup>6</sup>Rhineland State Clinics for Psychiatry, Essen, Germany, <sup>7</sup>Dept. of Psychiatry, University Hospital Cologne, Cologne, Germany, <sup>8</sup>Department of Psychiatry and Psychotherapy, Frankfurt, Germany, <sup>9</sup>Eberhard Karls University, Tübingen, Germany
- 294 WTh EEG-based Classification of Depression with KECA and SVM**  
*Yin Cai<sup>1</sup>, Jun Shi<sup>1</sup>, Lijin Huang<sup>1</sup>, Yingjie Li<sup>1</sup>*  
<sup>1</sup>Shanghai University, Shanghai, China
- 295 WTh White matter pattern classification in the At-Risk Mental State for psychosis**  
*Francesco Carletti<sup>1</sup>, Andre Marquand<sup>1</sup>, James Woolley<sup>1</sup>, Rocio Perez-Iglesias<sup>1</sup>, Matthew Broome<sup>1</sup>, Louise Johns<sup>1</sup>, Elvira Bramon<sup>1</sup>, Steve Williams<sup>1</sup>, Philip McGuire<sup>2</sup>, Gareth Barker<sup>1</sup>*  
<sup>1</sup>Institute of Psychiatry, King's College London, London, United Kingdom, <sup>2</sup>Institute of Psychiatry, King's College, London, United Kingdom
- 296 WTh Cognitive Control Deficits Across Attention, Memory, Language and Emotion in Schizophrenia**  
*Cameron Carter<sup>1</sup>, Ann Kring<sup>2</sup>, Steve Luck<sup>3</sup>, J. Dan Ragland<sup>4</sup>, Charan Ranganath<sup>3</sup>, Tamara Swaab<sup>3</sup>*  
<sup>1</sup>U.C. Davis, Davis, United States, <sup>2</sup>UC Berkeley, Berkeley, CA, <sup>3</sup>UC Davis, Davis, CA, <sup>4</sup>U.C. Davis, Davis, CA

- 297 WTh Altered Cortico-Cerebellar Functional Connectivity in Cognitive and Motor Networks in Schizophrenia**  
*Yen-Ling Chen<sup>1</sup>, Tung-Ping Su<sup>2</sup>, Pei-Chi Tu<sup>3</sup>*  
<sup>1</sup>Department of Occupational Therapy, Bei-Tou Hospital, Taipei, Chinese Taipei, <sup>2</sup>Institute of Neuroscience, School of Life Science, National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>Department of Medical Research and Education, Taipei Veterans General Hospital, Taipei, Chinese Taipei
- 298 WTh Elevation of Baseline Noise in White Matter for Schizophrenia**  
*Hu Cheng<sup>1</sup>, William Hetrick<sup>1</sup>, Jerilyn Kent<sup>1</sup>, Dae-Jin Kim<sup>1</sup>, Mallory Klaunig<sup>1</sup>, Brian O'donnell<sup>1</sup>, Aina Puce<sup>1</sup>*  
<sup>1</sup>Indiana University, Bloomington, IN
- 299 WTh An fMRI Study on practice-induced neural plasticity in schizophrenia**  
*Lingxi Chi<sup>1</sup>, Benjamin Austin<sup>2</sup>, Cynthia Krafft<sup>1</sup>, Qingyang Li<sup>3</sup>, Amanda Rodrigue<sup>1</sup>, Kara Dyckman<sup>1</sup>, Jennifer McDowell<sup>1</sup>*  
<sup>1</sup>University of Georgia, Athens, GA, United States, <sup>2</sup>University of Wisconsin - Madison, Madison, WI, United States, <sup>3</sup>Child Mind Institute, New York, NY, United States
- 300 WTh Stimulus-response integration in schizophrenia – evidence for shifted hemispheric balance**  
*Edna-Clarisse Cieslik<sup>1</sup>, Veronika Müller<sup>1</sup>, Tanja Kellermann<sup>2</sup>, Halfter Sarah<sup>2</sup>, Simon Eickhoff<sup>1</sup>*  
<sup>1</sup>Research Center Jülich, Institute of Neuroscience and Medicine, Jülich, Germany, <sup>2</sup>RWTH Aachen University, Aachen, Germany
- 301 WTh Dysconnection of Areas for Predictive Speech Coding in Patients with Auditory-Verbal Hallucinations**  
*Mareike Clos<sup>1</sup>, Iris Sommer<sup>2</sup>, Kelly Diederer<sup>2</sup>, Anne Lotte Meijering<sup>2</sup>, Simon Eickhoff<sup>1</sup>*  
<sup>1</sup>Research Center Jülich, Jülich, Germany, <sup>2</sup>UMC Utrecht, Utrecht, Netherlands
- 302 WTh Compensatory activations in schizophrenia follow the brain's network configuration**  
*Nicolas Crossley<sup>1</sup>, Andrea Mechelli<sup>1</sup>, Cedric Ginestet<sup>1</sup>, Edward Bullmore<sup>2</sup>, Philip McGuire<sup>1</sup>*  
<sup>1</sup>Institute of Psychiatry - King's College London, London, United Kingdom, <sup>2</sup>Brain Mapping Unit, Department of Psychiatry, University of Cambridge, Cambridge, United Kingdom
- 303 WTh Reward processing in unaffected siblings of schizophrenia patients: an fMRI study**  
*Max de Leeuw<sup>1</sup>, Matthijs Vink<sup>2</sup>, René Kahn<sup>1</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Department of Psychiatry, Utrecht, Netherlands, <sup>2</sup>Rudolf Magnus Institute of Neuroscience, Utrecht, Netherlands

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Schizophrenia and Psychotic Disorders, continued

- 304 WTh Multiparametric MR Imaging for Probing White Matter Abnormalities in Schizophrenia**  
*Fei Du<sup>1</sup>, Bruce Cohen<sup>2</sup>, Alissa Cooper<sup>2</sup>, Scott Lukas<sup>2</sup>, Dost Ongur<sup>2</sup>*  
<sup>1</sup>McLean Hospital, Harvard Medical School, Belmont, United States, <sup>2</sup>McLean Hospital, Harvard Medical School, Belmont, MA
- 305 WTh Self-control of auditory verbal hallucinations with an fMRI-based neurofeedback training**  
*Miriam Dyck<sup>1</sup>, Yury Koush<sup>1</sup>, Eliza M. Alawi<sup>1</sup>, Krystyna Mathiak<sup>2</sup>, Mikhail Zvyagintsev<sup>1</sup>, Sukhi Shergil<sup>3</sup>, Klaus Mathiak<sup>1,4,5</sup>*  
<sup>1</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, JARA-Brain, RWTH Aachen University, Aachen, Germany, <sup>2</sup>Department of Child and Adolescent Psychiatry, Psychotherapy, Psychosomatic, RWTH Aachen University, Aachen, Germany, <sup>3</sup>King's College London, Institute of Psychiatry, London, United Kingdom, <sup>4</sup>Institute of Psychiatry, King's College London, London, United Kingdom, <sup>5</sup>Institute for Neuroscience and Medicine, INM-1, Forschungszentrum Jülich GmbH, Jülich, Germany
- 306 WTh Ventral Medial Prefrontal Functional Connectivity and Emotion Regulation in Schizophrenia**  
*Feng-Mei Fan<sup>1,2,3</sup>, Shu-Ping Tan<sup>1</sup>, Fu-De Yang<sup>1</sup>, Yun-Long Tan<sup>1</sup>, Yan-Li Zhao<sup>1</sup>, Bin-Bin Li<sup>1</sup>, Chong-Sheng Song<sup>1</sup>, Yun-Hui Wang<sup>1</sup>, Zhen Jin<sup>4</sup>, Dong-Feng Zhou<sup>5</sup>, Michael Milham<sup>6,7</sup>, Yi-Zhuang Zou<sup>1</sup>, Xi-Nian Zuo<sup>2,3,8</sup>*  
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- 307 WTh Functional Fractionation of Default Network in Schizophrenia: Small graph, big brain**  
*Feng-Mei Fan<sup>1,2,3</sup>, Zhi Yang<sup>3,4</sup>, Shu-Ping Tan<sup>1</sup>, Yi-Zhuang Zou<sup>1</sup>, Michael Milham<sup>5,6</sup>, Xi-Nian Zuo<sup>2,3,4</sup>*  
<sup>1</sup>Psychiatry Research Center, Beijing Huilongguan Hospital, Beijing, China, <sup>2</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>3</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>5</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, New York, United States, <sup>6</sup>Center for the Developing Brain, Child Mind Institute, New York, United States
- 308 WTh Progressive brain structural change in schizophrenia over a nine year interval**  
*Joyce Guo<sup>1</sup>, Graham Murray<sup>1</sup>*  
<sup>1</sup>The University of Cambridge, Cambridge, United Kingdom
- 309 WTh Reduced Internal Capsule but Preserved Correlation with Frontal Lobe in Ultra-High-Risk Subjects**  
*Hyun Jung Han<sup>1,2</sup>, Wi Hoon Jung<sup>3</sup>, Joon Hwan Jang<sup>4</sup>, Jae Yeon Hwang<sup>4</sup>, Sung Nyun Kim<sup>4</sup>, Yoon Joo Lee<sup>5</sup>, Chi-Hoon Cho<sup>6</sup>, Jun Soo Kwon<sup>7</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Department of Brain and Cognitive Sciences - World Class University program, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of, <sup>3</sup>Interdisciplinary Program in Neuroscience, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of, <sup>4</sup>Department of Psychiatry, College of Medicine, Seoul National University, Seoul, Korea, Republic of, <sup>5</sup>Department of Brain and Cognitive Sciences - World Class University program, College of Natural Sci, Seoul, Korea, Republic of, <sup>6</sup>Department of Diagnostic Radiology, National Medical Center, Seoul, Korea, Republic of, <sup>7</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 310 WTh Impaired Neural Mechanism of Telepresence in Patients with Schizophrenia: A Preliminary Study**  
*Kiwan Han<sup>1</sup>, Il Ho Park<sup>2</sup>, Jeonghun Ku<sup>3</sup>, Jae-Jin Kim<sup>4,1</sup>*  
<sup>1</sup>Severance Biomedical Science Institute, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Psychiatry, Myongji Hospital, Kwandong University, Goyang, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, Keimyung University, Daegu, Korea, Republic of, <sup>4</sup>Department of Psychiatry and Institute of Behavioral Science in Medicine, Yonsei University College, Seoul, Korea, Republic of

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### Schizophrenia and Psychotic Disorders, continued

- 311 WTh Disrupted Functional Connectivity During Episodic Memory in Youth at Clinical Risk for Schizophrenia**  
*Kristen Haut<sup>1</sup>, Tyrone Cannon<sup>2</sup>, Theo van Erp<sup>3</sup>, Carrie Bearden<sup>4</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, United States, <sup>2</sup>University of California, Los Angeles, LOS ANGELES, CA, <sup>3</sup>University of California Irvine, Irvine, CA, <sup>4</sup>University of California, Los Angeles, N/A
- 312 WTh Altered Functional Circuit Dynamics during Motion Perception in Schizophrenia**  
*Elliot Hong<sup>1</sup>, Peter Kochunov<sup>2</sup>, Malle Tagamet<sup>3</sup>*  
<sup>1</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>2</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>3</sup>University of Maryland, Baltimore, United States
- 313 WTh CMV antibody titers are associated with hippocampal volume and verbal memory in major psychoses**  
*Josselin Houenou<sup>1,2,3,4</sup>, Marc-Antoine d'Albis<sup>1,3,4</sup>, Claire Daban<sup>1,3,4</sup>, Nora Hamdani<sup>1,3,4</sup>, Marine Delavest<sup>5</sup>, Jean-Pierre Lépine<sup>5</sup>, François-Eric Vederine<sup>1,4</sup>, Soufiane Carde<sup>1,4</sup>, Faith Dickerson<sup>6</sup>, Robert Yolken<sup>7</sup>, Marion Leboyer<sup>1,3,4</sup>*  
<sup>1</sup>INSERM U955, Team 15 "Psychiatry & Genetics", Créteil, France, <sup>2</sup>Neurospin, CEA, Saclay, France, <sup>3</sup>Fondation Fondamentale, Créteil, France, <sup>4</sup>AP-HP, Albert Chenevier - Henri Mondor Hospitals, Psychiatry Department, Créteil, France, <sup>5</sup>AP-HP, Lariboisiere Fernand Widal Hospital, INSERM U 705 CNRS UMR 8206, Paris Diderot University, Paris, France, <sup>6</sup>The Stanley Research Program at Sheppard Pratt, Baltimore, MD, <sup>7</sup>The Johns Hopkins University School of Medicine, Baltimore, MD
- 314 WTh Longitudinal studies of antipsychotic effects on brain volume in schizophrenia - a systematic review**  
*Sanna Huhtaniska<sup>1</sup>, Erika Jääskeläinen<sup>1,2</sup>, Noora Hirvonen<sup>1,3</sup>, Jukka Remes<sup>4</sup>, Graham Murray<sup>5</sup>, Juha Veijola<sup>1,2</sup>, Matti Isohanni<sup>1,2</sup>, Jouko Miettunen<sup>1,2</sup>*  
<sup>1</sup>University of Oulu, Department of Psychiatry, Oulu, Finland, <sup>2</sup>Department of Psychiatry, Oulu University Hospital, Oulu, Finland, <sup>3</sup>University of Oulu, Faculty of Humanities, Information Studies, Oulu, Finland, <sup>4</sup>Department of Diagnostic Radiology, Oulu University Hospital, Oulu, Finland, <sup>5</sup>The University of Cambridge, Cambridge, United Kingdom
- 315 WTh The influence of emotional stimulus on the neural processing of cognitive conflict in schizophrenia**  
*Park Jae-Sub<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry, Yonsei University College of Medicine, Seoul, Korea, Republic of
- 316 WTh Association of rs1006737 in CACNA1C with alterations in prefrontal activation and fronto-hippocampal**  
*Andreas Jansen<sup>1</sup>, Frieder Paulus<sup>2</sup>, Johannes Bedenbender<sup>3</sup>, Soeren Krach<sup>3</sup>, Martin Pyka<sup>4</sup>, Axel Krug<sup>3</sup>, Stephanie Witt<sup>5</sup>, Marcella Rietschel<sup>5</sup>, Tilo Kircher<sup>3</sup>, Jens Sommer<sup>3</sup>*  
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- 317 WTh Combining Functional Neuroimaging Markers for Classifying Schizophrenia**  
*Jimmy Jensen<sup>1</sup>, Katharina Schmack<sup>1</sup>, Philipp Sterzer<sup>1</sup>, Ingrid Agartz<sup>2</sup>, Ingrid Melle<sup>2</sup>, Ole Andreassen<sup>2</sup>, Henrik Walter<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Charité Universitätsmedizin, Berlin, Germany, <sup>2</sup>Institute of Clinical Medicine, University of Oslo, Oslo, Norway
- 318 WTh Dissociable prefrontal and hippocampal engagement in context learning and updating in schizophrenia**  
*Claire Kaplan<sup>1</sup>, Juan Molina<sup>1</sup>, Qiang Chen<sup>1</sup>, Daniel R Weinberger<sup>2</sup>, Hao Yang Tan<sup>1</sup>*  
<sup>1</sup>Clinical Brain Disorders Branch, NIMH, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Baltimore, MD
- 319 WTh Neuronal correlates of affective and cognitive perspective taking in schizophrenia**  
*Christin Kästner<sup>1,2</sup>, Dominik Meißner<sup>1</sup>, Sandra Dehning<sup>1</sup>, Buchheim Anna<sup>3</sup>, Janusch Blautzik<sup>4</sup>, Norbert Müller<sup>1</sup>, Thomas Meindl<sup>4</sup>, Maximilian Reiser<sup>4</sup>, Rolf Engel<sup>1</sup>, Hans Möller<sup>1</sup>, Kristina Hennig-Fast<sup>1</sup>*  
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- 320 WTh Key functional circuitry altered in schizophrenia involves sense of self**  
*Keith Kendrick<sup>1</sup>, Shuixia Guo<sup>2</sup>, Rongjun Yu<sup>3</sup>, Wen-Yih Tseng<sup>4</sup>, Jianfeng Feng<sup>5</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>2</sup>Hunan Normal University, Changsha, China, <sup>3</sup>South China Normal University, Guangzhou, China, <sup>4</sup>National Taiwan University College of Medicine, Taipei, Chinese Taipei, <sup>5</sup>Department of Computer Science, The University of Warwick, Coventry, United Kingdom

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## DISORDERS OF THE NERVOUS SYSTEM

### Schizophrenia and Psychotic Disorders, continued

- 321 WTh Source activation during face emotional processing correlates with symptom severity in schizophrenia**  
*Do-Won Kim<sup>1,2</sup>, Seung-Hwan Lee<sup>3</sup>, Chang-Hwan Im<sup>2</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Yonsei University, Wonju, Republic of Korea, <sup>2</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Republic of Korea, <sup>3</sup>Psychiatry Department, Ilsan Paik Hospital, Inje University, Goyang, Republic of Korea
- 322 WTh Antipsychotic D2 occupancy and change in frontal metabolism and cognitive function**  
*Euitae Kim<sup>1</sup>, Oliver Howes<sup>2</sup>, Jae Min Jeong<sup>1</sup>, Shitij Kapur<sup>3</sup>, Jun Soo Kwon<sup>4</sup>*  
<sup>1</sup>Seoul National University, Seoul, Korea, Republic of, <sup>2</sup>Imperial College London, London, United Kingdom, <sup>3</sup>King's College London, London, Korea, Republic of, <sup>4</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 323 WTh Neural correlates of reality judgement impairment in patients with schizophrenia**  
*Eun Seong Kim<sup>1</sup>, Jung Suk Lee<sup>1,2</sup>, Ji Won Chun<sup>1</sup>, Dong Il Kang<sup>1</sup>, Hae-Jeong Park<sup>3</sup>, Jae-Jin Kim<sup>1</sup>*  
<sup>1</sup>Institute of Behavioral Science in Medicine and Department of Psychiatry, Yonsei University College, Seoul, Korea, Republic of, <sup>2</sup>Department of Psychiatry, Bundang Jesaeng Hospital, Seongnam, Gyeonggi-do, Korea, Republic of, <sup>3</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 324 WTh Accelerated cerebral white matter aging in schizophrenia and major depression**  
*Peter Kochunov<sup>1</sup>, David Glahn<sup>2</sup>, Laura Rowland<sup>3</sup>, Rene Olvera<sup>4</sup>, Will Carpenter<sup>3</sup>, Anderson Winkler<sup>5</sup>, John Blangero<sup>6</sup>, Elliot Hong<sup>7</sup>*  
<sup>1</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>2</sup>Yale University, Hartford, United States, <sup>3</sup>University of Maryland, Baltimore, United States, <sup>4</sup>UTHSCSA, San Antonio, United States, <sup>5</sup>Yale University, Hartford, United States, <sup>6</sup>Texas Biomedical Foundation, San Antonio, United States, <sup>7</sup>Maryland Psychiatric Research Center, Baltimore, United States
- 325 WTh The neural basis of response inhibition and impulsivity in patients with schizophrenia**  
*Kwang-Hyuk Lee<sup>1</sup>, Graham Pluck<sup>1</sup>, Nicoletta Lekka<sup>1</sup>, Andrew Horton<sup>1</sup>, Conal Devlin<sup>1</sup>, David Walker<sup>1</sup>, Iain Wilkinson<sup>1</sup>, Peter Woodruff<sup>1</sup>*  
<sup>1</sup>University of Sheffield, Sheffield, United Kingdom
- 326 WTh Preferential Patterns of Gamma Band Activity to Socially-Relevant Stimuli in Schizophrenia Patients**  
*Seung-Hwan Lee<sup>1</sup>, Sangrae Kim<sup>2</sup>, Ji-Hye Park<sup>3</sup>, Do-Won Kim<sup>3</sup>, Chang-Hwan Im<sup>3</sup>*  
<sup>1</sup>Psychiatry Department, Ilsan Paik Hospital, Inje University, Goyang, Kyunggido, <sup>2</sup>Clinical Emotion and Cognition Research Laboratory, Goyang, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 327 WTh Long-term treatment is associated with modulation of network function connectivity in schizophrenia**  
*Fei Li<sup>1</sup>, Su Lu<sup>2</sup>, Xiaoqi Huang<sup>2</sup>, Wei Deng<sup>3</sup>, Tao Li<sup>3</sup>, Qiyong Gong<sup>2</sup>*  
<sup>1</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, Sichuan, <sup>3</sup>Department of Psychiatry, West China Hospital of Sichuan University, Chengdu, Sichuan
- 328 WTh Voxel-Based Morphometric Study on First-Episode Schizophrenia and Healthy Unaffected Siblings**  
*Jun Li<sup>1</sup>, Chunyan Zheng<sup>1</sup>, Chaoqiong Ma<sup>1</sup>, Ling Zeng<sup>1</sup>, Qing Gao<sup>1</sup>, Huafu Chen<sup>1</sup>*  
<sup>1</sup>University of Electronic Science and Technology of China, Chengdu, China
- 329 WTh Brain Activities of Emotional Working Memory in Schizophrenia**  
*Xuebing Li<sup>1</sup>, Xiao-yan Cao<sup>1</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- \*\*330 WTh Less Efficiency of Information Transfer in Cys-allele Carriers of DISC1: A DMRI Brain Network Study**  
*Yonghui Li<sup>1</sup>, Bing Liu<sup>2</sup>, Bing Hou<sup>3</sup>, Wen Qin<sup>4</sup>, Dawei Wang<sup>4</sup>, Chunshui Yu<sup>5</sup>, Tianzi Jiang<sup>6</sup>*  
<sup>1</sup>Queensland Brain Institute, Brisbane, Australia, <sup>2</sup>CMC, Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>4</sup>Tianjin Medical University General Hospital, Tianjin, China, <sup>5</sup>Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China, <sup>6</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 331 WTh Functional connectivity pattern extraction using entropy-based discretization and SMO**  
*Xinguo Lu<sup>1,2</sup>, Pengjie Zhou<sup>1</sup>, Lingli Zeng<sup>2</sup>, Bingtao Feng<sup>1</sup>*  
<sup>1</sup>School of Information and Engineering, Hunan University, Changsha, China, <sup>2</sup>College of Mechatronics and Automation, National University of Defense Technology, Changsha, China

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## DISORDERS OF THE NERVOUS SYSTEM

### Schizophrenia and Psychotic Disorders, continued

- 332 WTh Changes in Structural Brain Volumes of Patients with Psychotic Disorder and Cannabis Use Disorder**  
*Marise Machielsen<sup>1</sup>, Laura Koenders<sup>1</sup>, Dick Veltman<sup>2</sup>, Lieuwe Haan<sup>1</sup>*  
<sup>1</sup>AMC, Amsterdam, Netherlands, <sup>2</sup>Department of Psychiatry, VU University medical center, Amsterdam, Netherlands
- 333 WTh Altered white matter connectivity in medication-naive patients with schizophrenia**  
*René Mandl<sup>1</sup>, Monica Rais<sup>1</sup>, Caroline van Baal<sup>1</sup>, Neeltje van Haren<sup>1</sup>, Wiepke Cahn<sup>1</sup>, René Kahn<sup>1</sup>, Hilleke Hulshoff Pol<sup>1</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Department of Psychiatry, Utrecht, Netherlands
- \*334 WTh Aberrant inter-network connectivity reflects anterior insula activity and psychosis in schizophrenia (O-W1)**  
*Andrei Manoliu<sup>1</sup>, Christian Sorg<sup>2</sup>, Susanne Neufang<sup>3</sup>, Nicholas Myers<sup>4</sup>, Mark Muhlau<sup>5</sup>, Claus Zimmer<sup>3</sup>, Hans Förstl<sup>6</sup>, Josef Baum<sup>6</sup>, Afra Wohlschläger<sup>3</sup>, Valentin Riedl<sup>7</sup>*  
<sup>1</sup>Department of Psychiatry and Neuroradiology, Technische Universität München, Munich, Germany, <sup>2</sup>Department of Psychiatry, Neuroradiology and Nuclear Medicine, Technische Universität München, Munich, Germany, <sup>3</sup>Department of Neuroradiology, Technische Universität München, Munich, Germany, <sup>4</sup>Oxford University, Oxford, United Kingdom, <sup>5</sup>Department of Neurology, Technische Universität München, Munich, Germany, <sup>6</sup>Department of Psychiatry, Technische Universität München, Munich, Germany, <sup>7</sup>Department of Neuroradiology and Neurology, Technische Universität München, Munich, Germany
- 335 WTh Neural correlates of attachment in schizophrenic patients and the representation of self**  
*Dominik Meissner<sup>1</sup>, Buchheim Anna<sup>2</sup>, Sandra Dehning<sup>1</sup>, Janusch Blautzik<sup>3</sup>, Norbert Müller<sup>1</sup>, Thomas Meindl<sup>3</sup>, Maximilian Reiser<sup>3</sup>, Rolf Engel<sup>1</sup>, Hans Möller<sup>1</sup>, Kristina Hennig-Fast<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, LMU Munich, Munich, Germany, <sup>2</sup>Institute for Psychology, University of Innsbruck, Innsbruck, Austria, <sup>3</sup>Department of Clinical Radiology, LMU Munich, Munich, Germany
- 336 WTh Replication of the impact of the psychosis risk variant in ZNF804A on the Theory of Mind network**  
*Sebastian Mohnke<sup>1</sup>, Knut Schnell<sup>2</sup>, Susanne Erk<sup>1</sup>, Nina Seiferth<sup>3</sup>, Claudia Schütz<sup>4</sup>, Leila Haddad<sup>5</sup>, Lydia Pöhlend<sup>1</sup>, Maria Garbusow<sup>1</sup>, Björn Schott<sup>1</sup>, Peter Kirsch<sup>6</sup>, Christine Esslinger<sup>7</sup>, Marcella Rietschel<sup>6</sup>, Stephanie Witt<sup>6</sup>, Markus Nöthen<sup>4</sup>, Sven Cichon<sup>8</sup>, Manuel Mattheisen<sup>9</sup>, Thomas Mühleisen<sup>4</sup>, Vanessa Nieratschker<sup>6</sup>, Andreas Heinz<sup>10</sup>, Andreas Meyer-Lindenberg<sup>6</sup>, Henrik Walter<sup>11</sup>*  
<sup>1</sup>Charité Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>University of Heidelberg, Heidelberg, Germany, <sup>3</sup>Charite Berlin, Berlin, Germany, <sup>4</sup>University of Bonn, Bonn, Germany, <sup>5</sup>Central Institute of Mental Health Mannheim, N/A, <sup>6</sup>Central Institute of Mental Health, Mannheim, Germany, <sup>7</sup>Otto-von-Guericke-University, Magdeburg, Germany, <sup>8</sup>Research Center Jülich, Jülich, Germany, <sup>9</sup>Harvard School of Public Health, Boston, MA, <sup>10</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>11</sup>Charité Universitätsmedizin, Berlin, Germany
- 337 WTh fMRI Changes Associated with Antipsychotic Treatment in Initially Drug-naïve Schizophrenia Patients**  
*Ayna Nejad<sup>1,2</sup>, Bjørn Ebdrup<sup>2</sup>, Hans Rasmussen<sup>2</sup>, Bodil Aggernæs<sup>2</sup>, William Baaré<sup>1</sup>, Hartwig Siebner<sup>1</sup>, Birte Glenthøj<sup>2</sup>*  
<sup>1</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark, <sup>2</sup>Center for Clinical Intervention and Neuropsychiatric Schizophrenia Research, Glostrup, Denmark
- 338 WTh Decreased Control by SMA in Childhood-Onset Schizophrenia during motor function: fMRI Evidence**  
*Carol Noronha<sup>1</sup>, Nitin Gogtay<sup>2</sup>, Richard White<sup>1</sup>, Vaibhav Diwadkar<sup>1</sup>*  
<sup>1</sup>Wayne State University, Detroit, MI, <sup>2</sup>National Institute of Mental Health, Bethesda, MD
- 339 WTh Altered Default Mode Network Activity in Schizophrenia Patients**  
*Anne Pankow<sup>1</sup>, Lorenz Deserno<sup>1</sup>, Torsten Wüstenberg<sup>1</sup>, Björn Schott<sup>1</sup>, Felix Bermpohl<sup>2</sup>, Andreas Heinz<sup>1,3,4</sup>, Florian Schlagenhau<sup>5,1,6</sup>*  
<sup>1</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>3</sup>Cluster of Excellence NeuroCure, Charité-Universitätsmedizin, Berlin, Germany, <sup>4</sup>Bernstein Center of Computational Neuroscience, Berlin, Germany, <sup>5</sup>Charité Universitätsmedizin Berlin, Berlin, Germany, <sup>6</sup>Max Planck Institute of Psychiatry, Leipzig, Germany

## DISORDERS OF THE NERVOUS SYSTEM

### Schizophrenia and Psychotic Disorders, continued

- 340 WTh Exploring the neuroanatomical pathway to psychosis using support vector machine**  
*William Pettersson-Yeo<sup>1</sup>, Stefania Benetti<sup>1</sup>, Andre Marquand<sup>1</sup>, Marco Catani<sup>1</sup>, Steve Williams<sup>1</sup>, Paul Allen<sup>1</sup>, Lana Kambeitz-Ilankovic<sup>1</sup>, Philip McGuire<sup>1</sup>, Andrea Mechelli<sup>1</sup>*  
<sup>1</sup>Institute of Psychiatry - King's College London, United Kingdom
- 341 WTh Association of Cortical Thickness and White Matter Integrity in Schizophrenia**  
*AKIHIKO SASAMOTO<sup>1</sup>, SHINSUKE FUJIMOTO<sup>1</sup>, HIDENAO FUKUYAMA<sup>2</sup>, Ryosaku Kawada<sup>1</sup>, Manabu Kubota<sup>1</sup>, JUN MIYATA<sup>1</sup>, TOSHIYA MURAI<sup>1</sup>, HIDEHIKO TAKAHASHI<sup>1</sup>, YUSUKE TANAKA<sup>1</sup>, Nobukatsu Sawamoto<sup>3</sup>*  
<sup>1</sup>Department of Neuropsychiatry, Graduate School of Medicine, Kyoto University, Kyoto, Japan, <sup>2</sup>Human Brain Research Center, Graduate School of Medicine, Kyoto University, Kyoto, Jamaica, <sup>3</sup>Kyoto University, Kyoto, Japan
- \*342 WTh The neural bases of reversal learning deficits in unmedicated schizophrenia patients (O-W1)**  
*Florian Schlagenhau<sup>1,2</sup>, Quentin Huys<sup>3</sup>, Lorenz Deserno<sup>1</sup>, Michael Rapp<sup>1</sup>, Anne Beck<sup>1</sup>, Andreas Heinz<sup>1</sup>*  
<sup>1</sup>Dept. of Psychiatry and Psychotherapy, CCM, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Gatsby Computational Neuroscience Unit and Wellcome Trust Centre for Neuroimaging, UCL, London, United Kingdom
- \*\*343 WTh Aberrant Intrinsic Networks in Schizophrenia and Bipolar Disorder in An Auditory Oddball Task**  
*JING SUJ<sup>1</sup>, Elena Allen<sup>2</sup>, Qingbao Yu<sup>3</sup>, Kent Kiehl<sup>4</sup>, Godfrey Pearlson<sup>5</sup>, Vince Calhoun<sup>4</sup>*  
<sup>1</sup>The Mind Research Network, ALBUQUERQUE, United States, <sup>2</sup>Mind Research Network, Albuquerque, United States, <sup>3</sup>The Mind Research Network, Albuquerque, United States, <sup>4</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM, <sup>5</sup>Olin Neuropsychiatry Research Center, hartford, CT
- 344 WTh Anatomical connectivity of the 'social brain' in a patient with Capgras syndrome**  
*Olivia Sujazow<sup>1</sup>, Bojana Kuzmanovic<sup>2</sup>, Kai Vogeley<sup>2</sup>, Marc Tittgemeyer<sup>2</sup>, Leonhard Schilbach<sup>2</sup>*  
<sup>1</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, University of Cologne, Cologne, Germany
- 345 WTh Dynamic causal models of dopaminergic working memory networks and schizophrenia pharmacogenetics**  
*Hao Yang Tan<sup>1</sup>, Anthony Chen<sup>2</sup>, Bhaskar Kolachana<sup>2</sup>, José Apud<sup>3</sup>, Venkata Mattay<sup>4</sup>, Joseph Callicott<sup>3</sup>, Qiang Chen<sup>4</sup>, Daniel Weinberger<sup>4</sup>*  
<sup>1</sup>NIMH, Bethesda, United States, <sup>2</sup>NIMH, Bethesda, MD, <sup>3</sup>NIH/NIMH, Bethesda, MD, <sup>4</sup>Lieber Institute for Brain Development, Baltimore, MD
- 346 WTh Structural basis of fronto-thalamic dysconnectivity in schizophrenia: a combined DCM-VBM study**  
*Gerd Wagner<sup>1</sup>, Kathrin Koch<sup>1</sup>, Claudia Schachtzabel<sup>1</sup>, Christoph Schultz<sup>1</sup>, Ralf Schlösser<sup>1</sup>*  
<sup>1</sup>Jena University Hospital, Jena, Germany
- 347 WTh Semantic processing in individuals with stable and unstable schizotypal personality features**  
*Kui Wang<sup>1</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 348 WTh Comparison of Manual and Automated Method for Hippocampal Volume in First-episode Schizophrenia**  
*Xiang Wang<sup>1</sup>, Xiaosheng Wang<sup>2</sup>, Zhaohui Fei<sup>1</sup>, Weijun Situ<sup>3</sup>, Tingting Sun<sup>1</sup>, Shuqiao Yao<sup>1</sup>*  
<sup>1</sup>Medical Psychological Institute of the Second Xiangya Hospital, Central South University, Changsha, China, <sup>2</sup>Department of Human Anatomy & Neurobiology, Xiangya School of Medicine, Central South University, Changsha, China, <sup>3</sup>Department of Radiology, the Second Xiangya Hospital, Central South University, Changsha, China
- 349 WTh Neural correlates of prospective memory impairment in schizotypal personality participants**  
*Ya Wang<sup>1</sup>, Tianxiao Yang<sup>2</sup>, Chao Yan<sup>3</sup>, Yi Wang<sup>1</sup>, Jia Huang<sup>1</sup>, David Shum<sup>4</sup>, Mingxia Fan<sup>5</sup>, Dazhi Yin<sup>6</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Psychology, York University, York, United Kingdom, <sup>3</sup>Institution of Psychology, Beijing, China, <sup>4</sup>School of Applied Psychology, Griffith University, Brisbane, Queensland, <sup>5</sup>Shanghai Key Laboratory of MRI, East China Normal University, Shanghai, China, <sup>6</sup>Key Laboratory of Brain Functional Genomics, Shanghai Key Laboratory of Magnetic Resonance, ECNU, Shanghai, China

## DISORDERS OF THE NERVOUS SYSTEM

### Schizophrenia and Psychotic Disorders, continued

- 350 WTh Effects of valence, schizophrenia, and their interaction on episodic memory-related brain function**  
*Michael White<sup>1</sup>, Roberta Rasetti<sup>1</sup>, Qiang Chen<sup>2,1</sup>, Brad Zolnick<sup>1</sup>, Xi Cheng<sup>2,1</sup>, Joseph Callicott<sup>1</sup>, Venkata Mattay<sup>2,1</sup>, Daniel Weinberger<sup>2,1</sup>*  
<sup>1</sup>Clinical Brain Disorders Branch/NIMH/NIH, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Baltimore, MD
- 351 WTh Heritability of motor coordination neurological soft signs: an fMRI study in Chinese healthy twins**  
*Ting Xu<sup>1</sup>, Jia Huang<sup>1</sup>, Ya Wang<sup>1</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 352 WTh Individuals at-risk for psychosis show altered brain activity during working memory task**  
*Siti N. Yaakub<sup>1</sup>, Kavitha Dorairaj<sup>1</sup>, Joann S. Poh<sup>1</sup>, Christopher L. Asplund<sup>1</sup>, Michael W.L. Chee<sup>1</sup>*  
<sup>1</sup>Neuroscience and Behavioural Disorders Program, Duke-NUS Graduate Medical School, Singapore, Singapore
- 353 WTh Neural substrates of pleasure in schizophrenia: An Activation Likelihood Estimate Meta-Analysis**  
*Chao Yan<sup>1</sup>, Raymond Chan<sup>2</sup>, Tammy Yang<sup>1</sup>*  
<sup>1</sup>Institution of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 354 WTh Abnormal Frontostriatal Structural Connectivity in Adolescent-Onset Schizophrenia**  
*Mojtaba Zarei<sup>1,2</sup>, Eileen Joyce<sup>3</sup>, Morgan Hough<sup>2</sup>, Linda Burge<sup>4</sup>, Pavandeep Ghataorhe<sup>2</sup>, Paul Matthews<sup>5,6</sup>, Anthony James<sup>2,7</sup>*  
<sup>1</sup>National Brain Mapping Centre, Tehran, Iran, Islamic Republic of, <sup>2</sup>University of Oxford, Oxford, United Kingdom, <sup>3</sup>Institute of Neurology, London, United Kingdom, <sup>4</sup>Warneford Hospital, Oxford, United Kingdom, <sup>5</sup>GSK Clinical Imaging Centre, London, United Kingdom, <sup>6</sup>Centre for Neuroscience, Imperial College London, London, United Kingdom, <sup>7</sup>Warneford Hospital, Oxford, United Kingdom
- 355 WTh Early coding of normal and abnormal visual words processing**  
*Yulia Zaytseva<sup>1</sup>, Ganna Garakh<sup>2</sup>, Irina Mariyna<sup>2</sup>, Valeria Strelets<sup>2</sup>*  
<sup>1</sup>Moscow Research Institute of Psychiatry, MOSCOW, Russian Federation, <sup>2</sup>Institute of Higher Nervous Activity and Neurophysiology, Russian Academy of Sciences, Moscow, Russian Federation

## DISORDERS OF THE NERVOUS SYSTEM

### Sleep Disorders

- 356 WTh Functional connection of cerebellum after normal sleep and after 24h sleep deprivation:an fMRI study**  
*Xi-jian Dai<sup>1</sup>, Hong-han Gong<sup>1</sup>, You-jiang Min<sup>2</sup>, Bi-xia Liu<sup>3</sup>, Si-yong Wang<sup>1</sup>*  
<sup>1</sup>Department of radiology,the first affiliated hospital of nanchang University, NanChang,Jiangxi,China, <sup>2</sup>Department of Acupuncture, Affiliated Hospital of JiangXi College Of Traditional Chinese Medicine, Nanchang,Jiangxi,China, <sup>3</sup>Department of infectious diseases,the first affiliated hospital of nanchang University, Nanchang,Jiangxi,China
- 357 WTh The Impact of Obstructive Sleep Apnea-Hypopnea on Neurodegeneration in Multiple Sclerosis**  
*Fei Xu<sup>1</sup>, Sridar Narayanan<sup>1</sup>, Douglas Arnold<sup>1</sup>, David Araujo<sup>1</sup>, R. John Kimoff<sup>2</sup>, Mauro Cardoso<sup>1</sup>, Daria Trojan<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, McGill University, Montreal, Canada, <sup>2</sup>McGill University Health Centre, McGill University, Montreal, Canada

## GENETICS

### Genetic Association Studies

- 358 WTh Neural correlates of gene-environment interaction**  
*Nina Alexander<sup>1</sup>, Georgia Koppe<sup>2</sup>, Roman Osinsky<sup>3</sup>, Bertram Walter<sup>4</sup>, Tim Klucken<sup>4</sup>, Dieter Vait<sup>4</sup>, Gebhard Sammer<sup>5</sup>, Rudolf Stark<sup>4</sup>, Juergen Hennig<sup>6</sup>*  
<sup>1</sup>Technical University of Dresden, Dresden, Germany, <sup>2</sup>Central Institute of Mental Health, Mannheim, Germany, <sup>3</sup>University of Wuerzburg, Wuerzburg, Germany, <sup>4</sup>Bender Institute of Neuroimaging, Giessen, Germany, <sup>5</sup>University of Gießen, Giessen, Germany, <sup>6</sup>Justus Liebig University Giessen, Giessen, Germany
- 359 WTh Genetic Effects on Connectivity in Brain Circuits Processing Motivational Salience**  
*David Blitzer<sup>1</sup>, Sam Colalillo<sup>1</sup>, Bhaskar Kolachana<sup>1</sup>, Kuan Wang<sup>1</sup>, Daniel Weinberger<sup>2</sup>, Caroline Zink<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Baltimore, MD

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## GENETICS

### Genetic Association Studies, continued

- \*360 WTh Genome-wide association analysis of working memory brain activation in a population-based sample (O-W3)**  
*Gabriella Blokland<sup>1,2,3</sup>, Angus Wallace<sup>4</sup>, Katie McMahon<sup>5</sup>, Paul Thompson<sup>6</sup>, Nicholas Martin<sup>1</sup>, Grant Montgomery<sup>7</sup>, Greig de Zubicaray<sup>8</sup>, Margaret Wright<sup>1,3</sup>*  
<sup>1</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>2</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>3</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>4</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Queensland, <sup>5</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Queensland, <sup>6</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>7</sup>Molecular Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Queensland, <sup>8</sup>School of Psychology, The University of Queensland, Brisbane, Queensland
- 361 WTh Neuropsychiatric risk variants in NTRK2 relate to white matter integrity in young healthy adults**  
*Meredith Braskie<sup>1</sup>, Neda Jahanshad<sup>1</sup>, Omid Kohannim<sup>2</sup>, Ming-Chang Chiang<sup>3</sup>, Marina Barysheva<sup>4</sup>, John Ringman<sup>1</sup>, Arthur Toga<sup>1</sup>, Kori Johnson<sup>5</sup>, Katie McMahon<sup>6</sup>, Greig de Zubicaray<sup>6</sup>, Nicholas Martin<sup>7</sup>, Margaret Wright<sup>7</sup>, Paul Thompson<sup>8</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA, <sup>2</sup>Laboratory of Neuro Imaging, UCLA, Los Angeles, CA, <sup>3</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>4</sup>Laboratory of Neuro Imaging, Dept. of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>5</sup>University of Queensland, Brisbane, Australia, <sup>6</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, <sup>7</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>8</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 362 WTh Effects of GWAS positive schizophrenia variant in PRR16 on hippocampal activation and connectivity**  
*Joseph Callicott<sup>1</sup>, Fengyu Zhang<sup>1</sup>, Richard Straub<sup>1</sup>, Venkata Mattay<sup>2</sup>, Daniel Weinberger<sup>2</sup>*  
<sup>1</sup>CBDB/NIMH/NIH, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Baltimore, MD
- 363 WTh Imaging Genetics of Functional Genes Groups: G-protein genes group map to Medial Frontal Cortex**  
*Ivan Chavarria-Siles<sup>1,2</sup>, Matthijs Verhage<sup>1</sup>, Barbara Franke<sup>3</sup>, Guillén Fernández<sup>4,2</sup>, Danielle Posthuma<sup>1</sup>*  
<sup>1</sup>VU University, Department of Functional Genomics, Amsterdam, Netherlands, <sup>2</sup>Donders Institute for Cognitive Neuroimaging, Nijmegen, Netherlands, <sup>3</sup>Genetics, University Medical Center, Radboud University, Nijmegen, Netherlands, <sup>4</sup>Radboud University Medical Centre, Nijmegen, Netherlands
- 364 WTh Parallel Independent Component Analysis with Reference**  
*Jiayu Chen<sup>1</sup>, Vince Calhoun<sup>2</sup>, Jingyu Liu<sup>3</sup>*  
<sup>1</sup>University of New Mexico, N/A, <sup>2</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM, <sup>3</sup>The Mind Research Network, Albuquerque, NM
- 365 WTh Genetic Variants in the AMPA Regulation Pathway Modulate Ventral Striatal Motivational Value Signal**  
*Sam Colalillo<sup>1</sup>, David Blitzer<sup>1</sup>, Bhaskar Kolachana<sup>1</sup>, Kuan Wang<sup>1</sup>, Daniel R Weinberger<sup>2</sup>, Caroline Zink<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, <sup>2</sup>Lieber Institute for Brain Development, Baltimore, MD
- 366 WTh Association of working memory performance and dopamine related genes with white matter structure**  
*Fahimeh Darki<sup>1</sup>, Myriam Peyrard-Janvid<sup>2</sup>, Hans Matsson<sup>2</sup>, Juha Kere<sup>2</sup>, Torkel Klingberg<sup>1</sup>*  
<sup>1</sup>Neuroscience Department, Karolinska Institutet, Stockholm, Sweden, <sup>2</sup>Department of Biosciences and Nutrition at Novum, Karolinska Institutet, Huddinge, Stockholm, Sweden
- 367 WTh 5-HTTLPR Genotype Modulates Amygdala-DMN Connectivity during Mood Recovery**  
*Zhuo Fang<sup>1,2</sup>, Senhua Zhu<sup>1,2</sup>, Seth J. Gillihan<sup>3</sup>, Hengyi Rao<sup>2,1</sup>*  
<sup>1</sup>Department of Psychology, Sun Yat-sen University, Guangzhou, China, <sup>2</sup>Center for Functional Neuroimaging, University of Pennsylvania, Philadelphia, PA, <sup>3</sup>Center for Cognitive Neuroscience, Department of Psychology, University of Pennsylvania, Philadelphia, PA

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## GENETICS

### Genetic Association Studies, continued

- 368 WTh Genetic influences in the boundaries of subsystems within the Default Mode Networks**  
*Manuel Garcia-Garcia<sup>1</sup>, Christine Cox<sup>2</sup>, Clare Kelly<sup>3</sup>, F. Xavier Castellanos<sup>4</sup>, Xi-Nian Zuo<sup>5</sup>, Greig de Zubicaray<sup>6</sup>, Katie McMahon<sup>7</sup>, Ian Hickie<sup>8</sup>, Nicholas Martin<sup>9</sup>, Margaret Wright<sup>10</sup>, Michael Milham<sup>11</sup>*  
<sup>1</sup>Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience, NYU Langone Medical Center, N, N/A, <sup>2</sup>Phyllis Green and Randolph Cowen Institute for Pediatric Neuroscience at the NYU Child Study Center, New York, NY, <sup>3</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience at the NYU Child Study Center, New York, NY, <sup>4</sup>New York University Child Study Center, New York, NY, <sup>5</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>6</sup>University of Queensland, Brisbane, Australia, <sup>7</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, <sup>8</sup>University of Sydney, Sydney, Australia, <sup>9</sup>Queensland Institute of Medical Research, Herston, Queensland, <sup>10</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>11</sup>Nathan Kline Institute for Psychiatric Research, New York, NY
- \*369 WTh Increasing Power for Voxel-wise Genome-wide Association Studies (O-W3)**  
*Tian Ge<sup>1,2</sup>, Thomas Nichols<sup>3</sup>, Jianfeng Feng<sup>1,2</sup>, Derrek Hibar<sup>4</sup>, Paul Thompson<sup>4</sup>*  
<sup>1</sup>Centre for Computational Systems Biology and School of Mathematical Sciences, Fudan University, Shanghai, China, <sup>2</sup>Department of Computer Science, University of Warwick, Coventry, United Kingdom, <sup>3</sup>Department of Statistics, University of Warwick, Coventry, United Kingdom, <sup>4</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 370 WTh Effect of Bcl-2 rs956572 SNP on regional gray matter volumes and cognitive function in elderly males**  
*Chu-Chung Huang<sup>1</sup>, Mu-En Liu<sup>2</sup>, Kun-Hsien Chou<sup>3</sup>, Ching-Po Lin<sup>4</sup>, Shih-Jen Tsai<sup>5</sup>*  
<sup>1</sup>Institute Of Biomedical Imaging And Radiological Sciences, National Yang-Ming University, Taipei, <sup>2</sup>Taipei Veterans General Hospital, Taipei, <sup>3</sup>National Yang Ming University, <sup>4</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>5</sup>Taipei Veterans General Hospital, Taipei, Chinese Taipei
- 371 WTh Genome-wide association of full brain white matter integrity – from the ENIGMA DTI working group**  
*Peter Kochunov<sup>1</sup>, Neda Jahanshad<sup>2</sup>, Emma Sprooten<sup>3</sup>, Paul Thompson<sup>4</sup>, Andrew MCINTOSH<sup>5</sup>, Ian Deary<sup>6</sup>, Mark Bastin<sup>3</sup>, Arthur Toga<sup>5</sup>, Katie McMahon<sup>6</sup>, Greig Zubicaray<sup>7</sup>, Nicholas Martin<sup>8</sup>, Margaret Wright<sup>8</sup>, G Montgomery<sup>8</sup>, S Medland<sup>8</sup>, Melanie Carless<sup>9</sup>, Joanna Curran<sup>10</sup>, Elliot Hong<sup>11</sup>, Ravi Duggirala<sup>9</sup>, Rene Olvera<sup>12</sup>, Thomas Dyer<sup>9</sup>, John Blangero<sup>9</sup>, David Glahn<sup>13</sup>*  
<sup>1</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>2</sup>UCLA, Los Angeles, United States, <sup>3</sup>University of Edinburgh, Edinburgh, United Kingdom, <sup>4</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>5</sup>UCLA, Los Angeles, CA, <sup>6</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, Australia, <sup>7</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>8</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>9</sup>Texas Biomedical Foundation, San Antonio, United States, <sup>10</sup>Texas Biomedical Foundation, San Antonio, TX, <sup>11</sup>Department of Psychiatry, University of Maryland School of Medicine, Baltimore, MD, <sup>12</sup>UTHSCSA, San Antonio, United States, <sup>13</sup>Yale University, Hartford, United States
- 372 WTh A genetic variation of the serotonin-1B receptor affects serotonin-1A receptor in vivo binding**  
*Rupert Lanzenberger<sup>1</sup>, Andreas Hahn<sup>1</sup>, Johanna Ungersboeck<sup>2</sup>, Marion Friedl<sup>3</sup>, Pia Baldinger<sup>1</sup>, Cécile Philippe<sup>2</sup>, Lukas Nics<sup>2</sup>, Georg Kranz<sup>1</sup>, Christoph Kraus<sup>1</sup>, Daniela Haeusler<sup>2</sup>, Annette Hartmann<sup>3</sup>, Markus Savli<sup>1</sup>, Thomas Vanicek<sup>1</sup>, Markus Mitterhauser<sup>2</sup>, Wolfgang Wadsak<sup>2</sup>, Dan Rujescu<sup>3</sup>, Siegfried Kasper<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Nuclear Medicine, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Genetics Research Center, Ludwig-Maximilian-University, Munich, Germany
- 373 WTh Effects of Copy Number Variations on Gray Matter Concentration in Schizophrenia**  
*Jingyu Liu<sup>1</sup>, Alvaro Ulla<sup>2</sup>, Nora Perrone-Bizzozero<sup>2</sup>, Ronald Yeo<sup>2</sup>, Vince Calhoun<sup>3</sup>*  
<sup>1</sup>Mind Research Network, Albuquerque, United States, <sup>2</sup>University of New Mexico, Albuquerque, United States, <sup>3</sup>The Mind Research Network and UNM, ALBUQUERQUE, NM
- 374 WTh 5-HTTLPR polymorphism impacts functional connectivity between amygdala and fronto-parietal network**  
*Haixia Long<sup>1</sup>, Bing Liu<sup>1</sup>, Bing Hou<sup>1</sup>, Huandong Li<sup>1</sup>, Chao Wang<sup>2</sup>, Wen Qin<sup>3</sup>, Dawei Wang<sup>3</sup>, Chunshui Yu<sup>3</sup>, Tianzi Jiang<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>3</sup>Tianjin Medical University General Hospital, Tianjin, China

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## GENETICS

### Genetic Association Studies, continued

- 375 WTh Genome-wide search for genetic factors influencing cortical thickness in humans**  
*Thomas Mühleisen<sup>1,2</sup>, Christine Herold<sup>3</sup>, Florian Siedek<sup>1,2</sup>, Svenja Caspers<sup>4</sup>, Christian Roski<sup>4</sup>, Dmitriy Driche<sup>3</sup>, Stefan Herms<sup>1,2</sup>, Per Hoffmann<sup>1,2</sup>, Markus Nöthen<sup>1,2,3</sup>, Tim Becker<sup>3,5</sup>, Karl Zilles<sup>4</sup>, Katrin Amunts<sup>6</sup>, Sven Cichon<sup>1,2,6</sup>*  
<sup>1</sup>Institute of Human Genetics, University of Bonn, Bonn, Germany, <sup>2</sup>Department of Genomics, Life & Brain Center, University of Bonn, Bonn, Germany, <sup>3</sup>German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany, <sup>4</sup>Institute of Neuroscience and Medicine (INM-2), Research Center Jülich, Jülich, Germany, <sup>5</sup>Institute of Medical Biometry, Informatics, and Epidemiology, University of Bonn, Bonn, Germany, <sup>6</sup>Institute of Neuroscience and Medicine (INM-1), Research Center Jülich, Jülich, Germany
- 376 WTh Mapping the interaction between APOE-epsilon4 and TOMM40 SNPs and Brain Atrophy: An N=705 ADNI study**  
*Priya Rajagopalan<sup>1</sup>, Xue Hua<sup>1</sup>, Omid Kohannim<sup>2</sup>, April Ryles<sup>3</sup>, Arthur Toga<sup>4</sup>, Clifford Jack<sup>5,6</sup>, Michael Weiner<sup>7</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>Laboratory of Neuro Imaging, UCLA, Los Angeles, CA, <sup>3</sup>Laboratory of Neuro Imaging, Dept. of Neurology, UCLA School of Medicine, Los Angeles, CA, USA, N/A, <sup>4</sup>University of California - Los Angeles, Los Angeles, CA, <sup>5</sup>Department of Radiology, Mayo Clinic and Foundation, Rochester, MN, <sup>6</sup>Department of Veterans Affairs Medical Center, San Francisco, CA, <sup>7</sup>Department of Radiology and Biomedical Imaging, UCSF School of Medicine, San Francisco, CA
- 377 WTh White matter Hyperintensities, MTHFR genotype and Brain Volumes in 509 Cognitively Impaired subjects**  
*Priya Rajagopalan<sup>1</sup>, Neda Jahanshad<sup>2</sup>, Arthur Toga<sup>3</sup>, Clifford Jack<sup>4</sup>, Michael Weiner<sup>5</sup>, Paul Thompson<sup>1</sup>, The ADNI<sup>6</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>University of California Los Angeles, Los Angeles, CA, <sup>3</sup>University of California - Los Angeles, Los Angeles, CA, <sup>4</sup>Department of Radiology, Mayo Clinic and Foundation, Rochester, MN, <sup>5</sup>Department of Radiology and Biomedical Imaging, UCSF School of Medicine, San Francisco, CA, <sup>6</sup>The Alzheimer's Disease Neuroimaging Initiative, San Francisco, United States

- 378 WTh Heritability of Graph Theoretic Characteristics of Resting State fMRI Networks**  
*Benjamin Sinclair<sup>1</sup>, Katie McMahon<sup>2</sup>, Greig de Zubicaray<sup>1</sup>, Margaret Wright<sup>3</sup>, Nicholas Martin<sup>3</sup>, Paul Thompson<sup>4</sup>, Gabriella Blokland<sup>5</sup>, Miriam Mosing<sup>6</sup>*  
<sup>1</sup>University of Queensland, Brisbane, Australia, <sup>2</sup>Centre for Advance Imaging, The University of Queensland, Brisbane, Australia, <sup>3</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>4</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States, <sup>5</sup>Queensland Institute of Medical Research, Brisbane, Australia, <sup>6</sup>Queensland Institute of Medical Research, Brisbane, Australia
- 379 WTh Does the BDNF Val66Met polymorphism influence cognitive function in patients with mTLE?**  
*Jason Stretton<sup>1</sup>, Alexandra Foulkes<sup>2</sup>, Pamela Thompson<sup>1</sup>, Sallie Baxendale<sup>1</sup>, Meneka Sidhu<sup>1</sup>, Elaine Williams<sup>2</sup>, Jane Burdett<sup>2</sup>, Sanjay Sisodiya<sup>1</sup>, John Duncan<sup>1</sup>, Mar Matarin<sup>1</sup>*  
<sup>1</sup>UCL, Institute of Neurology, London, United Kingdom, <sup>2</sup>UCL, London, United Kingdom

## GENETICS

### Genetic Modeling and Analysis Methods

- 380 WTh The heritability of brain structure in the elderly: results from the Older Australian Twins Study**  
*Seyed Amir Hosein Batouli<sup>1</sup>, Perminder Sachdev<sup>2</sup>, Wei Wen<sup>3</sup>, Julian Trollor<sup>4</sup>*  
<sup>1</sup>Neuroimaging Lab, School of Psychiatry, University of New South Wales, Sydney, Australia, <sup>2</sup>University of New South Wales, Sydney, NSW, <sup>3</sup>Brain and Ageing research program, The University of New South Wales, Sydney, Australia, <sup>4</sup>Department of Developmental Disability Neuropsychiatry, School of Psychiatry, University of New Sout, Sydney, Australia
- 381 WTh Heritability of perisylvian language anatomy as measured by diffusion tensor imaging**  
*Sanja Budisavljevic<sup>1</sup>, Flavio Dell'Acqua<sup>2</sup>, Fruhling Rijdsdijk<sup>3</sup>, Fergus Kane<sup>4</sup>, Marco Picchioni<sup>4</sup>, Philip McGuire<sup>4</sup>, Robin Murray<sup>4</sup>, Marco Catani<sup>1</sup>*  
<sup>1</sup>Natbrainlab, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>2</sup>Natbrainlab, Centre for Neuroimaging Sciences, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>3</sup>SGDP Centre, Institute of Psychiatry, King's College London, London, United Kingdom, <sup>4</sup>Institute of Psychiatry, King's College London, London, United Kingdom

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## GENETICS

### Genetic Modeling and Analysis Methods, continued

- 382 WTh Hierarchical genetic organization of human cortical surface area**  
*Chi-Hua Chen<sup>1</sup>, E. Gutierrez<sup>1</sup>, Wes Thompson<sup>2</sup>, Matthew Panizzon<sup>1</sup>, Terry Jernigan<sup>1</sup>, Lisa Eyler<sup>1</sup>, Christine Fennema-Notestine<sup>1</sup>, Amy Jak<sup>1</sup>, Mike Neale<sup>3</sup>, Carol Franz<sup>1</sup>, Michael Lyons<sup>4</sup>, Michael Grant<sup>4</sup>, Bruce Fischl<sup>5</sup>, Larry Seidman<sup>6</sup>, Ming Tsuang<sup>1</sup>, Anders Dale<sup>1</sup>, William Kremen<sup>1</sup>*  
<sup>1</sup>University of California, San Diego, La Jolla, United States, <sup>2</sup>University of California, San Diego, La Jolla, United States, <sup>3</sup>Virginia Commonwealth, Richmond, United States, <sup>4</sup>Boston University, Boston, United States, <sup>5</sup>Massachusetts General Hospital, Boston, MA, <sup>6</sup>Harvard University, Boston, United States
- 383 WTh Heritability Estimation by Restricted Maximum Likelihood for fMRI Data**  
*Xu Chen<sup>1</sup>, Thomas Nichols<sup>2</sup>, Essi Viding<sup>3</sup>, Alice Jones<sup>4</sup>*  
<sup>1</sup>University of Warwick, Department of Statistics, Coventry, United Kingdom, <sup>2</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom, <sup>3</sup>University College London, Department of Psychology, London, United Kingdom, <sup>4</sup>University of London, Goldsmiths College, Department of Psychology, London, United Kingdom
- 384 WTh Fast vGWAS with Correction for Multiple Tests using Map-Reduce in Cloud or HPC**  
*Benoit Da Mota<sup>1,2</sup>, Edouard Duchesnay<sup>2</sup>, Vincent Frouin<sup>2</sup>, Jean-Baptiste Poline<sup>2,1</sup>, Gael Varoquaux<sup>1,2</sup>, Bertrand Thirion<sup>1,2</sup>*  
<sup>1</sup>Parietal Team, INRIA Saclay - Île-de-France, Saclay, France, <sup>2</sup>CEA, DSV, I2BM, Neurospin bât 145, Gif-sur-Yvette, France
- 385 WTh Sulcal Shape Heritability on the Cortex**  
*Shantanu Joshi<sup>1</sup>, Anand Joshi<sup>2</sup>, Arthur Toga<sup>1</sup>, Katie McMahon<sup>3</sup>, Greig de Zubicaray<sup>4</sup>, Nicholas Martin<sup>5</sup>, Paul Thompson<sup>6</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA, <sup>2</sup>University of California, Los Angeles, Los Angeles, CA, <sup>3</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, <sup>4</sup>University of Queensland, Brisbane, Australia, <sup>5</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>6</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- \*386 WTh Stem-cell signaling pathways and cerebral aging: Transcriptome-wide analysis (O-W3)**  
*Peter Kochunov<sup>1</sup>, Jac Charlesworth<sup>2</sup>, Joanna Curran<sup>2</sup>, Elliot Hong<sup>3</sup>, David Glahn<sup>4</sup>, John Blangero<sup>5</sup>*  
<sup>1</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>2</sup>Texas Biomedical Foundation, San Antonio, TX, <sup>3</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>4</sup>Yale University, Hartford, United States, <sup>5</sup>Texas Biomedical Foundation, San Antonio, United States
- 387 WTh Multiscale Adaptive Generalized Estimating Equations for Longitudinal Neuroimaging Data**  
*Yimei Li<sup>1</sup>, John Gilmore<sup>2</sup>, Weili Lin<sup>2</sup>, Dinggang Shen<sup>3</sup>, Hongtu Zhu<sup>4</sup>, Joseph Ibrahim<sup>5</sup>*  
<sup>1</sup>St. Jude Children's Research Hospital, Memphis, TN, <sup>2</sup>UNC-Chapel Hill, Chapel Hill, NC, <sup>3</sup>UNC-CH, Chapel Hill, NC, <sup>4</sup>University of North Carolina, Chapel Hill, Chapel Hill, NC, <sup>5</sup>Department of Biostatistics, The University of North Carolina at Chapel Hill, Chapel Hill, NC
- \*388 WTh Relationship of Human Brain Anatomy and Gene Expression: Analysis of Allen Human Brain Atlas Data (O-W3)**  
*Elaine Shen<sup>1</sup>, Angela Guillozet-Bongaarts<sup>1</sup>, Michael Hawrylycz<sup>1</sup>, Ed Lein<sup>1</sup>, Amy Bernard<sup>1</sup>, Darren Bertagnoli<sup>1</sup>, Preston Cartagena<sup>2</sup>, Barry Daly<sup>3</sup>, Chinh Dang<sup>1</sup>, Amanda Ebbert<sup>1</sup>, Jeff Goldy<sup>1</sup>, Rao Gullapalli<sup>3</sup>, John Hohmann<sup>1</sup>, Christopher Lau<sup>1</sup>, Changkyu Lee<sup>1</sup>, Alan McMillan<sup>3</sup>, Jeremy Miller<sup>1</sup>, Lydia Ng<sup>1</sup>, Patrick Parker<sup>1</sup>, Dharmendra Pate<sup>2</sup>, John Phillips<sup>1</sup>, Zackery Riley<sup>1</sup>, Adolfo Sequeira<sup>2</sup>, Kimberly Smith<sup>1</sup>, Susan Sunkin<sup>1</sup>, Marquis Vawter<sup>2</sup>, Paul Wohnoutka<sup>1</sup>, Christof Koch<sup>1</sup>, Allan Jones<sup>1</sup>*  
<sup>1</sup>Allen Institute for Brain Science, Seattle, WA, <sup>2</sup>University of California Irvine, Irvine, CA, <sup>3</sup>University of Maryland School of Medicine, Baltimore, MD
- 389 WTh Permutation Methods for Imaging Genetic Analysis on Pedigrees**  
*Anderson Winkler<sup>1</sup>, Peter Kochunov<sup>2</sup>, John Blangero<sup>3</sup>, David Glahn<sup>1</sup>, Thomas Nichols<sup>4</sup>*  
<sup>1</sup>Yale University School of Medicine, New Haven, United States, <sup>2</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>3</sup>Texas Biomedical Research Institute, San Antonio, United States, <sup>4</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom

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## GENETICS

### Neurogenetic Syndromes

- 390 WTh Area and Shape Analysis of the Corpus Callosum in Supernumerary Sexual Chromosome Aneuploidies**  
*Benjamin Wade<sup>1</sup>, Martin Reuter<sup>2</sup>, Michael Stockman<sup>3</sup>, Jay Giedd<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD, <sup>2</sup>Massachusetts General Hospital, Boston, MA, <sup>3</sup>National Institute of Mental Health, Bethesda, MD

## HIGHER COGNITIVE FUNCTIONS

### Decision Making

- 391 WTh Equal but not the same: neural underpinnings of aesthetic and moral judgments**  
*Mihai Avram<sup>1</sup>, Yan Bao<sup>2</sup>, Janusch Blautzik<sup>3</sup>, Evgeny Gutyrchik<sup>1</sup>, Maximilian Reiser<sup>4</sup>, Ernst Poeppel<sup>5</sup>*  
<sup>1</sup>Human Science Center, Munich, Germany, <sup>2</sup>Department of Psychology, Peking, China, <sup>3</sup>N/A, 80336 München, Germany, <sup>4</sup>Ludwig Maximilians University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>5</sup>Ludwig Maximilian University, Institute of Medical Psychology, Munich, Germany
- 392 WTh Rostrolateral prefrontal cortex and uncertainty-driven exploration**  
*David Badre<sup>1</sup>, Bradley Doll<sup>2</sup>, Nicole Long<sup>3</sup>, Michael Frank<sup>1</sup>*  
<sup>1</sup>Brown University, Providence, RI, <sup>2</sup>NYU, New York, NY, <sup>3</sup>University of Pennsylvania, Philadelphia, PA
- 393 WTh Contrasting roles for ventromedial prefrontal and cingulate cortex during repetitive trinary choice**  
*Erie Boorman<sup>1</sup>, Tim Behrens<sup>2</sup>, Matthew Rushworth<sup>2</sup>*  
<sup>1</sup>California Institute of Technology, Pasadena, United States, <sup>2</sup>University of Oxford, Oxford, United Kingdom
- 394 WTh The neuromagnetic responses elicited by dynamic value computations during decision making**  
*Acer Yu-Chan Chang<sup>1,2</sup>, S.-W. Wu<sup>2,3</sup>, Ovid J.-L. Tzeng<sup>1,2,3,4</sup>, Denise H. Wu<sup>1,2</sup>*  
<sup>1</sup>Institute of Cognitive Neuroscience, National Central University, Zhongli City, Chinese Taipei, <sup>2</sup>Laboratories for Cognitive Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>4</sup>Institute of Linguistics, Academia Sinica, Taipei, Chinese Taipei
- 395 WTh Functional MRI of challenging food choices: choices between equally liked high- & low-calorie foods**  
*Lisette Charbonnier<sup>1</sup>, Max Viergever<sup>1</sup>, Paul Smeets<sup>1</sup>*  
<sup>1</sup>University Medical Center Utrecht, Utrecht, Netherlands
- 396 WTh Neurobehavioral substrates of peer influence on risk preferences of cocaine addicts**  
*Dongil Chung<sup>1,2</sup>, George Christopoulos<sup>3,4</sup>, Katherine McCurry<sup>1,2</sup>, Thomas Newton<sup>5</sup>, Richard De La Garza<sup>5</sup>, Pearl Chiu<sup>1,2,6</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, United States, <sup>2</sup>Salem Veteran Affairs Medical Center, Salem, VA, <sup>3</sup>NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE, Singapore, <sup>4</sup>Culture Science Institute, Singapore, Singapore, <sup>5</sup>Baylor College of Medicine & Michael E. DeBakey VA Medical Center, Houston, TX, <sup>6</sup>Department of Psychology, Virginia Tech, Blacksburg, VA
- 397 WTh Withdrawn**
- 398 WTh Inferential Capacity of the Human Anterior Prefrontal Function**  
*Mael Donoso<sup>1</sup>, Anne Collins<sup>2</sup>, Etienne Koechlin<sup>1</sup>*  
<sup>1</sup>Ecole Normale Supérieure, Paris, France, <sup>2</sup>Brown University, Providence, RI
- 399 WTh The Retention of Parametric Responses to Sensory Stimuli in Response Areas: an fMRI Study**  
*Drew Erickson<sup>1</sup>, Andrew Kayser<sup>1</sup>*  
<sup>1</sup>UC San Francisco, Emeryville, CA
- 400 WTh Neural Differences between Preference and Non-preference Judgments**  
*Jerome Foo<sup>1</sup>, Katsuyuki Sakai<sup>1</sup>*  
<sup>1</sup>Department of Cognitive Neuroscience, University of Tokyo, Tokyo, Japan
- 401 WTh Neural Correlates of Clinical Decision-making: a functional Magnetic Resonance Imaging Study**  
*Serena Goon<sup>1</sup>, Emmanuel Stamatakis<sup>1</sup>, Ram Adapa<sup>1</sup>, Maki Kasahara<sup>1</sup>, Steven Bishop<sup>1</sup>, Diana Wood<sup>2</sup>, Daniel Wheeler<sup>1</sup>, David Menon<sup>2</sup>, Arun Gupta<sup>1</sup>*  
<sup>1</sup>University Division of Anaesthesia, Addenbrooke's Hospital, Cambridge, United Kingdom, <sup>2</sup>University of Cambridge, Cambridge, United Kingdom
- \*\*402 WTh Beta-band Modulation and Motor-Related Decision Making in the Human Brain: Correlation and Causation**  
*Ian Gould<sup>1</sup>, Anna Nobre<sup>1</sup>, Matthew Rushworth<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom

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## HIGHER COGNITIVE FUNCTIONS

### Decision Making, continued

- 403 WTh What eating popcorn has to do with playing tennis: Abstract utility decoding across categories**  
*Joerg Gross<sup>1</sup>, Jan Zimmermann<sup>1</sup>, Eva Woelbert<sup>1</sup>, Sanae Barth<sup>1</sup>, Arno Riedl<sup>1</sup>, Rainer Goebel<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands
- 404 WTh Deficits in Social Decision Making Following Striatum Lesion**  
*Xiaosi Gu<sup>1</sup>, Zhixian Gao<sup>2</sup>, Gecia Hermsdorff<sup>3</sup>, Xingchao Wang<sup>2</sup>, Shiwei Wang<sup>2</sup>, Read Montague<sup>3</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, United States, <sup>2</sup>Beijing Tiantan Hospital of Capital University of Medical Sciences, Beijing, China, <sup>3</sup>Virginia Tech Carilion Research Institute, Roanoke, VA
- \*405 WTh Neural substrate for adaptive learning in dynamic environments (O-W2)**  
*Chaohui Guo<sup>1</sup>, Yosuke Morishima<sup>1</sup>, Christoph Mathys<sup>2</sup>, Ernst Fehr<sup>1</sup>, Peter Bossaerts<sup>3</sup>, Kerstin Preuschoff<sup>4,5</sup>*  
<sup>1</sup>Laboratory for Social and Neural Systems Research, Department of Economics, Zurich University, Zurich, Switzerland, <sup>2</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>3</sup>California Institute of Technology, Pasadena, United States, <sup>4</sup>Laboratory of Computational Neuroscience, Lausanne, Switzerland, <sup>5</sup>LREN Neuroimaging Research Lab, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland
- 406 WTh The Relationship between Body Mass Index (BMI) and Gray Matter Density in a Large Chinese Sample**  
*Qinghua He<sup>1</sup>, Gui Xue<sup>2</sup>, Antoine Bechara<sup>2</sup>, Qi Dong<sup>3</sup>*  
<sup>1</sup>University of Southern California, Los Angeles, United States, <sup>2</sup>University of Southern California, Los Angeles, CA, <sup>3</sup>Beijing Normal University, Beijing, China
- 407 WTh Functional Connectivity between Frontal Area and Insula Affects Rule-learning in Iowa Gambling Task**  
*Xiao-Song He<sup>1</sup>, Ying Wang<sup>1</sup>, Nan Li<sup>1</sup>, Ying Liu<sup>2</sup>, Zheng-De Wei<sup>1</sup>, Ning Ma<sup>1</sup>, Xian-Ming Fu<sup>2</sup>, Xiaochu Zhang<sup>1</sup>*  
<sup>1</sup>CAS Key Laboratory of Brain Function and Disease and School of Life Sciences, USTC, Hefei, China, <sup>2</sup>Provincial Hospital Affiliated to Anhui Medical University, Hefei, China
- 408 WTh Decoding perceptual decisions and the associated confidence from human brain signals**  
*Martin Hebart<sup>1,2,3</sup>, Tobias Donner<sup>4</sup>, Yoren Schriever<sup>5</sup>, John-Dylan Haynes<sup>1,6,3</sup>*  
<sup>1</sup>Bernstein Center for Computational Neuroscience, Charité Universitätsmedizin, Berlin, Germany, <sup>2</sup>Berlin Center for Advanced Neuroimaging, Charité Universitätsmedizin, Berlin, Germany, <sup>3</sup>Berlin School of Mind and Brain, Humboldt-Universität, Berlin, Germany, <sup>4</sup>Department of Psychology, University of Amsterdam, Amsterdam, Netherlands, <sup>5</sup>Utrecht University, Utrecht, Netherlands, <sup>6</sup>Berlin Center for Advanced Neuroimaging, Charité Universitätsmedizin, Berlin, Germany
- 409 WTh Integration of emotional information in social decision-making**  
*Susanne Henningsson<sup>1,2</sup>, Kristoffer Madsen<sup>1,3</sup>, Hartwig Siebner<sup>1,2</sup>*  
<sup>1</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark, <sup>2</sup>Centre for Integrated Molecular Brain Imaging, Copenhagen University Hospital, Copenhagen, Denmark, <sup>3</sup>DTU Informatics, Technical University of Denmark, Lyngby, Denmark
- 410 WTh Assessing cognitive phenotype using a neuroeconomic battery**  
*Kevin Hill<sup>1,2</sup>, Gecia Hermsdorff<sup>1,2</sup>, Ann Harvey<sup>1,2</sup>, Read Montague<sup>1,3,4,5,2</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, United States, <sup>2</sup>Human Neuroimaging Laboratory, Roanoke, VA, United States, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>Department of Physics, Virginia Tech, Blacksburg, VA, United States, <sup>5</sup>Wellcome Trust Centre for Neuroimaging, University College London, London, United Kingdom
- 411 WTh The encoding of the real value and the face value of money in the human brain**  
*Yi Huang<sup>1</sup>, Rongjun Yu<sup>1</sup>*  
<sup>1</sup>South China Normal University, Guangzhou, China
- 412 WTh Generic and task-specific effects of uncertainty and prediction errors in associative learning**  
*Sandra Iglesias<sup>1</sup>, Christoph Mathys<sup>1</sup>, Kay H. Brodersen<sup>2</sup>, Lars Kasper<sup>2</sup>, Marco Piccirelli<sup>3</sup>, Klaas Enno Stephan<sup>4,5</sup>*  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zürich, Switzerland, <sup>2</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>3</sup>Laboratory for Social and Neural Systems Research, University of Zurich, Switzerland, Zurich, Switzerland, <sup>4</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zurich, Switzerland, <sup>5</sup>Wellcome Trust Centre for Neuroimaging, University College London, United Kingdom, London, United Kingdom

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## HIGHER COGNITIVE FUNCTIONS

### Decision Making, continued

- 413 WTh Feedback-related negativity in the Iowa gambling task: An event-related potential**  
*Kyoung-Mi Jang<sup>1</sup>, Myung-Sun Kim<sup>2</sup>, Chang-Hwan Im<sup>3</sup>*  
<sup>1</sup>Department of Psychology, Sungshin Women's University, Seoul, Korea, Republic of, <sup>2</sup>Department of Psychology, Sungshin Women's University, Seoul, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 414 WTh Increased risk-taking behavior in Internet addicts: An fMRI study using the framing effect paradigm**  
*Hyo-Eun Kim<sup>1</sup>, SangSup Choi<sup>1</sup>, Mi-Sook Park<sup>1</sup>, Ji-Eun Park<sup>1</sup>, Jin-Hun Sohn<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Institute for Brain Research, Chungnam National University, Daejeon, Korea, Republic of
- 415 WTh Risky decision-making: The relationship between neural activation and white-matter microstructure**  
*Milky Kohno<sup>1</sup>, Angelica Morales<sup>1</sup>, Dara Ghahremani<sup>1</sup>, Edythe London<sup>1</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, United States
- 416 WTh Estrogen affects neural processing underlying risk taking in the Balloon Analogue Risk Task in women**  
*Georg Kranz<sup>1</sup>, Jan Losak<sup>1</sup>, Ronald Sladky<sup>2</sup>, Anna Hoeflich<sup>1</sup>, Pia Baldinger<sup>1</sup>, Andreas Hahn<sup>1</sup>, Jasmin Tröstl<sup>2</sup>, Thomas Vanicek<sup>1</sup>, Ulrike Kaufmann<sup>3</sup>, Christian Windischberger<sup>2</sup>, Siegfried Kasper<sup>1</sup>, Rupert Lanzenberger<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>MR Centre of Excellence, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Department of Obstetrics and Gynecology, Medical University of Vienna, Vienna, Austria
- 417 WTh Neural substrates of probability discounting and enhanced risk-aversion in depressed patients**  
*Jaehyung Kwon<sup>1</sup>, Kwangyeol Baek<sup>1</sup>, Jeong-Ho Chae<sup>2</sup>, Po-Song Yang<sup>3</sup>, Jung-a Min<sup>2</sup>, Kyung-mook Cho<sup>2</sup>, Ga-yeong Kim<sup>2</sup>, Gook-in Jang<sup>2</sup>, Jaeseung Jeong<sup>1</sup>*  
<sup>1</sup>Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of, <sup>2</sup>Department of Psychiatry, College of Medicine, Catholic University of Korea, Seoul, Korea, Republic of, <sup>3</sup>Department of Diagnostic Radiology, Daejeon St. Mary's Hospital, Daejeon, Korea, Republic of
- 418 WTh Uncovering task-common and task-specific networks across multiple datasets using fMRI-CPCA**  
*Katie Lavigne<sup>1</sup>, Paul Metzak<sup>1</sup>, Jen Whitman<sup>1</sup>, Todd Woodward<sup>1</sup>*  
<sup>1</sup>University of British Columbia, Vancouver, Canada
- 419 WTh May the force be with you: neural mechanisms underlying social drives of effort production**  
*Raphaël Le Bouc<sup>1</sup>, Mathias Pessiglione<sup>1</sup>*  
<sup>1</sup>Motivation, Brain & Behavior (MBB) team, Institut du Cerveau et de la Moelle épinière (ICM), Paris, France
- 420 WTh Neural valuation of food under fed and fasted conditions**  
*Ying Lee<sup>1</sup>, Camilo Libedinsky<sup>1</sup>, Jean C.J. Liu<sup>1</sup>, Mingyi Zhou<sup>1</sup>, Verena Tan<sup>2</sup>, Mary Chong<sup>2</sup>, Michael Meaney<sup>2</sup>, Yung Seng Lee<sup>2,3</sup>, Michael W.L. Chee<sup>1</sup>*  
<sup>1</sup>Neuroscience and Behavioural Disorders Program, Duke-NUS Graduate Medical School, Singapore, Singapore, <sup>2</sup>Singapore Institute for Clinical Sciences, A\*STAR, Singapore, Singapore, <sup>3</sup>Department of Paediatrics, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore
- \*421 WTh Resting State Functional Connectivity Predicts Impulsivity in Economic Decision-making (O-W2)**  
*Nan Li<sup>1</sup>, Ning Ma<sup>1</sup>, Ying Liu<sup>2</sup>, Xiao-Song He<sup>1</sup>, De-Lin Sun<sup>1</sup>, Xian-Ming Fu<sup>2</sup>, Xiaochu Zhang<sup>1</sup>, Shihui Han<sup>3</sup>, Da-Ren Zhang<sup>1</sup>*  
<sup>1</sup>CAS Key Laboratory of Brain Function and Disease and School of Life Sciences, USTC, Hefei, China, <sup>2</sup>Provincial Hospital Affiliated to Anhui Medical University, Hefei, China, <sup>3</sup>Peking University, Beijing, China
- 422 WTh Cascade of Cortical Processes in Tactile Decision Making**  
*Yiwen Li Hegner<sup>1,2</sup>, Axel Lindner<sup>3</sup>, Christoph Braun<sup>1,2,4</sup>*  
<sup>1</sup>MEG Center, University of Tuebingen, Tuebingen, Germany, <sup>2</sup>Institute of Medical Psychology and Behavioral Neurobiology, University of Tuebingen, Tuebingen, Germany, <sup>3</sup>Hertie Institute for Clinical Brain Research, Department of Cognitive Neurology, Tuebingen, Germany, <sup>4</sup>Center for Mind/Brain Sciences, University of Trento, Trento, Italy
- 423 WTh Dissociable Brain Regions Encode Value of Rewards Discounted by Delay and Effort**  
*Camilo Libedinsky<sup>1</sup>, Weiyan Chee<sup>1</sup>, Aiqing Ling<sup>1</sup>, Michael W.L. Chee<sup>1</sup>*  
<sup>1</sup>Neuroscience and Behavioural Disorders Program, Duke-NUS Graduate Medical School, Singapore, Singapore

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## HIGHER COGNITIVE FUNCTIONS

### Decision Making, continued

- 424 WTh Value Signal Modulations in the Ventromedial Prefrontal Cortex Induced by Post-Hypnotic Suggestion**  
*Vera Ludwig<sup>1,2,3</sup>, Christine Stelzel<sup>1,2,3</sup>, Harald Krütiak<sup>1,4</sup>, Rosa Steimke<sup>1,2,3</sup>, Amadeus Magrab<sup>5,1</sup>, Henrik Walter<sup>1,2</sup>*  
<sup>1</sup>Department of Psychiatry & Psychotherapy, Charité Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, Berlin, Germany, <sup>3</sup>Department of Psychology, Humboldt-Universität zu Berlin, Berlin, Germany, <sup>4</sup>Fortbildungszentrum OST der Deutschen Gesellschaft für Hypnose und Hypnotherapie e.V., Berlin, Germany, <sup>5</sup>Institute of Cognitive Science, Universität Osnabrück, Osnabrück, Germany
- 425 WTh “To accept or to reject? It depends on who proposes it”. An fMRI study on the Ultimatum Game**  
*Fausta Lui<sup>1</sup>, Armando Bauleo<sup>1</sup>, Francesca Pesciarelli<sup>1</sup>, Davide Duzzi<sup>1</sup>, Lorella Lotto<sup>2</sup>, Cristina Cacciari<sup>1</sup>, Rino Rumiati<sup>2</sup>, Carlo Porro<sup>1</sup>*  
<sup>1</sup>Univ Modena & Reggio Emilia, Dept. Scienze Biomediche, Modena, Italy, <sup>2</sup>Univ Padova, Dept. Psicologia dello Sviluppo e della Socializzazione, Padova, Italy
- 426 WTh Cost evidence accumulation for online management of effort production: convergent MEG and fMRI data**  
*Florent Meyniel<sup>1</sup>, Claire Sergent<sup>2</sup>, Jean Daunizeau<sup>1</sup>, Mathias Pessiglione<sup>1</sup>*  
<sup>1</sup>Motivation, Brain & Behavior (MBB) team, Institut du Cerveau et de la Moelle épinière (ICM), Paris, France, <sup>2</sup>ICM, CNRS-INSERM, Université Pierre et Marie Curie (Paris 6), Paris, France
- 427 WTh Distinct computations at perceptual, central and motor stages during perceptual choice**  
*Nicholas Myers<sup>1</sup>, Valentin Wyart<sup>1</sup>, Vincent de Gardelle<sup>1</sup>, Christopher Summerfield<sup>1</sup>*  
<sup>1</sup>Oxford University, Oxford, United Kingdom
- 428 WTh The persistency of bottom-up processes in self-regulatory behavior**  
*Karolien Notebaert<sup>1</sup>, Sabrina Bruynee<sup>2</sup>, Siegfried Dewitte<sup>2</sup>, Suna Kinnunen<sup>3</sup>, Sabine Windmann<sup>3</sup>*  
<sup>1</sup>Department of Cognitive Psychology II, Johann Wolfgang Goethe University, Frankfurt, Germany, <sup>2</sup>Katholieke Universiteit Leuven, Leuven, Belgium, <sup>3</sup>Department of Cognitive Psychology II, Johann Wolfgang Goethe Universität, Frankfurt am Main, Germany
- 429 WTh Withdrawn**
- 430 WTh Cognitive control and the immediacy-bias in inter-temporal choice**  
*Jan Peters<sup>1</sup>, Christian Büchel<sup>1</sup>*  
<sup>1</sup>University Medical Center Hamburg-Eppendorf, Department of Systems Neuroscience, Hamburg, Germany
- 431 WTh Effects of framing on the evaluation of outcomes in the human brain**  
*zhang ping<sup>1</sup>, LI LI<sup>1</sup>, Rongjun Yu<sup>1</sup>*  
<sup>1</sup>South China Normal University, Guangzhou, China
- \*\*432 WTh Optimal Experimental Design for Economic Decision Making**  
*Kerstin Preuschoff<sup>1,2</sup>, Kay H. Brodersen<sup>3,4</sup>, Damian Karrer<sup>3</sup>, Alberto Busetto<sup>3</sup>, Tony Williams<sup>5</sup>, Wulfram Gerstner<sup>1</sup>*  
<sup>1</sup>Computational Neuroscience Lab, EPFL, Lausanne, Switzerland, <sup>2</sup>LREN Neuroimaging Research Lab, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland, <sup>3</sup>ETH Zurich, Zurich, Switzerland, <sup>4</sup>Translational Neuromodeling Unit (TNU), University of Zurich & ETH Zurich, Zurich, Switzerland, <sup>5</sup>Laboratory for Social and Neural Systems Research, Department of Economics, University of Zurich, Zurich, Switzerland
- 433 WTh The effect of positive and negative financial motivation on decision-making strategy**  
*Greg Reckless<sup>1,2</sup>, Ole Andreassen<sup>1,2</sup>, Jimmy Jensen<sup>3</sup>*  
<sup>1</sup>Department of Psychiatry, Oslo University Hospital, Oslo, Norway, <sup>2</sup>Department of Clinical Medicine, University of Oslo, Oslo, Norway, <sup>3</sup>Department of Psychiatry and Psychotherapy, Charité Universitätsmedizin, Berlin, Germany
- 434 WTh Neural Correlates of Risk Evaluation Reflect Risk Preferences**  
*Sarah Rudorf<sup>1</sup>, Kerstin Preuschoff<sup>2</sup>, Bernd Weber<sup>3</sup>*  
<sup>1</sup>Center for Economics and Neuroscience, University of Bonn, Bonn, Germany, <sup>2</sup>Social and Neural Systems Lab, Department of Economics, University of Zurich, Zurich, Switzerland, <sup>3</sup>Department of NeuroCognition Imaging, Life & Brain Center, University of Bonn, Bonn, Germany
- 435 WTh The feedback related negativity encodes expectancy violation but not outcome valence**  
*Sun Sai<sup>1</sup>, Rongjun Yu<sup>1</sup>*  
<sup>1</sup>South China Normal University, Guangzhou, China

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## HIGHER COGNITIVE FUNCTIONS

### Decision Making, continued

- 436 WTh Updating an action vs. updating an action prior**  
*Urs Schuffelgen<sup>1</sup>, Jill O'Reilly<sup>1</sup>, Rogier Mars<sup>1</sup>, Timothy Behrens<sup>1</sup>, Matthew Rushworth<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom
- 437 WTh Neurofunctional Imaging of Brand Evaluation Based on Brand Logos**  
*Fabian Simmank<sup>1</sup>, Evgeny Gutyrchik<sup>2</sup>, Thomas Meindl<sup>3</sup>, Maximilian Reiser<sup>3</sup>, Ernst Pöppel<sup>4</sup>, Kai Fehse<sup>5</sup>*  
<sup>1</sup>University of Vienna, Vienna, Austria, <sup>2</sup>Institute of Medical Psychology, Munich, Germany, <sup>3</sup>Ludwig Maximilians University Munich, Institute of Clinical Radiology, Munich, Germany, <sup>4</sup>Human Science Center, Munich, Germany, <sup>5</sup>Ludwig-Maximilians-University, Human Science Center, Munich, Germany
- 438 WTh Dissociable signals for evidence accumulation and action planning during perceptual decision-making**  
*Annalisa Tosoni<sup>1</sup>, Maurizio Corbetta<sup>2</sup>, Giorgia Committer<sup>3</sup>, Cinzia Calluso<sup>3</sup>, Gian Luca Romani<sup>4</sup>, Gaspare Galati<sup>5</sup>*  
<sup>1</sup>Department of Neuroscience and Imaging, University G.d'Annunzio, Chieti, Italy, <sup>2</sup>Dept. Neurology, Radiology, and Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO, <sup>3</sup>Department of Neuroscience e Imaging, University G. d'Annunzio, Chieti, Italy, <sup>4</sup>Department of Neuroscience and Imaging – G. D'Annunzio University, Chieti, Italy, <sup>5</sup>Department of Psychology, Sapienza University, Rome
- 439 WTh On resisting forbidden fruit: The neural correlates of self-control in food choice**  
*Laura Van Der Laan<sup>1</sup>, Denise de Ridder<sup>2</sup>, Max Viergever<sup>1</sup>, Paul Smeets<sup>1,3</sup>*  
<sup>1</sup>University Medical Center Utrecht, Utrecht, Netherlands, <sup>2</sup>Utrecht University, Utrecht, Netherlands, <sup>3</sup>Wageningen University, Utrecht, Netherlands
- 440 WTh The interaction of feedback and context on learning preferences**  
*John Wang<sup>1,2</sup>, Lusha Zhu<sup>1</sup>, Dharol Tankersley<sup>3</sup>, George Christopoulos<sup>4</sup>, BROOKS KING-CASAS<sup>1,2</sup>, Pearl Chiu<sup>1,2</sup>*  
<sup>1</sup>Virginia Tech Carilion Research Institute, Roanoke, VA, <sup>2</sup>Virginia Polytechnic Institute and State University, Blacksburg, VA, <sup>3</sup>Schipul Technologies, Houston, TX, <sup>4</sup>Nanyang Technological University, Singapore, Singapore
- 441 WTh Time course of moral judgment**  
*Yan Wang<sup>1</sup>, Song Li<sup>1</sup>, Yi-Yuan Tang<sup>1,2,3</sup>*  
<sup>1</sup>Dalian University of Technology, Dalian, China, <sup>2</sup>Texas Tech University, Lubbock, TX, <sup>3</sup>University of Oregon, Eugene, OR
- 442 WTh Withdrawn**
- 443 WTh An fNIRS evaluation of executive control during operative decision-making**  
*Gabriella Yongue<sup>1</sup>, Daniel Leff<sup>1,2</sup>, David James<sup>1,2</sup>, Felipe Orihuela-Espina<sup>1,2</sup>, Ivo Vlaev<sup>3</sup>, Ben Seymour<sup>3</sup>, Professor Ray Dolan<sup>3</sup>, Professor Thanos Athanasiou<sup>2</sup>, Professor Guang-Zhong Yang<sup>1</sup>, Professor Ara Darzi<sup>1</sup>*  
<sup>1</sup>Hamlyn Centre for Robotic Surgery, Imperial College London, United Kingdom, <sup>2</sup>Department of BioSurgery and Surgical Technology, United Kingdom, <sup>3</sup>Wellcome Trust Centre for Neuroimaging, University College London, United Kingdom
- 444 WTh Neural basis of risky propensity: sex matters**  
*Yuan Zhou<sup>1</sup>, Huandong Li<sup>2</sup>, Maohu Zhu<sup>2</sup>, Shu Li<sup>1</sup>, Chunshui Yu<sup>3</sup>, Tianzi Jiang<sup>2</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institute Of Automation, Chinese Academy Of Sciences, Beijing, China, <sup>3</sup>Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China

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## HIGHER COGNITIVE FUNCTIONS

### Executive Function

- 445 WTh Adding a short term memory task to a dual task: fMRI study of the neural mechanisms of multitasking**  
*sabine deprez<sup>1</sup>, Mathieu Vandenbulcke<sup>2</sup>, Ronald Peeters<sup>1</sup>, frederic amant<sup>3</sup>, stefan sunaert<sup>4</sup>*  
<sup>1</sup>Department of Radiology, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium, <sup>2</sup>Department of psychiatry, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium, <sup>3</sup>Multidisciplinary Breast Center, University Hospital Gasthuisberg, K.U. Leuven, Leuven, Belgium, <sup>4</sup>KUleuven, Leuven, Belgium
- 446 WTh Feedback Effect on Deception Detection: a functional MRI study**  
*Shanshan Dong<sup>1</sup>, Feiyan Chen<sup>1</sup>, Heshan Zhou<sup>2</sup>, Hongjian He<sup>3,1</sup>*  
<sup>1</sup>Bio-X Laboratory, Department of Physics, Zhejiang University, Hangzhou, China, <sup>2</sup>Hangzhou First People's Hospital, Hangzhou, China, <sup>3</sup>State Key Lab of Modern Optical Instrumentation, Zhejiang University, Hangzhou, China
- 447 WTh Functional brain maps of relevance to self-control in adolescence**  
*Dominic Dwyer<sup>1</sup>, Ben J Harrison<sup>1</sup>, Alex Fornito<sup>1</sup>, Murat Yücel<sup>1</sup>, Nicholas Allen<sup>2</sup>*  
<sup>1</sup>Melbourne Neuropsychiatry Centre, Department of Psychiatry, the University of Melbourne, Melbourne, Australia, <sup>2</sup>Department of Psychology, The University of Melbourne, Melbourne, Australia
- 448 WTh Large-scale functional brain networks supporting self-control in adolescence**  
*Dominic Dwyer<sup>1</sup>, Alex Fornito<sup>2</sup>, Ben J Harrison<sup>1</sup>, Nicholas Allen<sup>3</sup>, Murat Yücel<sup>4</sup>*  
<sup>1</sup>The University of Melbourne, Melbourne, Australia, <sup>2</sup>Melbourne Neuropsychiatry Centre, Melbourne, Australia, <sup>3</sup>Department of Psychology, The University of Melbourne, Melbourne, Australia, <sup>4</sup>Melbourne Neuropsychiatry Centre, Department of Psychiatry, the University of Melbourne, Melbourne, Australia
- 449 WTh Hippocampal-prefrontal Activity Changes in Young Adults during Learning of Novel Associations**  
*Zainab Fatima<sup>1</sup>, Maher Quraan<sup>2</sup>, Natasa Kovacevic<sup>3</sup>, Michael Cheung<sup>3</sup>, Sandra Moses<sup>4</sup>, Randy McIntosh<sup>3</sup>*  
<sup>1</sup>Rotman Research Institute, Baycrest Centre, Toronto, Canada, <sup>2</sup>Department of Neuropsychology, Krembil Neuroscience Centre & Toronto Western Research Institute, Toronto, Ontario, <sup>3</sup>Rotman Research Institute, Baycrest Centre, Toronto, Ontario, <sup>4</sup>3Departments of Diagnostic Imaging and Neurosciences & Mental Health, Hospital for Sick Children, Toronto, Ontario
- 450 WTh Losing control under alcohol: behavioral and neural correlates**  
*Gabriela Gan<sup>1</sup>, Maike Grabitz<sup>2</sup>, Michael Marxen<sup>1</sup>, Maximilian Pilhatsch<sup>2</sup>, Ulrich Zimmermann<sup>2</sup>, Eva Mennigen<sup>1</sup>, Michael Smolka<sup>1</sup>*  
<sup>1</sup>Technische Universität Dresden, Dresden, Germany, <sup>2</sup>Department of Psychiatry and Psychotherapy, University Hospital Dresden, Dresden, Germany
- \*451 WTh The Functional Neuroanatomic Bases of Bilingual Cognitive Control Advantages in Aging (O-W2)**  
*Brian Gold<sup>1,2,3</sup>, Nathan Johnson<sup>1</sup>, Sara Cilles<sup>1</sup>, Chobok Kim<sup>1</sup>*  
<sup>1</sup>Department of Anatomy and Neurobiology, University of Kentucky, Lexington, KY, USA, <sup>2</sup>Magnetic Resonance Imaging and Spectroscopy Center, University of Kentucky, Lexington, KY, USA, <sup>3</sup>Sanders-Brown Center on Aging, University of Kentucky, Lexington, KY, USA
- 452 WTh Identification of Cortical Thickness and Area Patterns Associated With Cognitive Processes**  
*Eva Janousova<sup>1,2</sup>, Lars Westlye<sup>3,4</sup>, Andrea Christoforou<sup>1,4</sup>, Astri Lundervold<sup>5,6</sup>, Ivar Reinvang<sup>3,4</sup>, Vidar Steen<sup>1,4</sup>, Thomas Espeseth<sup>4,7</sup>, Giovanni Montana<sup>8</sup>, Stephanie Le Hellard<sup>1,4</sup>*  
<sup>1</sup>Section for Medical Genetics and Molecular Medicine, Dept of Clinical Medicine, University of Bergen, Bergen, Norway, <sup>2</sup>Institute of Biostatistics and Analyses, Masaryk University, Brno, Czech Republic, <sup>3</sup>Center for the Study of Human Cognition, Department of Psychology, University of Oslo, Oslo, Norway, <sup>4</sup>Centre for Advanced Study, Oslo, Norway, <sup>5</sup>Department of Biological and Medical Psychology, University of Bergen, Bergen, Norway, <sup>6</sup>Kavli Research Centre for Aging and Dementia, Haraldsplass Deaconess Hospital, Bergen, Norway, <sup>7</sup>Division of Mental Health and Addiction, Oslo University Hospital, Oslo, Norway, <sup>8</sup>Department of Mathematics, Imperial College, London, United Kingdom
- 453 WTh Modulating effect of COMT genotype on the brain regions underlying proactive control process**  
*Mathieu Jaspar<sup>1</sup>, Julien Grandjean<sup>2</sup>, Eric Salmon<sup>3</sup>, Pierre Maquet<sup>4</sup>, Fabienne Collette<sup>5</sup>*  
<sup>1</sup>Cyclotron Research Centre and Cognitive and Behavioral Neuroscience Centre, University of Liège, Liège, Belgium, <sup>2</sup>Cyclotron Research Center and Cognitive and Behavioral Neuroscience Centre, University of Liège, Liège, Belgium, <sup>3</sup>Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>4</sup>Cyclotron Research Centre, University of Liège, Liège, Belgium, <sup>5</sup>Cyclotron Research Centre and Cognitive and Behavioral Neuroscience Centre, University of Liège, Liège, Belgium

## HIGHER COGNITIVE FUNCTIONS

### Executive Function, continued

- 454 WTh Language And Non-Language Hierarchy within The Prefrontal Cortex**  
*Hyeon-Ae Jeon<sup>1</sup>, Angela Friederici<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 455 WTh ERP correlates of feedback processing for deterministic and probabilistic outcomes**  
*Lydia Kogler<sup>1,2</sup>, Uta Sailer<sup>3</sup>, Daniela M. Pfabigan<sup>1</sup>*  
<sup>1</sup>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen, Aachen, Germany, <sup>3</sup>Department of Psychology, Faculty of Social Sciences, University of Gothenburg, Gothenburg, Sweden
- 456 WTh Neural Correlates of Conflict Control on Facial Expressions with A Flanker Paradigm**  
*Tongran Liu<sup>1</sup>, Tong Xiao<sup>2</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Natural Language Processing Laboratory, Northeastern University, Shenyang, China
- 457 WTh What are the factors driving the variability of verbal and spatial skills? A study in 434 subjects**  
*Emmanuel Melle<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Laurent Petit<sup>1</sup>, Laure Zago<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Gael Jobard<sup>1</sup>, Marc Joliot<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France
- 458 WTh Functional brain network activity is related to changes in stimulus valency**  
*Paul Metzack<sup>1</sup>, Todd Woodward<sup>1</sup>*  
<sup>1</sup>University of British Columbia, Vancouver, Canada
- 459 WTh Differential Functional Connectivity for Rule and Item Information in Working Memory**  
*Caroline Montojo<sup>1</sup>, Susan Courtney<sup>1</sup>*  
<sup>1</sup>Johns Hopkins University, Baltimore, United States
- 460 WTh How task-specific are the neural correlates of cognitive control?**  
*Paul Simon Muhle-Karbe<sup>1</sup>, Marcel Brass<sup>1</sup>, Wouter De Baene<sup>1</sup>*  
<sup>1</sup>Department of Experimental Psychology, Ghent University, Ghent, Belgium
- 461 WTh Separable effects of error, ambiguity, and reaction time in anterior cingulate and opercular regions**  
*Maital Neta<sup>1</sup>, Bradley Schlaggar<sup>1</sup>, Steven Petersen<sup>1</sup>*  
<sup>1</sup>Washington University, St. Louis, MO, United States
- 462 WTh Modulation of short intra-cortical inhibition during action reprogramming**  
*Franz-Xaver Neubert<sup>1</sup>, Rogier Mars<sup>1</sup>, Etienne Olivier<sup>2</sup>, Matthew Rushworth<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>Université Catholique de Louvain, Brussels, Belgium
- 463 WTh ERP correlates of performance monitoring in learned helplessness**  
*Daniela M. Pfabigan<sup>1</sup>, Nina Pintzinger<sup>2</sup>, Diana Siedek<sup>1</sup>, Claus Lamm<sup>1</sup>, Birgit Derntl<sup>2,3</sup>, Uta Sailer<sup>1,4</sup>*  
<sup>1</sup>Social, Cognitive and Affective Neuroscience Unit, Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>3</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany, <sup>4</sup>Department of Psychology, Faculty of Social Sciences, University of Gothenburg, Gothenburg, Sweden
- 464 WTh Selection and inhibition: two sides of voluntary action**  
*Charlotte Rae<sup>1</sup>, Laura Hughes<sup>1,2</sup>, Chelan Weaver<sup>1</sup>, Michael Anderson<sup>1</sup>, James Rowe<sup>1,2,3</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom, <sup>3</sup>Behavioural and Clinical Neuroscience Institute, University of Cambridge, Cambridge, United Kingdom
- 465 WTh Processing Speed and White Matter Association in Children Three Years Post Treatment for Brain Tumor**  
*Wilburn Reddick<sup>1</sup>, Shawna Palmer<sup>2</sup>, John Glass<sup>1</sup>, Ibrahim Qaddoum<sup>3</sup>, Gregory Armstrong<sup>4</sup>, Karen Wright<sup>3</sup>, Alberto Broniscer<sup>3</sup>, Robert Ogg<sup>1</sup>, Amar Gajjar<sup>3</sup>*  
<sup>1</sup>Department of Radiological Sciences, St. Jude Children's Research Hospital, Memphis, TN, <sup>2</sup>Department of Psychology, St. Jude Children's Research Hospital, Memphis, TN, <sup>3</sup>Department of Oncology, St. Jude Children's Research Hospital, Memphis, TN, <sup>4</sup>Department of Epidemiology and Cancer Control, St. Jude Children's Research Hospital, Memphis, TN

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## HIGHER COGNITIVE FUNCTIONS

### Executive Function, continued

- 466 WTh Connectivity between the left anterior lateral prefrontal cortex and other working memory regions**  
*Claudia Rottschy<sup>1</sup>, Angela Laird<sup>2</sup>, Peter Fox<sup>3</sup>, Simon Eickhoff<sup>4</sup>*  
<sup>1</sup>Department of Neurology, University Hospital Aachen, N/A, <sup>2</sup>University of Texas Health Science Center San Antonio, San Antonio, United States, <sup>3</sup>Research Imaging Institute, San Antonio, TX, <sup>4</sup>Research Center Jülich, Jülich, Germany
- 467 WTh Non-incentive differential outcomes enhance fronto-striatal coupling in instruction-based learning**  
*Hannes Ruge<sup>1</sup>, Uta Wolfensteller<sup>1</sup>*  
<sup>1</sup>Technische Universität Dresden, Dresden, Germany
- 468 WTh Reward-related activity in the VLPFC depends on individual differences in reward sensitivity**  
*Rosa Steimke<sup>1,2,3</sup>, Lena Paschke<sup>1</sup>, Vera Ludwig<sup>1,2,3</sup>, Robert Gaschler<sup>3,1</sup>, Henrik Walter<sup>1,2</sup>, Christine Stelzel<sup>1,2,3</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt-Universität zu Berlin, Berlin, Germany, <sup>3</sup>Department of Psychology, Humboldt-Universität zu Berlin, Berlin, Germany
- 469 WTh The Relationship between Node Centrality and Inhibition Performance: A Resting State fMRI Study**  
*Lixia Tian<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Beijing Jiaotong University, Beijing, China
- 470 WTh Distinct ERP profiles of stimulus-stimulus and stimulus-response compatibility effects**  
*Kai Wang<sup>1</sup>, Qi Li<sup>1</sup>, Xun Liu<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China
- 471 WTh Neural correlates of the Simon effect influenced by practice of incompatible location-relevant task**  
*Ling Wang<sup>1</sup>, Brendan Weekes<sup>1</sup>*  
<sup>1</sup>The University of Hong Kong, Hong Kong, China
- \*\*472 WTh Surprise and error: Common neuronal architecture for the processing of errors and novelty**  
*Jan R Wessel<sup>1,2</sup>, Claudia Danielmeier<sup>3</sup>, J Morton<sup>4</sup>, Markus Ullsperger<sup>3,2</sup>*  
<sup>1</sup>University of California, San Diego, La Jolla, United States, <sup>2</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>3</sup>Radboud University, Nijmegen, Netherlands, <sup>4</sup>University of Western Ontario, London, Canada
- 473 WTh Extensive Practice Improves Stroop Task Performance by Increasing Efficiency in Conflict Resolution**  
*Feng Xue<sup>1</sup>, Gui Xue<sup>1</sup>, Xuemei Lei<sup>1</sup>, Leilei Mei<sup>2</sup>, Chuansheng Chen<sup>3</sup>, Xiaolong Fan<sup>4</sup>, Zhong-lin Lu<sup>5</sup>, Qi Dong<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Department of Psychology and Social Behavior, University of California, Irvine, Irvine, CA, <sup>3</sup>Department of Psychology and Social Behavior, Irvine, United States, <sup>4</sup>Department of Physiology, Life Science College, Beijing Normal University, Beijing, China, <sup>5</sup>Centre for Cognitive Science, Ohio State University, Columbus, OH
- 474 WTh Neural time course of emotional conflict control: an ERP study**  
*Song Xue<sup>1</sup>*  
<sup>1</sup>Southwest University, Chongqing, China
- 475 WTh Modules of cognitive control network: A computational modeling approach**  
*Yan Zhu<sup>1,2</sup>, Chen Liang<sup>2</sup>, Hongbin Wang<sup>3</sup>, Xun Liu<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Soochow University, Suzhou, China, <sup>3</sup>University of Texas Health Science Center at Houston, Houston, TX

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## HIGHER COGNITIVE FUNCTIONS

### Imagery

- 476 WTh Brain motor functions after spinal cord injury: a MEG single-case study with a tetraplegic patient**  
*Franck Di Rienzo<sup>1</sup>, Aymeric GUILLOT<sup>2</sup>, Claude DELPUECH<sup>3</sup>, Sébastien DALIGAULT<sup>3</sup>, Gilles RODE<sup>4</sup>, Christian COLLET<sup>2</sup>*  
<sup>1</sup>University Claude Bernard Lyon 1, Villeurbanne, France, <sup>2</sup>1. University Claude Bernard Lyon 1 – EA 647 Mental processes and Motor Performance, Villeurbanne, France, <sup>3</sup>2. INSERM U821 Brain Dynamics and Cognition, Bron, France, <sup>4</sup>Hôpital Henri Gabrielle – Hôpital Neurologique, Saint-Genis Laval, France
- 477 WTh The Beauty Around Us: Neurofunctional Processing of the Different Environment Types**  
*Evgeny Gutyrchik<sup>1</sup>, Edmund Russell<sup>2</sup>, Lukasz Smigielski<sup>1</sup>, Janusch Blautzik<sup>3</sup>, Maximilian Reiser<sup>3</sup>, Ernst Pöppel<sup>1</sup>*  
<sup>1</sup>Human Science Center, LMU Munich, Munich, Germany, <sup>2</sup>University of Virginia, Charlottesville, VA, <sup>3</sup>Institute of Clinical Radiology, LMU Munich, Munich, Germany
- 478 WTh Common and dissociated neural activity for the different modalities of movement imagery**  
*dan Jiang<sup>1</sup>, Nichola Callow<sup>2</sup>, Martin Edwards<sup>3</sup>, Paul Mullins<sup>4</sup>*  
<sup>1</sup>Bangor University, Bangor(Gwynedd), United Kingdom, <sup>2</sup>Bangor University, Bangor, United Kingdom, <sup>3</sup>Université catholique de Louvain, Brussels, Belgium, <sup>4</sup>Bangor university, Bangor, United Kingdom
- 479 WTh Distinct cortex response to 3D verse 2D stimuli in mental rotation based on ALE meta-analysis**  
*Jingjing Ma<sup>1</sup>, Delong Zhang<sup>1</sup>, Yuanyuan Fan<sup>1</sup>, Xiaoling Peng<sup>1</sup>, Junjing Wang<sup>1</sup>, Xue Wen<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
<sup>1</sup>Center for the Study of Applied Psychology, Key Laboratory of Mental Health and Cognitive Science of Guangdong Province, South China Normal University, Guangzhou, China
- 480 WTh Eyedness and handedness interact on functional lateralization during hand identification**  
*Emmanuel Mellet<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>, Laurent Petit<sup>1</sup>, Laure Zago<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Gael Jobard<sup>1</sup>, Marc Joliot<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Bernard Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France

## HIGHER COGNITIVE FUNCTIONS

### Music

- 481 WTh Musical expertise shapes auditory cortex connectivity to emotion-linked areas during music listening**  
*Brigitte Bogert<sup>1</sup>, Elvira Brattico<sup>1</sup>*  
<sup>1</sup>Cognitive Brain Research Unit, Institute of Behavioral Sciences, University of Helsinki, Helsinki, Finland
- 482 WTh Music-Induced Dynamics: Musical training, MEG signal complexity, and auditory perception**  
*Sarah Carpentier<sup>1,2</sup>, Takako Fujioka<sup>1</sup>, Bernhard Ross<sup>2</sup>, Anthony McIntosh<sup>1</sup>*  
<sup>1</sup>Rotman Research Institute at Baycrest, Toronto, Canada, <sup>2</sup>University of Toronto, Toronto, Canada
- 483 WTh Verbal and Manual Reproduction of Rhythmic Sequences – an fMRI study with sparse temporal sampling**  
*Irene I.-T. Chiu<sup>1,2</sup>, Shu-Jen Kung<sup>1,2</sup>, Esther Y.-C Lin<sup>1,2</sup>, Wen-Jui Kuo<sup>1,2</sup>, Ovid J.-L. Tzeng<sup>2,3</sup>, Daisy Hung<sup>2,4</sup>, Denise H. Wu<sup>2,4</sup>*  
<sup>1</sup>Institute of Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>Laboratories for Cognitive Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei, <sup>3</sup>Academia Sinica, Taipei, Chinese Taipei, <sup>4</sup>Institute of Cognitive Neuroscience, National Central University, Jhongli City, Chinese Taipei
- 484 WTh NEURAL ACTIVITY RELATED TO DISCRIMINATION AND VOCAL PRODUCTION OF MUSICAL INTERVALS**  
*Nadia Gonzalez<sup>1</sup>, Martha González-Montiel<sup>2</sup>, Pilar Dies<sup>1</sup>, Pablo Rendón<sup>3</sup>*  
<sup>1</sup>Hospital Infantil de México, México, Mexico, <sup>2</sup>Universidad Nacional Autónoma de México, México, Mexico, <sup>3</sup>CCADET, Universidad Nacional Autónoma de México, México, Mexico
- 485 WTh Cortical plasticity differences in musicians depend on the nature of their training**  
*Jessica Grah<sup>1</sup>, Jonathan Peelle<sup>2</sup>*  
<sup>1</sup>University of Western Ontario, London, Canada, <sup>2</sup>University of Pennsylvania, Philadelphia, United States

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## HIGHER COGNITIVE FUNCTIONS

### Music, continued

- 486 WTh Resting State Functional Connectivity (RSFC) in Individuals with Excellent Pitch Identification Abil**  
*Hou Jiancheng<sup>1</sup>, Chen CHuansheng<sup>2</sup>, Li Jin<sup>3</sup>, Dong Qi<sup>4</sup>, He Qinghua<sup>5</sup>, Wang Yapeng<sup>3</sup>, He Yong<sup>3</sup>, Liu Yuyun<sup>3</sup>*  
<sup>1</sup>School of Brain and Cognitive Science, Beijing Normal University, Beijing City, China, <sup>2</sup>Psychology and Social Behavior, University of California, Irvine, United States, <sup>3</sup>School of Brain and Cognitive Science, Beijing Normal University, Beijing, China, <sup>4</sup>Resting State Functional Connectivity (RSFC) in Individuals with Excellent Pitch Identification Abil, Beijing, China, <sup>5</sup>Brain and Creativity Institute, University of Southern California, Los Angeles, CA
- 487 WTh Neural correlates of musical creativity and communication: an fMRI study of freestyle rap**  
*Siyuan Liu<sup>1</sup>, Ho Ming Chow<sup>1</sup>, Yisheng Xu<sup>1</sup>, Michael Erkkinen<sup>1</sup>, Katherine Swett<sup>1</sup>, Daniel Rizik-Baer<sup>2</sup>, Michael Eagle<sup>2</sup>, Allen Braun<sup>1</sup>*  
<sup>1</sup>National Institutes of Health, Bethesda, United States, <sup>2</sup>Justice by Uniting Creative Energy, Los Angeles, United States
- 488 WTh Music training induced changes in functional connectivity density**  
*Cheng Luo<sup>1</sup>, Li Dong<sup>1</sup>, Shipeng Tu<sup>1</sup>, Yongxiu Lai<sup>1</sup>, dezhong yao<sup>1</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of MOE, School of Life Science and Technology, UESTC, ChengDu, China
- 489 WTh Listen to the Rhythm of Brain: Electroencephalogram Gamma Band Activity During Key Shift Perception**  
*weiyi Ma<sup>1</sup>, Yongxiu Lai<sup>2</sup>, Xiaojing Zheng<sup>2</sup>, Dezhong Yao<sup>2</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of Ministry of Education, School of Life Science and Technology, ChengDu, China, <sup>2</sup>Key Laboratory for NeuroInformation of Ministry of Education, School of Life Science and Technology, Chengdu, Sichuan
- \*\*490 WTh Hippocampus size predicts fluid intelligence in musically trained people**  
*Mathias Oechslin<sup>1</sup>, Céline Descloux<sup>2</sup>, Alexandre Croquelois<sup>3</sup>, Julien Chanalet<sup>4</sup>, Dimitri Van De Ville<sup>5</sup>, François Lazeyras<sup>6</sup>, Claude-Alain Hauert<sup>4</sup>, Clara James<sup>1</sup>*  
<sup>1</sup>Geneva Neuroscience Center, FPSE, Geneva, Switzerland, <sup>2</sup>Medical University of Lausanne, Lausanne, Switzerland, <sup>3</sup>Department of Cell Biology and Morphology, University of Lausanne, Lausanne, Switzerland, <sup>4</sup>FPSE, University of Geneva, Geneva, Switzerland, <sup>5</sup>UniGE/EPFL, Lausanne, Switzerland, <sup>6</sup>Department of Radiology & CIBM, University of Geneva, Geneva, Switzerland

- 491 WTh Expectation violation from single-trial EEG decoding: Differences between expert and novice cellists**  
*Jason Sherwin<sup>1,2</sup>, Paul Sajda<sup>1</sup>*  
<sup>1</sup>Columbia University, New York, United States, <sup>2</sup>U.S. Army Research Laboratory, Aberdeen, United States

## HIGHER COGNITIVE FUNCTIONS

### Reasoning and Problem Solving

- 492 WTh Intelligence modulates default network activity during working memory performance**  
*Ulrike Basten<sup>1</sup>, Christine Stelzel<sup>2</sup>, Christian Fiebach<sup>1</sup>*  
<sup>1</sup>University of Frankfurt, Frankfurt am Main, Germany, <sup>2</sup>Charité Universitaetsmedizin, Berlin, Germany
- 493 WTh Brain topography and dynamics associated with cognitive reasoning during the Wason Selection Task**  
*Luca Cocchi<sup>1</sup>, Graeme Halford<sup>2</sup>, Ian Harding<sup>3</sup>, Tim Cutmore<sup>4</sup>, Brentyn Ramm<sup>4</sup>, David Shum<sup>4</sup>, Jason Mattingley<sup>1</sup>*  
<sup>1</sup>Queensland Brain Institute, The University of Queensland, Brisbane, Australia, <sup>2</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>3</sup>Melbourne Neuropsychiatry Centre, University of Melbourne, Melbourne, Australia, <sup>4</sup>School of Psychology, Griffith University, Brisbane, Australia
- 494 WTh Brain mechanisms of error detection during arithmetic verification**  
*Roland H. Grabner<sup>1</sup>, Daniel Ansari<sup>2</sup>, Gernot Reishofer<sup>3</sup>, Karl Koschutnig<sup>4</sup>, Franz Ebner<sup>3</sup>*  
<sup>1</sup>Swiss Federal Institute of Technology (ETH) Zurich, Zurich, Switzerland, <sup>2</sup>University of Western Ontario, London, Canada, <sup>3</sup>Medical University of Graz, Graz, Austria, <sup>4</sup>University of Graz, Graz, Austria
- 495 WTh Structural brain network of general fluid type intelligence in 101 healthy elderly subjects**  
*Judit Haasz<sup>1</sup>, Erling Westlye<sup>1</sup>, Thomas Espeseth<sup>2</sup>, Arvid Lundervold<sup>1</sup>, Astri Lundervold<sup>1</sup>*  
<sup>1</sup>University of Bergen, Bergen, Norway, <sup>2</sup>Centre for Advanced Study, Oslo, Norway

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## HIGHER COGNITIVE FUNCTIONS

### Reasoning and Problem Solving, continued

- \*496 WTh Is it time to say goodbye to the general intelligence factor 'g'? (O-W2)**  
*Adam Hampshire<sup>1</sup>, Roger Highfield<sup>2</sup>, Beth Parkin<sup>3</sup>, Adrian M Owen<sup>4</sup>*  
<sup>1</sup>University of Western Ontario, London, Canada, <sup>2</sup>New Scientist, London, United Kingdom, <sup>3</sup>MRC-CBU, Cambridge, United Kingdom, <sup>4</sup>University of Western Ontario, London, Ontario
- 497 WTh Right precentral gyrus and cognitive reappraisal in Chinese middle-aged men**  
*Mei-kei Leung<sup>1</sup>, Tatia Lee<sup>1</sup>*  
<sup>1</sup>The University of Hong Kong, Hong Kong, China
- 498 WTh Mental Rotation Strategies used by Males/Females and Physical/Social Science Majors: An EEG Study**  
*Yingli Li<sup>1</sup>, Michael OBoyle<sup>2</sup>*  
<sup>1</sup>Suzhou University, Suzhou, China, <sup>2</sup>Texas Tech University, Lubbock, Texas, United States
- 499 WTh The Effects of Task Difficulty on Hemispheric EEG Power upon Performing Mathematic Games**  
*Chun-Ling Lin<sup>1,2</sup>, Melody Jung<sup>1,3</sup>, Ying Choon Wu<sup>1</sup>, Chin-Teng Lin<sup>1,2</sup>, Hsiao-Ching She<sup>1,4</sup>*  
<sup>1</sup>Institute for Neural Computation, University of California, San Diego, CA, USA, <sup>2</sup>Department of Electrical and Control Engineering, National Chiao-Tung University, Hsinchu, <sup>3</sup>Canyon Crest Academy, San Diego, CA, USA, <sup>4</sup>Institute of Education, National Chiao-Tung University, Hsinchu
- 500 WTh On the functional neuroanatomy of contradictory judgments: an EEG + fMRI study**  
*Maria Medaglia<sup>1,2</sup>, Pia Rotshtein<sup>3</sup>, Franca Tecchio<sup>4</sup>, Camillo Porcaro<sup>1,5</sup>*  
<sup>1</sup>Institute of Neuroscience, Newcastle University, Medical School, Newcastle upon Tyne, United Kingdom, <sup>2</sup>Philosophy Department, Facoltà di Lettere e Filosofia, University 'Roma Tre', Rome, Italy, <sup>3</sup>University of Birmingham, Birmingham, United Kingdom, <sup>4</sup>LET'S ISTC-CNR, Ospedale Fatebenefratelli, Isola Tiberina, Rome, Italy, <sup>5</sup>LET'S - ISTC-CNR, Ospedale Fatebenefratelli, Isola Tiberina, Rome, Italy, Italy
- 501 WTh Modulation of the frontoparietal reasoning network by task complexity and performance**  
*Isabelle Simard<sup>1</sup>, Isabelle Soulières<sup>2</sup>, Tom Zeffiro<sup>3</sup>*  
<sup>1</sup>Université de Montréal, Montréal, Canada, <sup>2</sup>University of Quebec in Montreal, Montréal, Québec, <sup>3</sup>Neural Systems Group, Boston, MA

- 502 WTh Neural networks of complex mental calculation: How do addition and multiplication differ?**  
*Nadja Tschentscher<sup>1</sup>, Olaf Hauk<sup>1</sup>*  
<sup>1</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom
- 503 WTh The Metacognitive Functional Role of Human Lateral Frontopolar Cortex in Problem Solving**  
*Xiaohong Wan<sup>1</sup>, Takeshi Asamizuya<sup>1</sup>, Chisato Suzuki<sup>1</sup>, Hironori Nakatani<sup>1</sup>, Kenichi Ueno<sup>1</sup>, Kang Cheng<sup>1</sup>, Keiji Tanaka<sup>1</sup>*  
<sup>1</sup>RIKEN Brain Science Institute, Wako, Japan
- 504 WTh Neural Correlates of the Visual-Verbal Cognitive Style in Solving Word Problems**  
*Sabrina Zarnhofer<sup>1</sup>, Verena Braunstein<sup>1</sup>, Franz Ebner<sup>2</sup>, Karl Koschutnig<sup>2</sup>, Gernot Reishofer<sup>2</sup>, Christa Neuper<sup>1</sup>, Anja Ischebeck<sup>1</sup>*  
<sup>1</sup>Karl Franzens University, Graz, Austria, <sup>2</sup>Medical University, Graz, Austria
- 505 WTh The neuromechanism underlying verbal analogical reasoning: Evidence from an ERP study**  
*Ming Zhao<sup>1,2</sup>, Tao Liu<sup>3</sup>, Yongxin Li<sup>2</sup>, Fenglei Du<sup>2</sup>, Feiyan Chen<sup>2</sup>*  
<sup>1</sup>Center for the Study of Language and Cognition, Zhejiang University, Hangzhou, China, <sup>2</sup>Bio-X Laboratory, Department of Physics, Zhejiang University, Hangzhou, China, <sup>3</sup>Jiangsu Key Laboratory of Language and Cognitive Neuroscience, Xuzhou Normal University, Xuzhou, China

## HIGHER COGNITIVE FUNCTIONS

### Space, Time and Number Coding

- 506 WTh Differential Contribution of Velocity and Distance to Collision: Behavioural and Neural Evidence**  
*Qi Chen<sup>1</sup>, You Li<sup>1</sup>*  
<sup>1</sup>South China Normal University, Guangzhou, China
- 507 WTh Geons: 4D dynamics in neural correlates of rudimentary shapes between "round" and "square"**  
*Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 508 WTh Common Neural Substrates of Reading and Arithmetic**  
*Tanya Evans<sup>1</sup>, Erin Ingala<sup>1</sup>, D. Lynn Flowers<sup>1</sup>, Guinevere Eden<sup>1</sup>*  
<sup>1</sup>Georgetown University - CSL, Washington, DC

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## HIGHER COGNITIVE FUNCTIONS

### Space, Time and Number Coding, continued

- 509 WTh Lateralization of attention and procedural memory engagement in number processing in the human brain**  
*Małgorzata Gut<sup>1</sup>, Marek Binder<sup>2</sup>, Wojciech Szeszkowski<sup>3</sup>, Robert Winiarski<sup>3</sup>*  
<sup>1</sup>University of Finance and Management, Warszawa, Poland, <sup>2</sup>Institute of Psychology, Jagiellonian University, Krakow, Poland, <sup>3</sup>2nd Department of Clinical Radiology MRI Laboratory, Medical University of Warsaw, Warszawa, Poland
- 510 WTh What is counted: numerosity perception based on objects defined by topological attributes**  
*Lixia He<sup>1</sup>, Lin Chen<sup>1</sup>, Tiangang Zhou<sup>1</sup>*  
<sup>1</sup>Institute of Biophysics, Beijing, China
- 511 WTh Hippocampus and cerebellum ensure place and route representations together**  
*Kinga Igloi<sup>1</sup>, Christian Doeller<sup>2</sup>, Karim Benchenane<sup>3</sup>, Alain Berthoz<sup>4</sup>, Neil Burgess<sup>2</sup>, Laure Rondi-Reig<sup>3</sup>*  
<sup>1</sup>University of Geneva, Geneva, Switzerland, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>Université Pierre et Marie Curie, Paris, France, <sup>4</sup>College de France, Paris, France
- 512 WTh Non-symbolic numerical distance effect in children with and without developmental dyscalculia**  
*Karin Kucian<sup>1,2</sup>, Thomas Loenneker<sup>1</sup>, Ernst Martin<sup>1,2,3</sup>, Michael von Aster<sup>1,2,4</sup>*  
<sup>1</sup>Center for MR-Research, University Children's Hospital, Zurich, Switzerland, <sup>2</sup>Children's Research Center, University Children's Hospital, Zurich, Switzerland, <sup>3</sup>Center for Integrative Human Physiology, University of Zurich, Zurich, Switzerland, <sup>4</sup>Department of Child and Adolescent Psychiatry, German Red-Cross-Hospitals Westend, Berlin, Germany
- 513 WTh Training in Children with Developmental Dyscalculia**  
*Karin Kucian<sup>1,2</sup>, Ursina Grond<sup>1,2</sup>, Stephanie Rotzer<sup>1,3</sup>, Barbara Henzi<sup>1</sup>, Claudia Schönmann<sup>1</sup>, Fabienne Plangger<sup>1</sup>, Markus Gälli<sup>4</sup>, Ernst Martin<sup>1,2,5</sup>, Michael von Aster<sup>1,2,6</sup>*  
<sup>1</sup>Center for MR-Research, University Children's Hospital, Zurich, Switzerland, <sup>2</sup>Children's Research Center, University Children's Hospital, Zurich, Switzerland, <sup>3</sup>Division of Neuropsychology, University of Zurich, Zurich, Switzerland, <sup>4</sup>Methods in Action GmbH, Wollerau, Switzerland, <sup>5</sup>Center for Integrative Human Physiology, University of Zurich, Zurich, Switzerland, <sup>6</sup>Department of Child and Adolescent Psychiatry, German Red-Cross-Hospitals Westend, Zurich, Switzerland
- 514 WTh Diffusion Tensor Imaging in Children with Developmental Dyscalculia**  
*Karin Kucian<sup>1,2</sup>, Simone Schwizer Ashkenazi<sup>1,3</sup>, Jürgen Hänggi<sup>3</sup>, Stephanie Rotzer<sup>1,3</sup>, Lutz Jänke<sup>3</sup>, Ruth O'Gorman<sup>1,2,4</sup>, Ernst Martin<sup>1,2,4</sup>, Michael von Aster<sup>1,2,5</sup>*  
<sup>1</sup>Center for MR-Research, University Children's Hospital, Zurich, Switzerland, <sup>2</sup>Children's Research Center, University Children's Hospital, Zurich, Switzerland, <sup>3</sup>Division of Neuropsychology, University of Zurich, Zurich, Switzerland, <sup>4</sup>Center for Integrative Human Physiology, University of Zurich, Zurich, Switzerland, <sup>5</sup>Department of Child and Adolescent Psychiatry, German Red-Cross-Hospitals, Zurich, Switzerland
- 515 WTh Comparison of auditory top-down spatial and temporal attention: an fMRI study**  
*Chunlin Li<sup>1</sup>, Kewei Chen<sup>2</sup>, Dehua Chui<sup>3</sup>, Hongbin Han<sup>4</sup>, Jinglong Wu<sup>5</sup>*  
<sup>1</sup>Okayama University, Okayama, Japan, <sup>2</sup>Banner Good Samaritan PET Center, Phoenix, AZ, <sup>3</sup>Neuroscience Research Institute/Third Hospital of Peking University, Beijing, China, <sup>4</sup>Peking University Third Hospital, Beijing, China, <sup>5</sup>Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan
- 516 WTh Encoding and retrieval of object-related spatial cues during navigation: an fMRI study**  
*Joost Wegman<sup>1</sup>, Anna Tyborowska<sup>2</sup>, Gabriele Janzen<sup>1</sup>*  
<sup>1</sup>Behavioural Science Institute, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands
- 517 WTh Numerical processing in visual and auditory modalities in the Asperger brain**  
*Yang Zhang<sup>1</sup>, Tess Koerner<sup>1</sup>, Meri Blumenkron<sup>2</sup>, Philip Burton<sup>1</sup>*  
<sup>1</sup>University of Minnesota, Minneapolis, MN, USA, <sup>2</sup>Berlin School of Mind and Brain, Berlin, Germany

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## IMAGING METHODS

### Anatomical MRI

- 518 WTh Effects of distortion and inhomogeneity correction on brain morphometry with 3T MRI using SIENA**  
*Osamu Abe<sup>1</sup>, Shigeki Aoki<sup>2</sup>, Masami Goto<sup>3</sup>, Kiyoto Kasai<sup>4</sup>, Takashi Shizukuishi<sup>1</sup>, Hidemasa Takao<sup>4</sup>, Haruyasu Yamada<sup>4</sup>, Hidenori Yamasue<sup>4</sup>*  
<sup>1</sup>Nihon University School of Medicine, Tokyo, Japan, <sup>2</sup>Juntendo University, Tokyo, Japan, <sup>3</sup>University of Tokyo Hospital, Tokyo, Japan, <sup>4</sup>University of Tokyo, Tokyo, Japan
- 519 WTh Morphological Differences in Chinese, Malay and Indian Neonatal Brains**  
*Jordan Bai<sup>1</sup>, Anne Rifkin-Grabo<sup>2</sup>, Marielle Fortier<sup>3</sup>, Michael Meaney<sup>2,4</sup>, anqi qiu<sup>1,5,2</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>2</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore, <sup>3</sup>Radiology Department, KK Women's and Children's Hospital, Singapore, Singapore, <sup>4</sup>Departments of Psychiatry and Neurology & Neurosurgery, McGill University, Montreal, Canada, <sup>5</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore
- 520 WTh Tissue thickness and central surface estimation using a projection scheme**  
*Robert Dahnke<sup>1</sup>, Christian Gaser<sup>1</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Department of Psychiatry, University of Jena, Jena, Germany
- 521 WTh Local adaptive segmentation**  
*Robert Dahnke<sup>1</sup>, Gabriel Ziegler<sup>1</sup>, Christian Gaser<sup>1</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Department of Psychiatry, University of Jena, Jena, Germany
- 522 WTh Comparison of Cerebral Volumes derived from T1 MR Images acquired with 8 and 32 channel head coils**  
*François De Guio<sup>1,2</sup>, Aurélien Monnet<sup>3</sup>, Nicolas Vibet<sup>1,4</sup>, Chabha Azouani<sup>1,4</sup>, christine delmaire<sup>3</sup>, Marie CHUPIN<sup>1,4</sup>*  
<sup>1</sup>CATI, multicentre neuroimaging platform, Paris, France, <sup>2</sup>LNAO, NeuroSpin, CEA, Gif-sur-Yvette, France, <sup>3</sup>Department of Neuroradiology, AP-HP, Lille, France, <sup>4</sup>CRICM, UPMC UMR\_S975, INSERM U975, CNRS UMR7225, ICM, Paris, France
- 523 WTh Fast Quantitative Susceptibility Mapping using Spiral Trajectories**  
*Weiran Deng<sup>1</sup>, Benedikt Poser<sup>2</sup>, V Andrew Stenger<sup>1</sup>*  
<sup>1</sup>University of Hawaii, Honolulu, HI, <sup>2</sup>University of Hawaii, Honolulu, United States
- 524 WTh Multi-Site Voxel-Based Morphometry – Quantitative Multi-Parameter Mapping Can Provide A Solution**  
*Chloe Hutton<sup>1</sup>, Antoine Lutti<sup>1</sup>, Christian Lambert<sup>1</sup>, Thomas Fitzgerald<sup>1</sup>, Steve Fleming<sup>2</sup>, Rumana Chowdhury<sup>1</sup>, John Ashburner<sup>1</sup>, Nikolaus Weiskopf<sup>1</sup>*  
<sup>1</sup>Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, UCL, London, United Kingdom, <sup>2</sup>The Center for Neural Science at NYU, New York, NY
- 525 WTh Hemispherically-unified Projection Map of Human Cortical Surface**  
*Xiaojian Kang<sup>1</sup>, Timothy Herron<sup>2</sup>, David Woods<sup>3</sup>*  
<sup>1</sup>University of California at Davis, Martinez, United States, <sup>2</sup>Human Cognitive Neurophysiology Lab, VA-NCHCS, Martinez, CA, <sup>3</sup>University of California at Davis, Martinez, CA
- 526 WTh Structural compensation following unilateral vestibular neuritis - longitudinal VBM study**  
*JaHee Kim<sup>1</sup>, Sung-Kwang Hong<sup>1</sup>, Hyo-Jeong Lee<sup>1</sup>*  
<sup>1</sup>Department of Otolaryngology, Hallym University College of Medicine, Anyang, Korea, Republic of
- 527 WTh Individual differences in temperament traits reflect gray matter volume alteration**  
*Sunghyon Kyeong<sup>1,2,3</sup>, Won Sup Kim<sup>1</sup>, Dong-Uk Hwang<sup>1</sup>, Hae-Jeong Park<sup>4,5</sup>*  
<sup>1</sup>Division of Computational Sciences in Mathematics, National Institute for Mathematical Sciences, Daejeon, Republic of Korea, <sup>2</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Republic of Korea, <sup>3</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Republic of Korea, <sup>4</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Republic of Korea, <sup>5</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Republic of Korea, Seoul, Republic of Korea
- 528 WTh Patch structure in white matter detected by T2\*-weighted microscopic MRI**  
*tieqiang Li<sup>1</sup>, Guochun Fu<sup>2</sup>, S. Dodd<sup>3</sup>, M. Fukunaga<sup>3</sup>, K. Shmueli<sup>3</sup>, Jeff Duyn<sup>3</sup>*  
<sup>1</sup>Kaorlinska Institute, Stockholm, Sweden, <sup>2</sup>Karolinska Institute, Stockholm, Sweden, <sup>3</sup>National Institute of Neurological Disorders and Stroke, Bethesda, United States

## IMAGING METHODS

### Anatomical MRI, continued

- 529 WTh A novel approach to generate a B0 orientation dependent R2\* map: a potential biomarker for myelin**  
*Se-Hong Oh<sup>1</sup>, Sung-Yeon Park<sup>2</sup>, Young-Bo Kim<sup>2</sup>, Zang-Hee Cho<sup>2</sup>, John Detre<sup>3</sup>, Jongho Lee<sup>3</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, PA, <sup>2</sup>Gachon University, Incheon, Korea, Republic of, <sup>3</sup>University of Pennsylvania, Philadelphia, United States
- 530 WTh The role of VBM in the detection of temporopolar dysplasia in patients with mesial temporal epilepsy**  
*Martin Pail<sup>1,2</sup>, Radek Marek<sup>1</sup>, Markéta Hermanová<sup>3</sup>, Ivana Tyrliková<sup>2</sup>, Robert Kuba<sup>1,2</sup>, Milan Brázdil<sup>1,2</sup>*  
<sup>1</sup>Behavioral and Social Neuroscience Research Group, CEITEC-Central European Institute of Technology, Masaryk University, Brno, Czech Republic, <sup>2</sup>Brno Epilepsy Center, Department of Neurology, St. Anne's University Hospital and Faculty of Medicine, Masaryk University, Brno, Czech Republic, <sup>3</sup>Brno Epilepsy Center, First Department of Pathological Anatomy, St. Anne's University Hospital and Faculty of Medicine, Masaryk University, Brno, Czech Republic
- 531 WTh Evidence of Possible Matter Shift in Human Brain due to Neurodegeneration**  
*Pradeep Reddy Raamana<sup>1</sup>, Lei Wang<sup>2</sup>, Mirza Beg<sup>1</sup>*  
<sup>1</sup>Simon Fraser University, Burnaby, Canada, <sup>2</sup>Northwestern University, Chicago, IL
- 532 WTh A Longitudinal Structural Neuroimaging Study of Birth Weight Variation in Human Twins and Singletons**  
*Armin Raznahan<sup>1</sup>, Dede Greenstein<sup>2</sup>, Francois Lalonde<sup>2</sup>, Nancy Lee<sup>2</sup>, Jay Giedd<sup>1</sup>*  
<sup>1</sup>NIMH, Bethesda, United States, <sup>2</sup>NIMH, Bethesda, MD
- 533 WTh Focal cortical thinning following subcortical infarcts in humans**  
*Ruthger Righart<sup>1,2</sup>, Marco Duering<sup>1</sup>, Endy Csanadi<sup>1,3</sup>, Eric Jouvent<sup>4</sup>, Dominique Hervé<sup>4</sup>, Hugues Chabriat<sup>4</sup>, Martin Dichgans<sup>1,2</sup>*  
<sup>1</sup>Institute for Stroke and Dementia, Munich, Germany, <sup>2</sup>German Center for Neurodegenerative Diseases (DZNE), Munich, Germany, <sup>3</sup>Ludwig-Maximilians-University, Munich, Germany, <sup>4</sup>CHU Lariboisière, Assistance Publique des Hôpitaux de Paris, Paris, France
- \*534 WTh Human cortical layers detected with high resolution diffusion MRI at 9.4T (O-Th2)**  
*Alard Roebroeck<sup>1</sup>, Anca Oros-Peusquens<sup>2</sup>, Daniel Brenner<sup>2</sup>, Klaus Moellenhoff<sup>2</sup>, Avdo Celik<sup>2</sup>, Joerg Felder<sup>2</sup>, A Matusch<sup>2</sup>, Ralf Galuske<sup>3</sup>, Hans-Juergen Bratzke<sup>4</sup>, Nadim Shah<sup>2</sup>*  
<sup>1</sup>Dept. of Cognitive Neuroscience, Faculty of Psychology and Neuroscience, Maastricht University, Maastricht, Netherlands, <sup>2</sup>Institute of Neuroscience and Medicine (INM-4), Research Centre Jülich, Juelich, Germany, <sup>3</sup>Dept. of Biology, TU Darmstadt, Darmstadt, Germany, <sup>4</sup>Dept. of Forensic Medicine, Faculty of Medicine, JWG-University, Frankfurt/M, Frankfurt, Germany
- 535 WTh Validation of an embedded optical tracking system with interleaved motion-correction**  
*Jessica Schulz<sup>1</sup>, Thomas Siegel<sup>1</sup>, Christian Labadie<sup>1</sup>, Enrico Reimer<sup>1</sup>, Maxim Zaitsev<sup>2</sup>, Julian Maclaren<sup>3</sup>, Michael Herbst<sup>2</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Medical Physics, Dept. of Radiology, University Medical Center Freiburg, Freiburg, Germany, <sup>3</sup>Dept. of Radiology, Stanford University, Stanford, CA, USA
- 536 WTh Effects of Mild Motion Artifact on Cortical Measures from Structural MRI**  
*Michael Stockman<sup>1</sup>, Aaron Alexander-Bloch<sup>2</sup>, Armin Raznahan<sup>2</sup>, Jay Giedd<sup>3</sup>*  
<sup>1</sup>NIH, Bethesda, United States, <sup>2</sup>NIH, Bethesda, MD, <sup>3</sup>NIMH, Bethesda, United States
- 537 WTh Grey matter volume changes associated with the affective and cognitive components of alexithymia**  
*Jorien van der Velde<sup>1</sup>, Katharina Goerlich<sup>1,2</sup>, Marie-Jose van Tol<sup>3,4</sup>, Marte Swart<sup>1,5</sup>, Richard Bruggeman<sup>6</sup>, A. Aleman<sup>7</sup>*  
<sup>1</sup>Neuroimaging Center UMCG, Groningen, Netherlands, <sup>2</sup>Department of Neurology, Christian-Albrechts University, Kiel, Germany, <sup>3</sup>University Medical Center Groningen, Groningen, Netherlands, <sup>4</sup>Clinical Affective NeuroImaging Laboratory, Otto-von-Guericke University of Magdeburg, Magdeburg, Germany, <sup>5</sup>Lentis, Center for Mental Healthcare, Groningen, Netherlands, <sup>6</sup>Department of Neuroscience and Psychiatry UMCG, Groningen, Netherlands, <sup>7</sup>NeuroImaging Center, Groningen, Netherlands

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- 538 WTh Evaluation of MR Bias Field Correction Algorithms**  
*Jinghua Wang<sup>1</sup>, Lili He<sup>2</sup>, Xin Liu<sup>3</sup>, Zhong-lin Lu<sup>4</sup>*  
<sup>1</sup>Center for Cognitive and Behavioral Brain Imaging, The Ohio State University, Columbus, United States, <sup>2</sup>Center for Perinatal Research, Nationwide Children's Hospital, Columbus, OH, <sup>3</sup>Paul C. Lauterbur Research Center for Biomedical Imaging, Shenzhen Institutes of Advanced Technology, Shenzhen, China, <sup>4</sup>Centre for Cognitive Science, Ohio State University, Columbus, OH
- 539 WTh Effect of flip angle variations on MP2RAGE data quality at ultra-high magnetic field**  
*Christian Windischberger<sup>1,2</sup>, Jacqueline Atanelov<sup>3,2</sup>, Ronald Sladky<sup>4,2</sup>, Jasmin Tröstl<sup>5,2</sup>, Ewald Moser<sup>6,1</sup>*  
<sup>1</sup>MR Center, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Centre for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>3</sup>MR Center of Excellence, Vienna, Austria, <sup>4</sup>MR Centre Of Excellence, Medical University Of Vienna, Austria, <sup>5</sup>MR Centre Of Excellence, Medical University Of Vienna, Vienna, Austria, <sup>6</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria
- 540 WTh Studying Cortical Facewise Area and other Areal Quantities**  
*Anderson Winkler<sup>1</sup>, Mert Sabuncu<sup>2</sup>, B. T. Yeo<sup>3</sup>, Bruce Fischl<sup>4</sup>, Douglas Greve<sup>5</sup>, Peter Kochunov<sup>6</sup>, Thomas Nichols<sup>7</sup>, John Blangero<sup>8</sup>, David Glahn<sup>1</sup>*  
<sup>1</sup>Yale University School of Medicine, New Haven, United States, <sup>2</sup>Massachusetts Institute of Technology, Cambridge, MA, <sup>3</sup>Duke-NUS Graduate Medical School, Singapore, Singapore, <sup>4</sup>Massachusetts General Hospital, Boston, MA, <sup>5</sup>MGH, Boston, MA, <sup>6</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>7</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom, <sup>8</sup>Texas Biomedical Research Institute, San Antonio, United States
- 541 WTh Robust Sensitivity Estimation for SENSE Imaging Using Global Fitting Method**  
*ma yajun<sup>1</sup>, Wentao Liu<sup>1</sup>, Xin Tang<sup>1</sup>, Jia-Hong Gao<sup>1,2</sup>*  
<sup>1</sup>Beijing City Key Lab for Medical Physics and Engineering, School of Physics, Peking University, Beijing, China, <sup>2</sup>University of Chicago, Chicago, IL
- 542 WTh Increased Grey Matter and White Matter Density in the Social Brain of Shy Adults: A Voxel-Based Morphometry Study**  
*Xun Yang<sup>1</sup>, Qizhu Wu<sup>2</sup>, xiaoqi huang<sup>3</sup>, Sunima Lama<sup>4</sup>, Lihua Qiu<sup>2</sup>, Bochao Chen<sup>5</sup>, Xiaoxiao Le<sup>6</sup>, Keith Kendrick<sup>7</sup>, Qiyong Gong<sup>8</sup>*  
<sup>1</sup>Huaxi MR Research Center, Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>West China Hospital of Sichuan University, Chengdu, China, <sup>3</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, sichuan, <sup>4</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>5</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>6</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>7</sup>University of Pittsburgh, Pennsylvania, United States, <sup>8</sup>Key Laboratory for Neuroinformation, School of Life Science and Technology, University of Electronic Science and Technology, Chengdu, China, <sup>9</sup>Huaxi Magnetic Resonance Research Center, West China Hospital, Sichuan University, Chengdu, China
- 543 WTh Brain structural adaptation to High-Altitude**  
*Jiaying Zhang<sup>1</sup>, Haiyan Zhang<sup>1</sup>, Shuhong Liu<sup>2</sup>, Qiyong Gong<sup>3</sup>, ming fan<sup>4</sup>*  
<sup>1</sup>Department of Physiology and Neurobiology, Medical College of Xiamen University, Xiamen, China, <sup>2</sup>Department of Brain Protection and Plasticity, Institute of Basic Medical Sciences, Beijing, China, <sup>3</sup>Huaxi Magnetic Resonance Research Center, West China Hospital, Sichuan University, Chengdu, China, <sup>4</sup>Department of Brain Protection and Plasticity, Institute of Basic Medical Sciences, Beijing, China
- 544 WTh Multi-Channel System for Combined Magnetoencephalography and Ultra-Low-Field MRI**  
*Andrey Zhdanov<sup>1,2</sup>, Panu Vesänen<sup>1</sup>, Jaakko Nieminen<sup>1</sup>, Koos Zevenhoven<sup>1</sup>, Juhani Dabek<sup>1</sup>, Juho Luomahaara<sup>3</sup>, Juha Hasele<sup>3</sup>, Jari Penttilä<sup>4</sup>, Fa-Hsuan Lin<sup>1,5</sup>, Yi-Cheng Hsu<sup>1,5</sup>, Jyrki Mäkelä<sup>2</sup>, Lauri Parkkonen<sup>1,6</sup>, Juha Simola<sup>6</sup>, Antti Ahonen<sup>6</sup>, Risto Ilmoniemi<sup>1</sup>*  
<sup>1</sup>Aalto University School of Science, Espoo, Finland, <sup>2</sup>BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland, <sup>3</sup>VTT Technical Research Centre of Finland, Espoo, Finland, <sup>4</sup>Aivon Oy, Espoo, Finland, <sup>5</sup>National Taiwan University, Taipei, <sup>6</sup>Elekta Oy, Helsinki, Finland
- 545 WTh Heterogeneity in Cerebral Blood Flow in Brain White Matter**  
*Yuxiang Zhou<sup>1</sup>, Priya Goel<sup>1</sup>, Xiaojun Sun<sup>1</sup>, Narayana Ponnada<sup>1</sup>*  
<sup>1</sup>Diagnostic & Interventional Imaging, University of Texas Health Science Center at Houston, Houston, TX

## IMAGING METHODS

### BOLD fMRI

- 546 WTh A graph-theoretic approach to neuroimaging experimental design**  
*Geoffrey Aguirre<sup>1</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, PA
- 547 WTh Combination of VAT and Z-shimming in EPI for Distortion Correction and Signal Recovery**  
*Sinyeob Ahn<sup>1</sup>, Xiaoping Hu<sup>1</sup>*  
<sup>1</sup>Georgia Tech/Emory University, Atlanta, GA
- 548 WTh Hemodynamic Response of Repeated Median Nerve Stimulation Using Functional MRI**  
*Leo Ai<sup>1</sup>, Hiroyuki Oya<sup>1</sup>, Jinhu Xiong<sup>1</sup>*  
<sup>1</sup>University of Iowa, Iowa City, IA
- 549 WTh Quantitative fMRI-Based Evaluation of Caffeine's Effects on Brain Physiology**  
*Eva Alonso Ortiz<sup>1</sup>, G. Bruce Pike<sup>1</sup>*  
<sup>1</sup>McGill University, Montreal, Canada
- 550 WTh Functional Magnetic Resonance Imaging of Cerebral Blood Oxygenation Changes During Breath Holding Us**  
*Jacqueline Atanelov<sup>1</sup>, Jasmin Tröstl<sup>2</sup>, Ronald Sladky<sup>3</sup>, Nikolaus Weiskopf<sup>4</sup>, Christian Windischberger<sup>5</sup>*  
<sup>1</sup>MR Center of Excellence, Vienna, Austria, <sup>2</sup>MR Centre Of Excellence, Medical University Of Vienna, Vienna, Austria, <sup>3</sup>MR Centre Of Excellence, Medical University Of Vienna, Austria, <sup>4</sup>Wellcome Trust Centre for Neuroimaging, Institute of Neurology, London, United Kingdom, <sup>5</sup>MR Center, Medical University of Vienna, Vienna, Austria
- 551 WTh Functional Connectivity in Imaging Genetics: Considerations on Methods and Data Interpretation**  
*Johannes Bedenbender<sup>1</sup>, Andreas Jansen<sup>1</sup>, Tilo Kircher<sup>1</sup>, Soeren Krach<sup>1</sup>, Axel Krug<sup>1</sup>, Marcella Rietsche<sup>2</sup>, Jens Sommer<sup>1</sup>, Stephanie Witt<sup>2</sup>, Frieder Paulus<sup>3</sup>, Martin Pyka<sup>4</sup>, Davide Laneri<sup>5</sup>*  
<sup>1</sup>Philipps-University, Marburg, Germany, <sup>2</sup>Central Institute of Mental Health, Mannheim, Germany, <sup>3</sup>Department of Psychiatry, Philipps University Marburg, Germany, Marburg, Germany, <sup>4</sup>Department of Psychiatry and Psychotherapy, Philipps-University Marburg, Marburg, Germany, <sup>5</sup>University of Marburg, N/A
- 552 WTh The minimum number of discharges needed to detect BOLD signals using intracranial EEG-fMRI at 3 T**  
*Craig Beers<sup>1,2,3</sup>, Daniel Pittman<sup>1,2,3</sup>, Ismael Gaxiola<sup>1,2,3</sup>, Bradley Goodyear<sup>1,2,3</sup>, Paolo Federico<sup>1,2,3</sup>*  
<sup>1</sup>University of Calgary, Calgary, Alberta, <sup>2</sup>Hotchkiss Brain Institute, Calgary, Canada, <sup>3</sup>Seaman Family MR Research Centre, Calgary, Canada
- 553 WTh A nearly model-free fMRI analysis method based on reproducible responses applied to 7T clinical fMRI**  
*Pedro Cardoso<sup>1,2</sup>, Alexander Geißler<sup>3,2</sup>, Florian Fischmeister<sup>3,2</sup>, Siegfried Trattnig<sup>1,2</sup>, Roland Beisteiner<sup>3,2</sup>, Simon Robinson<sup>1,2</sup>*  
<sup>1</sup>Department of Radiology, Medical University of Vienna, Vienna, Austria, <sup>2</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Department of Neurology, Medical University of Vienna, Vienna, Austria
- 554 WTh Different Modulation of Default Mode Network with Real and Sham Acupuncture**  
*Suk-tak Chan<sup>1</sup>, Erica Nixon<sup>1</sup>, Tara Sporko<sup>1</sup>, Ji-liang Fang<sup>2</sup>, Jing Liu<sup>3</sup>, Ming Li<sup>4</sup>, Kenneth Kwong<sup>1</sup>, Bruce Rosen<sup>1</sup>, Kathleen Hui<sup>1</sup>*  
<sup>1</sup>Massachusetts General Hospital, Boston, United States, <sup>2</sup>Guang An Men Hospital, China Academy of Traditional Chinese Medicine, Beijing, China, <sup>3</sup>The Marino Center for Progressive Health, Cambridge, United States, <sup>4</sup>Ming's Clinic for Acupuncture, Newton Center, United States
- 555 WTh Sparse source cluster reconstruction by compressed magnetic resonance inverse imaging (cInI)**  
*Wei-Tang Chang<sup>1</sup>, Fa-Hsuan Lin<sup>2</sup>, Jyrki Ahveninen<sup>3</sup>, Samantha Huang<sup>4</sup>, John Belliveau<sup>5</sup>*  
<sup>1</sup>Martinos Center for Biomedical Imaging, Mass General Hospital, Charlestown, United States, <sup>2</sup>Martinos Center for Biomedical Imaging, Mass General Hospital, Charlestown, MA, <sup>3</sup>Martinos Center, Massachusetts General Hospital, Charlestown, MA, <sup>4</sup>Harvard Medical School - Martinos Center, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, <sup>5</sup>Harvard Medical School - Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA
- 556 WTh The Spatial and Temporal Limits of Brain Mapping in Awake Subjects: an Alert Primate MRI Study**  
*gang chen<sup>1</sup>, Feng Wang<sup>1</sup>, John Gore<sup>1</sup>, Anna Roe<sup>1</sup>*  
<sup>1</sup>Vanderbilt University, Nashville, TN United States
- 557 WTh Susceptibility-Based Functional Neuroimaging: A Simulation Study**  
*zikuan chen<sup>1</sup>, Jingyu Liu<sup>2</sup>, Vince Calhoun<sup>3</sup>*  
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- 558 WTh Intrinsic functional connectivity based brain parcellation using regularized weighted kernel k-means**  
*Hewei Cheng<sup>1</sup>, Yong Fan<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 559 WTh Sensitivity of BOLD response to increasing visual contrast: spin echo versus gradient echo EPI**  
*Piero Chiacchiaretta<sup>1</sup>, Cosimo Del Gratta<sup>1</sup>, Armando Tartaro<sup>1</sup>, Gian Luca Romani<sup>1</sup>, Ferretti Antonio<sup>1</sup>*  
<sup>1</sup>Department of Neuroscience and Imaging – G. D’Annunzio University of Chieti, Chieti, Italy
- 560 WTh Withdrawn**
- 561 WTh Lateralised perirhinal cortex activity during semantic and non-semantic within-domain memory tasks**  
*Marshall Dalton<sup>1</sup>, Michael Hornberger<sup>1</sup>, Olivier Piguet<sup>1</sup>*  
<sup>1</sup>Neuroscience Research Australia, Sydney, Australia
- 562 WTh Using functional and anatomical contrast at 7 Tesla to localize primary auditory regions in-vivo**  
*Federico De Martino<sup>1</sup>, Michelle Moere<sup>2</sup>, Junqian Xu<sup>3</sup>, Pierre-Francois Van de Moortele<sup>4</sup>, Kamil Ugurbil<sup>5</sup>, Rainer Goebel<sup>1</sup>, Essa Yacoub<sup>6</sup>, Elia Formisano<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Maastricht University, Netherlands, <sup>3</sup>Univeristy of Minnesota, Minneapolis, MN, <sup>4</sup>CMRR - UNIVERSITY OF MINNESOTA, MINNEAPOLIS, United States, <sup>5</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, United States, <sup>6</sup>University of Minnesota, Minneapolis, United States
- 563 WTh Multi-Band GE EPI improves auditory functional responses to simple and complex sounds**  
*Federico De Martino<sup>1</sup>, Junqian Xu<sup>2</sup>, Edward Auerbach<sup>3</sup>, Michelle Moere<sup>4</sup>, Kamil Ugurbil<sup>5</sup>, Elia Formisano<sup>1</sup>, Essa Yacoub<sup>5</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Univeristy of Minnesota, Minneapolis, MN, <sup>3</sup>University of Minnesota, Minneapolis, MN, <sup>4</sup>Maastricht University, Netherlands, <sup>5</sup>University of Minnesota, Minneapolis, United States
- 564 WTh SE fMRI in human bilateral auditory cortex using B1 shimming**  
*Federico De Martino<sup>1</sup>, Sebastian Schmitter<sup>2</sup>, Kamil Ugurbil<sup>2</sup>, Elia Formisano<sup>1</sup>, Essa Yacoub<sup>3</sup>, Pierre-Francois Van de Moortele<sup>4</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>University of Minnesota, Minneapolis, MN, <sup>3</sup>University of Minnesota, Minneapolis, United States, <sup>4</sup>CMRR - UNIVERSITY OF MINNESOTA, MINNEAPOLIS, United States
- 565 WTh An fMRI investigation of acupuncture-modulated hearing improvement in patients with hearing loss**  
*Yanjun Diao<sup>1,2</sup>, Xiaojing Long<sup>1</sup>, Haibo Yu<sup>2</sup>, Ling Mei<sup>3</sup>, Yanyan Wang<sup>1</sup>, Bensheng Qiu<sup>1</sup>*  
<sup>1</sup>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China, <sup>2</sup>Shenzhen Hospital of Traditional Chinese Medicine, Shenzhen, China, <sup>3</sup>School of Electronic and Information Engineering, South China University of Technology, Guangzhou, China
- 566 WTh Reward circuitry is modulated by the dorsolateral prefrontal cortex in social comparisons**  
*Xue Du<sup>1</sup>, Jiang Qiu<sup>2</sup>, Meng Zhang<sup>2</sup>, Yuejia Luo<sup>3</sup>*  
<sup>1</sup>Key laboratory of cognition and personality (SWU), Ministry of Education, Chongqing, China, <sup>2</sup>Key laboratory of cognition and personality (Southwest University), Ministry of Education, Chongqing, China, <sup>3</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 567 WTh Prediction methods for ADHD 200 competition**  
*Ani Eloyan<sup>1</sup>, John Muschelli<sup>2</sup>, Ciprian Crainiceanu<sup>3</sup>, Fang Han<sup>3</sup>, Han Liu<sup>3</sup>, Tuo Zhao<sup>4</sup>, Mary Beth Nebel<sup>5</sup>, Brian Caffo<sup>1</sup>*  
<sup>1</sup>Johns Hopkins University, Baltimore, United States, <sup>2</sup>Kennedy Krieger Institute, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, <sup>3</sup>Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD, <sup>4</sup>Whiting School of Engineering, Johns Hopkins University, Baltimore, MD, <sup>5</sup>Kennedy Krieger Institute, N/A
- 568 WTh Microstate Analysis of Spontaneous BOLD signal**  
*Nurhan Erbil<sup>1</sup>, Gopikrishna Deshpande<sup>2</sup>*  
<sup>1</sup>AU MRI Reseachr Center, Auburn, AL, <sup>2</sup>AU MRI Research Center, Auburn, AL
- 569 WTh Brain Tissue Specific Spatial Distribution of fMRI Physiological Noise: CSF Noise High or Low?**  
*Maryam Falahpour<sup>1,2</sup>, Hazem Refai<sup>2</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK, <sup>2</sup>Department of Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK
- 570 WTh Average white matter fMRI signal characterization using Weisskoff plot flip angle dependence**  
*Maryam Falahpour<sup>1,2</sup>, Hazem Refai<sup>2</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK, <sup>2</sup>Department of Electrical and Computer Engineering, University of Oklahoma, Tulsa, OK

- 571 WTh Stability of Functional Connectivity networks in the Basal Ganglia in ADHD**  
*Manuel Garcia-Garcia<sup>1</sup>, Brian Cheung<sup>2</sup>, Adriana Di Martino<sup>3</sup>, Pierre Bellec<sup>4</sup>, Clare Kelly<sup>5</sup>, F. Xavier Castellanos<sup>6</sup>, Michael Milham<sup>7</sup>*  
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- 572 WTh Moment-to-moment brain variability is experimentally “tunable”**  
*Douglas Garrett<sup>1</sup>, Anthony McIntosh<sup>2</sup>, CHERYL GRADY<sup>3</sup>*  
<sup>1</sup>Center for Lifespan Psychology, Max Planck Institute for Human Development, Berlin, Germany, <sup>2</sup>Rotman Research Institute, Baycrest; Department of Psychology, University of Toronto, Toronto, Ontario, <sup>3</sup>Rotman Research Institute, Baycrest; Departments of Psychology and Psychiatry, University of Toronto, Toronto, Ontario
- 573 WTh High spatial resolution GE-EPI – functional micro-vascular specificity at 3T and 7T**  
*Alexander Geissler<sup>1</sup>, Florian Fischmeister<sup>1</sup>, Moritz Wurnig<sup>1</sup>, Marie-Luise Pinter<sup>1</sup>, Jakob Rath<sup>1</sup>, Thomas Foki<sup>1</sup>, Siegfried Trattnig<sup>2</sup>, Roland Beisteiner<sup>1</sup>, Simon Robinson<sup>2</sup>*  
<sup>1</sup>Study Group Clinical fMRI, Department of Neurology, Medical University of Vienna, Vienna, Austria, <sup>2</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria
- 574 WTh Measuring the draining vein contribution using Breath holding – a comparative study with SWI at 3T&7T**  
*Alexander Geissler<sup>1</sup>, Florian Fischmeister<sup>1</sup>, Moritz Wurnig<sup>1</sup>, Marie-Luise Pinter<sup>1</sup>, Jakob Rath<sup>1</sup>, Thomas Foki<sup>1</sup>, Siegfried Trattnig<sup>2</sup>, Roland Beisteiner<sup>1</sup>, Simon Robinson<sup>2</sup>*  
<sup>1</sup>Study Group Clinical fMRI, Department of Neurology, Medical University of Vienna, Vienna, Austria, <sup>2</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria
- 575 WTh Neural Correlates of Simple Syntactic as Compared to Complex Syntactic and Semantic Processes**  
*Sarah Gierhan<sup>1,2</sup>, Angela Friederici<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt University, Berlin, Germany
- 576 WTh Changes in Default Network Connectivity With Verbal IQ in Patients with Multiple Sclerosis**  
*Michael Gregory<sup>1,2,3</sup>, R. Philip Kinkel<sup>4</sup>, Caterina Mainero<sup>5</sup>*  
<sup>1</sup>Beth Israel Deaconess Medical Center, Boston, MA, United States, <sup>2</sup>A. A. Martinos Center for Biomedical Imaging, Boston, MA, United States, <sup>3</sup>Harvard Medical School, Boston, MA, United States, <sup>4</sup>Beth Israel Deaconess Medical Center, Boston, MA, <sup>5</sup>A. A. Martinos Center for Biomedical Imaging, Boston, MA
- 577 WTh FMRI - BOLD activation during a Stroop working memory task in children born extremely preterm**  
*Silja T Griffiths<sup>1</sup>, Emanuel Neto<sup>2,3</sup>, Hilde Gundersen<sup>4</sup>, Irene Elgen<sup>5</sup>, Kenneth Hugdahl<sup>6,7</sup>*  
<sup>1</sup>Department of clinical medicine, Bergen, Norway, <sup>2</sup>Institute of Biological and Medical Pshychology, University of Bergen, Bergen, Norway, <sup>3</sup>Department of Neurophysiology, Haukeland University Hospital, Bergen, Norway, <sup>4</sup>Department of Public Health and Primary Health Care, University of Bergen, Bergen, Norway, <sup>5</sup>Department of clinical medicine, University of Bergen, Bergen, Norway, <sup>6</sup>Dept. Biological and Medical Psychology, University of bergen, Norway, Bergen, Norway, <sup>7</sup>Psychiatry, Haukeland University Hospital, Bergen, Norway
- 578 WTh Acute and Delayed Effects of Ketamine On Brain Activation and Glutamatergic Neurotransmission**  
*Simone Grimm<sup>1,2,3</sup>, Milan Scheidegger<sup>1</sup>, Mick Lehmann<sup>1</sup>, Anke Henning<sup>4,5</sup>, Martin Walter<sup>6</sup>, Heinz Boeker<sup>1</sup>, Anne Weigand<sup>2,7</sup>, Malek Bajbouj<sup>8,2</sup>, Erich Seifritz<sup>1,5</sup>*  
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- 579 WTh Alterations of Regional Homogeneity in Nasopharyngeal Carcinoma Patients after Radiotherapy**  
*Fangfang He<sup>1</sup>, Li Li<sup>2</sup>, Zengjian Wang<sup>1</sup>, Lizhi Liu<sup>2</sup>, Shumei Li<sup>1</sup>, Xiaoling Peng<sup>1</sup>, Rui Zhong<sup>2</sup>, Xue Wen<sup>1</sup>, Meng Li<sup>1</sup>, Ming Liu<sup>1</sup>, Ruiwang Huang<sup>1</sup>*  
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>> Wednesday, June 13: 13:30 – 15:30 (even numbers)  
>> Thursday, June 14: 10:45 – 12:45 (odd numbers)

- 580 WTh Data analysis and dynamically adapting designs for real-time fMRI**  
*Lydia Hellrung<sup>1</sup>, Maurice Hollmann<sup>1</sup>, Torsten Schlumm<sup>1</sup>, Oliver Zschoyge<sup>1</sup>, Hadas Okon-Singer<sup>1</sup>, Arno Villringer<sup>1</sup>, Burkhard Pleger<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences Leipzig, Leipzig, Germany
- 581 WTh Making sense of subsequent action: frontal signatures of spontaneous interpretation**  
*Mari Hrká<sup>1,2</sup>, Moritz Wurm<sup>1,3</sup>, Anne Kühn<sup>1</sup>, Ricarda Schubotz<sup>1,2</sup>*  
<sup>1</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>2</sup>Westfälische-Wilhelms-Universität, Münster, Germany, <sup>3</sup>University of Trento, Mattarello, Italy
- 582 WTh Caffeine Altered Cerebral Cortical Activations Induced by 2-Hz Modulation Laser Acupuncture**  
*Chao-Hsien Hsieh<sup>1,2</sup>, Chang-Wei Hsieh<sup>3</sup>, Qwa-Fun Wang<sup>4</sup>, Jyh-Horng Chen<sup>2</sup>*  
<sup>1</sup>Neurobiology and Cognitive Science Center, National Taiwan University, Taipei, <sup>2</sup>Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, <sup>3</sup>Department of Photonic and Communication Engineering, Asia University, Taichung, <sup>4</sup>School of Post-Baccalaureate Chinese Medicine, Taichung
- 583 WTh Posterior cingulate connectivity changes in different wandering minds: A resting-state fMRI study**  
*Nantu Hu<sup>1</sup>, Shanshan Dong<sup>2</sup>, Hongjian He<sup>1</sup>, Feiyan Chen<sup>2</sup>*  
<sup>1</sup>Zhejiang University, Hangzhou, China, <sup>2</sup>Bio-X Laboratory, Department of Physics, Zhejiang University, Hangzhou, China
- 584 WTh A dual echo approach to motion correction in BOLD fcMRI**  
*Alex Ing<sup>1</sup>, Christian Schwarzbauer<sup>1</sup>*  
<sup>1</sup>University of Aberdeen, Aberdeen, United Kingdom
- 585 WTh The impact of genetic variation in COMT and BDNF on resting-state functional connectivity**  
*Joon Hwan Jang<sup>1</sup>, Je-Yeon Yun<sup>1</sup>, Wi Hoon Jung<sup>2</sup>, Geumsook Shim<sup>1</sup>, Min Soo Byun<sup>1</sup>, Jae Yeon Hwang<sup>1</sup>, Sung Nyun Kim<sup>1</sup>, Chi-Hoon Choi<sup>3</sup>, Jun Soo Kwon<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Interdisciplinary Program in Neuroscience, College of Natural Sciences, Seoul National University, Seoul, Korea, Republic of, <sup>3</sup>Department of Diagnostic Radiology, National Medical Center, Seoul, Korea, Republic of
- 586 WTh Functional MRI of the Olfactory System in Awake and Anesthetized Dogs**  
*Hao Jia<sup>1</sup>, Gopikrishna Deshpande<sup>2</sup>, Vitaly Vodyanov<sup>3</sup>, Jay Barrett<sup>3</sup>, Thomas Denney<sup>4</sup>, Robert Gillette<sup>5</sup>, Edward Morrison<sup>6</sup>, John Schumacher<sup>6</sup>, Ronald Beyers<sup>7</sup>, Oleg Pustovyy<sup>6</sup>, Paul Waggoner<sup>8</sup>*  
<sup>1</sup>AU MRI research center, Dept. of ECE, Auburn University, Auburn, United States, <sup>2</sup>AU MRI Research Center, Auburn, AL, <sup>3</sup>College of Veterinary Medicine, Auburn University, Auburn, AL, <sup>4</sup>AU MRI research center, Dept. of ECE, Dept. of Psychology, Auburn University, Auburn, AL, <sup>5</sup>Dept. of Clinical Sciences, Auburn University, Auburn, AL, <sup>6</sup>Dept. of Anatomy, Physiology & Pharmacology, Auburn University, Auburn, AL, <sup>7</sup>AU MRI research center, Dept. of ECE, Auburn University, Auburn, AL, <sup>8</sup>Canine Detection Research Institute, Auburn University, Auburn, AL
- 587 WTh Localizing the human medial geniculate nucleus using fMRI**  
*Fang Jiang<sup>1</sup>, G. Christopher Stecker<sup>1</sup>, Ione Fine<sup>1</sup>*  
<sup>1</sup>University of Washington, Seattle, WA
- 588 WTh Slice Timing Correction in Volume Selective z-shim fMRI Acquisition**  
*Xia Jiang<sup>1</sup>, Xiaodong Guo<sup>1</sup>, Fang Zhu<sup>1</sup>, Michael Vannier<sup>1</sup>, Jia-Hong Gao<sup>1</sup>*  
<sup>1</sup>Brain Research Imaging Center and Department of Radiology, University of Chicago, Chicago, IL
- 589 WTh Dysfunctional resting State Functional Connectivity in PDS using seed Based analysis**  
*Lorena Jimenez-Castro<sup>1</sup>, Donald Robin<sup>1</sup>, Roger Ingham<sup>2</sup>, Peter Fox<sup>1</sup>*  
<sup>1</sup>Research Imaging Institute at University of Texas Health Science Center at San Antonio, San Antonio, United States, <sup>2</sup>Department of Speech and Hearing Sciences, University of California, Santa Barbara, Santa Barbara, CA
- 590 WTh Filling in Black Holes in fMRI: Dual Gradient Echo EPI with Optimized Z-Shim**  
*Oliver Josephs<sup>1,2</sup>, Robert Leech<sup>3</sup>, Sonia Brownsett<sup>3</sup>, Peter Hellyer<sup>3</sup>, Nikolaus Weiskopf<sup>2</sup>*  
<sup>1</sup>Birkbeck / University College Neuroimaging Centre, London, United Kingdom, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, UCL Institute of Neurology, UCL, London, United Kingdom, <sup>3</sup>Imperial College London, London, United Kingdom
- 591 WTh Brain Networks of the Stroop Effect Using fMRI**  
*Prasanna Karunanayaka<sup>1</sup>, Jonathan Harris<sup>2</sup>, Jianli wang<sup>1</sup>, Paul Eslinger<sup>1</sup>, Qing X Yang<sup>1</sup>*  
<sup>1</sup>Department of Radiology (Center for NMR Research), The Pennsylvania State University, Hershey, PA, <sup>2</sup>Department of Psychiatry, Penn State University College of Medicine, Hershey, PA

- 592 WTh **Parallel Olfactory Networks and the Dynamic Behavior of the BOLD Signal**  
*Prasanna Karunanayaka<sup>1</sup>, Jianli wang<sup>1</sup>, Paul Eslinger<sup>1</sup>, Kathleen Gates<sup>2</sup>, Qing X Yang<sup>1</sup>*  
<sup>1</sup>Department of Radiology (Center for NMR Research), The Pennsylvania State University, Hershey, PA, <sup>2</sup>The Pennsylvania State University, University Park, PA
- 593 WTh **Converging Evidence on the Predictability Modulation in Saccadic fMRI Task: A Cross Country Validat**  
*Lukasova katerina<sup>1</sup>, Jens Sommer<sup>2</sup>, Mariana Nucci-da-Silva<sup>1</sup>, João Sato<sup>3</sup>, Marius Blanke<sup>4</sup>, Frank Bremmer<sup>4</sup>, Tilo Kircher<sup>2</sup>, Edson Amaro Junior<sup>1</sup>*  
<sup>1</sup>NIF - University of São Paulo, São Paulo, Brazil, <sup>2</sup>Philipps-University, Marburg, Germany, <sup>3</sup>ABC Federal University, Santo André, Brazil, <sup>4</sup>Department of Neurophysics, Philipps-University, Marburg, Germany
- 594 WTh **Multi-slice DANTE-EPI: A Novel CSF-suppression Technique for Spinal Cord fMRI**  
*Yazhuo Kong<sup>1</sup>, Linqing Li<sup>1</sup>, Karla Miller<sup>1</sup>, Peter Jezzard<sup>1</sup>, Jonathan Brooks<sup>1,2</sup>*  
<sup>1</sup>FMRI centre, University Of Oxford, Oxford, United Kingdom, <sup>2</sup>CRICBristol, University of Bristol, Bristol, United Kingdom
- \*595 WTh **Resting State fMRI Predicts Task Activation of Individual Subjects (O-Th2)**  
*Prantik Kundu<sup>1</sup>, Noah Brenowitz<sup>1</sup>, Souheil Inati<sup>1</sup>, Paul Guillod<sup>1</sup>, Ziad Saad<sup>1</sup>, Peter Bandettini<sup>1</sup>*  
<sup>1</sup>National Institutes of Health, Bethesda, MD
- 596 WTh **Real-time system for monitoring a subject's attentiveness and performance**  
*Dongha Lee<sup>1</sup>, Changwon Jang<sup>1</sup>, Bumhee Park<sup>1</sup>, Hae-Jeong Park<sup>2</sup>*  
<sup>1</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of
- 597 WTh **Withdrawn**
- 598 WTh **Impaired Pulvinar-Cortical Connectivity during Sustained Attention Processing in Children with ADHD**  
*Xiaobo Li<sup>1</sup>*  
<sup>1</sup>Albert Einstein College of Medicine, NY, United States
- 599 WTh **Region and frequency specific oscillatory characteristics of fMRI signals in the human brain**  
*Yi-Chia Li<sup>1</sup>, Jyh-Horng Chen<sup>2</sup>*  
<sup>1</sup>Graduate Institute of Biomedical Engineering and Bioinformatics, National Taiwan University, Taipei, Chinese Taipei, <sup>2</sup>Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei, Chinese Taipei
- 600 WTh **Event order drives interregional BOLD timing**  
*Fa-Hsuan Lin<sup>1</sup>, Tommi Raij<sup>2</sup>, Jyrki Ahveninen<sup>2</sup>, Kevin Tsai<sup>1</sup>, Thomas Witze<sup>2</sup>, Ying-Hua Chu<sup>1</sup>, John Belliveau<sup>2</sup>*  
<sup>1</sup>National Taiwan University, Taipei, <sup>2</sup>Martinos Center, Massachusetts General Hospital, Charlestown, MA, USA
- 601 WTh **Mapping motor area by Brain surface fMRI in epilepsy surgery**  
*Jiuluan Lin<sup>1</sup>, Wenjing Zhou<sup>1</sup>, Dan zhang<sup>2</sup>, Yang Luo<sup>1</sup>, Huancong Zuo<sup>1</sup>*  
<sup>1</sup>Dept. of Neurosurgery, Yuquan Hospital, Tsinghua University, Beijing, China, <sup>2</sup>Dept. of Biomedicine, Tsinghua University, Beijing, China
- 602 WTh **Altered Resting-state Brain Activities After Alcohol Intoxication**  
*Huan Liu<sup>1</sup>, Xu Anbing<sup>1</sup>, Zhiying Zhao<sup>1</sup>, Hong Li<sup>1</sup>, Xu Lei<sup>1</sup>*  
<sup>1</sup>School of Psychology, Southwest University, Chongqing, China
- 603 WTh **Comparison of Cerebral Oxygenation Quantification using ASL and Steady State Free Precession Imaging**  
*Xin Liu<sup>1</sup>, Duan Xu<sup>1</sup>*  
<sup>1</sup>Department of Radiology and Biomedical Imaging, University of California, San Francisco, CA, United States
- 604 WTh **Cerebellar-Cerebral Connectivity Reliably Differentiates Major Depressives from Healthy Controls**  
*Qiongmin Ma<sup>1</sup>, Ling-Li Zeng<sup>1</sup>, Hui Shen<sup>1</sup>, Dewen Hu<sup>1</sup>*  
<sup>1</sup>College of Mechatronics and Automation, National University of Defense Technology, Changsha, Hunan, China
- 605 WTh **An fMRI investigation on brain effects of ultrasound stimulation: Compared with manual acupuncture**  
*Ling Mei<sup>1,2</sup>, Xiaojing Long<sup>1</sup>, Yanjun Diao<sup>1,3</sup>, Yanyan Wang<sup>1,4</sup>, Qian Huang<sup>2</sup>, Haibo Yu<sup>3</sup>, Lijuan Zhang<sup>1</sup>, Yanli Pan<sup>1</sup>, Bensheng Qiu<sup>1</sup>*  
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- 606 WTh Parcellation of Subregions of Primary Somatosensory Cortex in Humans and Monkeys**  
*Arabinda Mishra<sup>1</sup>, Elizabeth Stringer<sup>2</sup>, John Gore<sup>1</sup>, Li Chen<sup>1</sup>*  
<sup>1</sup>Vanderbilt University, Nashville, TN, USA, <sup>2</sup>Stanford University, Stanford, CA, USA
- 607 WTh Statistical Sensitivity of fMRI Time Series Analysis for Different Image Reconstruction Modes**  
*Marius Moisa<sup>1,2</sup>, Marco Piccirelli<sup>1,2</sup>, Klaas Pruessmann<sup>2</sup>, Christian Ruff<sup>1,3</sup>*  
<sup>1</sup>Laboratory for Social and Neuronal Systems Research, Department of Economics, University of Zurich, Zurich, Switzerland, <sup>2</sup>Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland, <sup>3</sup>UCL Institute of Neurology, University College London, London, United Kingdom
- 608 WTh Functional connectivity of the limbic system in adolescent cannabis users**  
*Rowen Morioka<sup>1</sup>, Brendan Behan<sup>2</sup>, Karen Weierstall<sup>1</sup>, Clare Kelly<sup>3</sup>, Hugh Garavan<sup>4</sup>*  
<sup>1</sup>University of Vermont, Burlington, United States, <sup>2</sup>Trinity College Institute of Neuroscience, Dublin, Ireland, <sup>3</sup>New York University, New York City, NY, <sup>4</sup>University of Vermont, Burlington, VT
- 609 WTh Effective connectivity between Left BA 22, 44 & 45 during Sentence completion and Verb generation**  
*Deepika Nandiraju<sup>1</sup>, Feroze Mohamed<sup>2</sup>, Gerry Stefenatos<sup>3</sup>, Mohammed Bermo<sup>4</sup>, Chris Conklin<sup>3</sup>, Andrew DeMarco<sup>3</sup>, Scott Faro<sup>3</sup>*  
<sup>1</sup>Temple University, Philadelphia, United States, <sup>2</sup>Temple university, philadelphia, PA, <sup>3</sup>Temple University, Philadelphia, PA, <sup>4</sup>University of Alexandria, Alexandria, Egypt
- 610 WTh Altered Regional Homogeneity in the development of Minimal Hepatic Encephalopathy**  
*Ling Ni<sup>1</sup>, Longjiang Zhang<sup>2</sup>, Rongfeng Qi<sup>3</sup>, Guangming Lu<sup>4</sup>, Zhiqiang Zhang<sup>5</sup>*  
<sup>1</sup>Department of Medical Imaging, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China, <sup>2</sup>Department of Medical Imaging, Jinling Hospital, Nanjing, China, <sup>3</sup>Department of Medical Imaging, Jinling Hospital, Clinical School of Medical College, Nanjing Univer, Nanjing, China, <sup>4</sup>Dept. Med. Img., Jinling Hospital, Nanjing, China, <sup>5</sup>Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China
- 611 WTh Rapid multi-shot segmented EPI using the Simultaneous Multi-Slice acquisition method**  
*Jonathan Polimeni<sup>1,2</sup>, Kawin Setsompop<sup>1,2</sup>, Borjan Gagoski<sup>3,4</sup>, Jennifer McNab<sup>5,2</sup>, Christina Triantafyllou<sup>3,1,2</sup>, Lawrence Wald<sup>1,3</sup>*  
<sup>1</sup>Massachusetts General Hospital, Charlestown, MA, <sup>2</sup>Harvard Medical School, Boston, MA, <sup>3</sup>Massachusetts Institute of Technology, Cambridge, MA, <sup>4</sup>Children's Hospital, Boston, MA, <sup>5</sup>Massachusetts General Hospital, Boston, MA
- 612 WTh Multiplexed spiral sequence for high temporal resolution resting state fMRI**  
*Benedikt Poser<sup>1</sup>, V Andrew Stenger<sup>1</sup>*  
<sup>1</sup>University of Hawaii, Honolulu, United States
- 613 WTh Physiological Noise Reduction using Digital Filtering in Real-Time Multi-Slab Echo-Volumar-Imaging**  
*Stefan Posse<sup>1</sup>, Elena Ackley<sup>1</sup>*  
<sup>1</sup>University of New Mexico, Department of Neurology, Albuquerque, NM
- 614 WTh Voxel-based morphometry revealed brain size abnormality in patients with hepatic encephalopathy**  
*Rongfeng Qi<sup>1</sup>, Shengyong Wu<sup>2</sup>, Longjiang Zhang<sup>3</sup>, Jianhui Zhong<sup>4</sup>, Zhiqiang Zhang<sup>5</sup>, Yuan Zhong<sup>6</sup>, Qiang Xu<sup>7</sup>, Ling Ni<sup>8</sup>*  
<sup>1</sup>Department of Medical Imaging, Jinling Hospital, Clinical School of Medical College, Nanjing Univer, Nanjing, China, <sup>2</sup>Medical Imaging Institute of Tianjin, Tianjin, China, <sup>3</sup>Department of Medical Imaging, Jinling Hospital, Nanjing, China, <sup>4</sup>Dept. Imaging Sciences, University of Rochester, Rochester, NY, <sup>5</sup>Jinling Hospital, Clinical School of Medical College, Nanjing University, Nanjing, China, <sup>6</sup>3Department of Psychology, Nanjing Normal University, Nanjing, China, <sup>7</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>8</sup>Department of Medical Imaging, Jinling Hospital, Nanjing University School of Medicine, Nanjing, China
- 615 WTh Motor cortex changes after amputation are modulated by phantom limb motor control rather than pain**  
*Estelle Raffin<sup>1</sup>, Pascal Giroux<sup>2</sup>, Karen Reilly<sup>3</sup>, Nathalie Richard<sup>4</sup>*  
<sup>1</sup>DRCMR, Copenhagen, Denmark, <sup>2</sup>Department of Physical Medicine and Rehabilitation, Faculty of Medicine, University Jean Monnet of S, Saint Etienne, France, <sup>3</sup>INSERM U1028, CNRS UMR5292, Lyon Neuroscience Research Center, ImpAct Team, Lyon, France, <sup>4</sup>Center for Cognitive Neuroscience, UMR 5229, CNRS, Lyon, France
- 616 WTh Assessing the spatial precision of high-resolution dual SE and GE-BOLD at 7T**  
*Rosa Maria Sanchez Panchuelo<sup>1</sup>, Richard Bowtell<sup>1</sup>, Sue Francis<sup>1</sup>, Denis Schluppeck<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom

- 617 WTh Stability and Test-Retest Reproducibility of Baseline BOLD Signals in Awake Nonhuman Primate**  
*Stephanie Seah<sup>1</sup>, Elaine Manigbas<sup>2</sup>, Richard Baumgartner<sup>3</sup>, Dai Feng<sup>3</sup>, Donald Williams<sup>4</sup>, John Beaver<sup>2</sup>, Brian Henry<sup>1</sup>, Jeffrey Evelhoch<sup>4</sup>, Chih-Liang Chin<sup>1</sup>*  
<sup>1</sup>TMRC, MSD, Singapore, Singapore, <sup>2</sup>Maccine Pte Ltd, Singapore, Singapore, <sup>3</sup>BARDS, Merck & Co., Rahway, NJ, <sup>4</sup>Imaging, Merck & Co., West Point, PA
- 618 WTh Comparison of Two SRC tasks: Shared Neural Basis for Different Spatial Stimulus Modes**  
*chunhong shao<sup>1</sup>*  
<sup>1</sup>huashan hospital, fudan university, Shanghai, China
- 619 WTh 3D Keyhole fMRI Using EVI Sequences with Dimensionally-Weighted Cluster Pixel Analysis**  
*Tingqi Shi<sup>1</sup>, Yuhui Cha<sup>2</sup>, Jia-Hong Gao<sup>3</sup>, Jinhu Xiong<sup>4</sup>*  
<sup>1</sup>University of Chicago, Chicago, United States, <sup>2</sup>Peking University, Beijing, China, <sup>3</sup>University of Chicago, Chicago, IL, <sup>4</sup>University of Iowa, Iowa City, IA
- 620 WTh Neural Correlates of Impaired Perception of Social situation with Negative Affect in Schizophrenia**  
*Jung Eun Shin<sup>1</sup>, Soo Hee Choi<sup>1,2</sup>, Hyeongrae Lee<sup>3</sup>, YoungSeok Shin<sup>3</sup>, Sun I. Kim<sup>3</sup>, Jae-Jin Kim<sup>1,2</sup>*  
<sup>1</sup>Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Department of Psychiatry, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 621 WTh A quantitative comparison of functional MRI of the human amygdala at 3 and 7 Tesla**  
*Ronald Sladky<sup>1</sup>, Pia Baldinger<sup>2</sup>, Georg Kranz<sup>2</sup>, Jasmin Tröstl<sup>1</sup>, Anna Höflich<sup>2</sup>, Jacqueline Atanelov<sup>1</sup>, Thomas Vanicek<sup>2</sup>, Ewald Moser<sup>1</sup>, Rupert Lanzenberger<sup>3</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>MR Centre of Excellence, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Wien, Austria
- 622 WTh Low-pass component correction (LCompCor) improves fMRI activation maps**  
*David Soltysik<sup>1</sup>, David Thomasson<sup>2</sup>, Sunder Rajan<sup>3</sup>, Nadia Biassou<sup>2</sup>*  
<sup>1</sup>U.S. Food & Drug Administration, Silver Spring, United States, <sup>2</sup>National Institutes of Health, Bethesda, MD, United States, <sup>3</sup>U.S. Food & Drug Administration, Silver Spring, MD, United States
- 623 WTh Examining the effects of data processing steps on fMRI reproducibility**  
*David Soltysik<sup>1</sup>, David Thomasson<sup>2</sup>, Javier Gonzalez-Castillo<sup>3</sup>, Sunder Rajan<sup>4</sup>, Nadia Biassou<sup>2</sup>*  
<sup>1</sup>U.S. Food & Drug Administration, Silver Spring, United States, <sup>2</sup>National Institutes of Health, Bethesda, MD, United States, <sup>3</sup>National Institute of Mental Health, Bethesda, United States, <sup>4</sup>U.S. Food & Drug Administration, Silver Spring, MD, United States
- 624 WTh Prior information guided brain parcellation based on resting state fMRI data**  
*Dandan Song<sup>1</sup>, Hwei Cheng<sup>1</sup>, Yong Fan<sup>1</sup>*  
<sup>1</sup>National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, Beijing, China
- 625 WTh Susceptibility Artifacts in Resting State BOLD fMRI**  
*V. Andrew Stenger<sup>1</sup>, Benedikt Poser<sup>1</sup>, Weiran Deng<sup>1</sup>, Robert Anderson<sup>1</sup>*  
<sup>1</sup>University of Hawaii, Honolulu, HI
- 626 WTh Dissociation of Functional MRI Response and Cerebrovascular Perfusion in Cardiovascular Disease**  
*Lawrence Sweet<sup>1</sup>, Beth Jerskey<sup>1</sup>, Denise Cote<sup>1</sup>, Edward Walsh<sup>2</sup>, Jason Hassenstab<sup>3</sup>, Maura Ladino<sup>4</sup>, Uraina Clark<sup>2</sup>, Xiaomeng Xu<sup>1</sup>, Donald Labbe<sup>1</sup>, John Gunstad<sup>5</sup>, Athena Poppas<sup>1</sup>, Richard Hoge<sup>6</sup>, Ronald Cohen<sup>7</sup>*  
<sup>1</sup>Alpert Medical School of Brown University, Providence, RI, <sup>2</sup>Brown University, Providence, RI, <sup>3</sup>Washington University in St. Louis, St. Louis, RI, <sup>4</sup>Columbia University, New York, NY, <sup>5</sup>Kent State University, Kent, OH, <sup>6</sup>Université de Montréal, Montréal, Quebec, <sup>7</sup>Warren Alpert Medical School of Brown University, Providence, RI
- 627 WTh Neural correlates of cross auditory-visuospatial learning of high resolution sound: A pilot study**  
*Qian TAO<sup>1</sup>, Chetwyn Chan<sup>2</sup>, Yuejia Luo<sup>3</sup>, Jianjun Li<sup>4</sup>, Kin-hung Ting<sup>2</sup>, Jun Wang<sup>5</sup>, Tatia Lee<sup>6</sup>*  
<sup>1</sup>Hong Kong Polytechnic University, Hong Kong, China, <sup>2</sup>Applied Cognitive Neuroscience Laboratory, The Hong Kong Polytechnic University, Hong Kong, Hong Kong, <sup>3</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>4</sup>China Rehabilitation Research Center, Beijing, China, <sup>5</sup>Beijing Normal University, Beijing, China, <sup>6</sup>University of Hong Kong, Hong Kong, China
- 628 WTh Laminar-specific BOLD Fingerprints of Sensorimotor Areas during Imagined and Actual Finger Tapping**  
*Robert Trampel<sup>1</sup>, Pierre-Louis Bazin<sup>1</sup>, Andreas Schaefer<sup>1</sup>, Robin Heidemann<sup>1</sup>, Dimo Ivanov<sup>1</sup>, Gabriele Lohmann<sup>1</sup>, Stefan Geyer<sup>1</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

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- 629 WTh The Influence of Risky and Conservative Mental Sets on the Cerebral Activations of Cognitive Control**  
*Alissa Winkler<sup>1,2</sup>, Sien Hu<sup>2</sup>, Yuan-Chi Tseng<sup>3</sup>, Chiang-shan Li<sup>4</sup>*  
<sup>1</sup>Dept. Of Psychiatry, Friedrich-Schiller-University, Jena, Germany, <sup>2</sup>Dept. Of Psychiatry, Yale University, New Haven, CT, <sup>3</sup>Dept. Of Industrial Design, National Cheng Kung University, Tainan, <sup>4</sup>Depts. Of Psychiatry, Neurobiology, & Interdepartmental Neuroscience Program, Yale University, New Haven, CT
- 630 WTh Occipital resting state networks agree with cytoarchitectonically defined retinotopic areas**  
*Afra Wohlschlaeger<sup>1,2</sup>, Christian Sorg<sup>3</sup>, Lina Köhler<sup>4</sup>, Johanna Löser<sup>4</sup>, Valentin Riedl<sup>5</sup>*  
<sup>1</sup>Klinikum rechts der Isar der TU Munich, Munich, Germany, <sup>2</sup>Klinikum rechts der Isar, Dept. of Neurology, Munich, Germany, <sup>3</sup>Department of Psychiatry, Neuroradiology and Nuclear Medicine, Technische Universität München, Munich, Germany, <sup>4</sup>Klinikum rechts der Isar, Dept. of Neuroradiology, Munich, Germany, <sup>5</sup>Department of Neuroradiology and Neurology, Technische Universität München, Munich, Germany
- 631 WTh Relevance of data quality for between site variability in clinical fMRI**  
*Moritz Wurnig<sup>1</sup>, Jakob Rath<sup>2</sup>, Nicolaus Klinger<sup>2</sup>, Ilse Höllinger<sup>2</sup>, Alexander Geissler<sup>3</sup>, Markus Aichhorn<sup>4</sup>, Thomas Fok<sup>3</sup>, Martin Kronbichler<sup>5</sup>, Janpeter Nickle<sup>6</sup>, Christian Siedentopf<sup>7</sup>, Wolfgang Staffer<sup>8</sup>, Michael Verius<sup>7</sup>, Stephan Felber<sup>9</sup>, Stefan Golaszewski<sup>10</sup>, Florian Koppelstaetter<sup>7</sup>, Rudiger Seitz<sup>11</sup>, Roland Beisteiner<sup>12</sup>*  
<sup>1</sup>Medical University Vienna, Dpt. f. Neurology, AGKlinfMRT, Austria, <sup>2</sup>Medical University of Vienna, Vienna, Austria, <sup>3</sup>Dept. of Neurology, Med. Univ. of Vienna, Vienna, Austria, <sup>4</sup>University of Salzburg, Salzburg, Salzburg, <sup>5</sup>Neuroscience Institute, Christian-Doppler-Clinic, Salzburg, Austria, <sup>6</sup>University Hospital Düsseldorf, Düsseldorf, Germany, <sup>7</sup>Medical University Innsbruck, Innsbruck, Austria, <sup>8</sup>Christian Doppler Clinic and Center for Neurocognitive Research, Paracelsus Private Medical Universi, Salzburg, Austria, <sup>9</sup>Institute for Diagnostic Radiology, Stiftungsklinikum Mittelrhein, Koblenz, Germany, <sup>10</sup>Department of Neurology, Christian-Doppler-Clinic, Salzburg, Austria, <sup>11</sup>Heinrich-Heine-University Dusseldorf, Düsseldorf, Germany, <sup>12</sup>Department of Neurology, Vienna, Austria
- 632 WTh Interleaved-TE fMRI Acquisitions with Highly Accelerated Multiband EPI**  
*Junqian Xu<sup>1</sup>, Edward Auerbach<sup>1</sup>, Steen Moeller<sup>1</sup>, Federico De Martino<sup>1,2</sup>, Essa Yacoub<sup>1</sup>, Kamil Ugurbil<sup>1</sup>*  
<sup>1</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, United States, <sup>2</sup>Department of Cognitive Neuroscience, Faculty of Psychology and Neuroscience, Maastricht, Netherlands
- 633 WTh Mapping of Olfactory Networks in the Human Brain Using Resting-State fMRI**  
*Qing X Yang<sup>1</sup>, Han Zhang<sup>2</sup>, Jianli wang<sup>1</sup>, Prasanna Karunanayaka<sup>3</sup>, Megha Patel<sup>1</sup>, Paul Eslinger<sup>1</sup>*  
<sup>1</sup>Penn State College of Medicine, Hershey, PA, <sup>2</sup>Center for Cognition and Brain Disorder, Hangzhou Normal University, Hang Zhou, China, <sup>3</sup>Department of Radiology (Center for NMR Research), The Pennsylvania State University, Hershey, United States
- 634 WTh Real time visualisation of retinotopic mapping using concentric shells MR-Encephalography (MREG)**  
*Benjamin Zahneisen<sup>1,2</sup>, Pierre LeVan<sup>2</sup>, Thomas Ernst<sup>3</sup>, Jürgen Hennig<sup>2</sup>*  
<sup>1</sup>Neuroscience and MR Research Program Department of Medicine, Honolulu, United States, <sup>2</sup>University Medical Center Freiburg, Freiburg, Germany, <sup>3</sup>Department of Medicine, University of Hawaii at Manoa, Honolulu, HI
- 635 WTh Neural mechanisms on the deliberate modification of emotional responses to negative stimuli**  
*Jingna Zhang<sup>1</sup>, mingguo qiu<sup>1</sup>, lin qiong Sang<sup>1</sup>, ye zhang<sup>1</sup>, Bing Xie<sup>2</sup>, Li Wang<sup>1</sup>*  
<sup>1</sup>Department of medical informatics and medical image, Third Military Medical University, chongqing, China, <sup>2</sup>Department of Radiology, Southwest Hospital, chongqing, China
- 636 WTh Improved response to face recognition in UHF fMRI through parallel transmission RF pulse design**  
*Hai Zheng<sup>1</sup>, Tiejun Zhao<sup>2</sup>, Kathryn Edelman<sup>3</sup>, Yongxian Qian<sup>4</sup>, Tamer Ibrahim<sup>5</sup>, Howard Aizenstein<sup>6</sup>, Fernando Boada<sup>5</sup>*  
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- 637 WTh Sensitivity and specificity of gradient echo and GRASE signals at different relative cortical depths**  
*Jan Zimmermann<sup>1</sup>, Federico De Martino<sup>1</sup>, Lars Muckli<sup>2</sup>, Kamil Ugurbil<sup>3</sup>, Essa Yacoub<sup>4</sup>, Rainer Goebel<sup>1</sup>*  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>Centre for Cognitive Neuroimaging, Glasgow University, Glasgow, United Kingdom, <sup>3</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, United States, <sup>4</sup>University of Minnesota, Minneapolis, United States

## IMAGING METHODS

### Diffusion MRI

- 638 WTh Manual dexterity is linked to asymmetry in the corticospinal tract: a DTI study in adolescents**  
*Steffen Angstmann<sup>1</sup>, Kathrine Skak Madsen<sup>1,2</sup>, Terry Jernigan<sup>1,2,3</sup>, William Baaré<sup>1,2</sup>, Hartwig Siebner<sup>1,2</sup>*  
<sup>1</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark, <sup>2</sup>Center for Integrated Molecular Brain Imaging, Copenhagen, Denmark, <sup>3</sup>Center for Human Development, University of California, San Diego, CA
- 639 WTh DTI in the Normal and Injured Pediatric Spinal Cord: Reliability and Clinical Correlation**  
*Nadia Barakat<sup>1</sup>, Feroze Mohamed<sup>2</sup>, Devon Middleton<sup>3</sup>, John Gaughan<sup>4</sup>, Pallav Shah<sup>3</sup>, Jürgen Finsterbusch<sup>5</sup>, Amer Samdan<sup>6</sup>, Scott Faro<sup>7</sup>, MJ Mulcahey<sup>8</sup>*  
<sup>1</sup>Temple University, Philadelphia, United States Minor Outlying Islands, <sup>2</sup>Temple university, philadelphia, PA, <sup>3</sup>Temple University, Philadelphia, United States, <sup>4</sup>Temple University, philadelphia, United States, <sup>5</sup>Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany, <sup>6</sup>Shriners hospital for children, Philadelphia, United States, <sup>7</sup>Temple University, Philadelphia, PA, <sup>8</sup>Shriners hospital for children, philadelphia, PA
- 640 WTh Demonstration of a novel prospective motion correction technique for diffusion neuroimaging**  
*Himanshu Bhat<sup>1</sup>, Julien Cohen-Adad<sup>2</sup>, M. Dylan Tisdal<sup>2</sup>, André Van der Kouwe<sup>2</sup>, Keith Heberlein<sup>1</sup>*  
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- 641 WTh Evidence of uncrossed corticospinal tract using TMS and DTI**  
*Marie-Hélène Boudrias<sup>1</sup>, Nagako Murase<sup>1</sup>, Chang-hyun Park<sup>1</sup>, John Rothwell<sup>1</sup>, Nick Ward<sup>1</sup>, Christian Lambert<sup>1</sup>*  
<sup>1</sup>UCL Institute of Neurology, London, United Kingdom
- 642 WTh Associations between Cortical Tissue Microstructure and Cerebral Blood Flow in Aging**  
*Jean Chen<sup>1,2</sup>, H. Diana Rosas<sup>2,3</sup>, David Salat<sup>2,4,5</sup>*  
<sup>1</sup>Rotman Research Institute, Toronto, Canada, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, <sup>3</sup>Massachusetts General Hospital, Boston, MA, <sup>4</sup>VA Boston Health Care System, Boston, MA, <sup>5</sup>Dept. of Radiology, Massachusetts General Hospital, Boston, MA
- 643 WTh Left/Right Asymmetries in Brain Connectivity Intensify with Age: An N=569 HARDI Study**  
*Madelaine Daianu<sup>1</sup>, Neda Jahanshad<sup>1</sup>, Emily Dennis<sup>1</sup>, Arthur Toga<sup>1</sup>, Katie McMahon<sup>2</sup>, Greig de Zubicaray<sup>2</sup>, Nicholas Martin<sup>3</sup>, Margaret Wright<sup>4,2</sup>, Ian Hickie<sup>4</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, <sup>2</sup>University of Queensland, Brisbane, Australia, <sup>3</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>4</sup>University of Sydney, Sydney, Australia
- 644 WTh Can Spherical Deconvolution provide more information than fibre orientations?**  
*Flavio Dell'Acqua<sup>1</sup>, Andrew Simmons<sup>1</sup>, Steven Williams<sup>1</sup>, Marco Catani<sup>1</sup>*  
<sup>1</sup>Institute of Psychiatry - King's College London, London, United Kingdom
- 645 WTh Intrinsic Anisotropy of Crossing Fibers Estimated by Multiple Kernel Spherical Deconvolution**  
*Qiuyun Fan<sup>1,2</sup>, Xin Hong<sup>2</sup>, Nicole Davis<sup>2,3</sup>, Laurie Cutting<sup>4,3,5,6,7</sup>, Adam Anderson<sup>1,2,3</sup>*  
<sup>1</sup>Biomedical Engineering, Vanderbilt University, Nashville, TN, <sup>2</sup>Vanderbilt University Institute of Imaging Science, Nashville, TN, <sup>3</sup>Department of Radiology and Radiological Sciences, Vanderbilt University, Nashville, TN, <sup>4</sup>Vanderbilt University, Nashville, TN, <sup>5</sup>Department of Pediatrics, Vanderbilt University, Nashville, TN, <sup>6</sup>Department of Special Education, Peabody College, Vanderbilt University, Nashville, TN, <sup>7</sup>Department of Psychology, Vanderbilt University, Nashville, TN
- 646 WTh Functional and clinical correlates of fronto-occipital connections**  
*Stephanie Forkel<sup>1</sup>, Adrian Danek<sup>2</sup>, Jamie Kawadler<sup>3</sup>, Flavio Dell'Acqua<sup>4</sup>, Michel Thiebaut de Schotten<sup>5</sup>*  
<sup>1</sup>King's College London, London, United Kingdom, <sup>2</sup>Ludwigs-Maximilian-University Munich, Munich, Germany, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>Natbrainlab - Institute of Psychiatry, London, United Kingdom, <sup>5</sup>Institute of Psychiatry, London, United Kingdom
- 647 WTh Tract based spatial statistics of diffusion weighted MRI in adults with Parkinson's disease**  
*Amanmeet Garg<sup>1</sup>, Ali Khan<sup>1</sup>, Martin McKeown<sup>2</sup>, Mirza Faisal Beg<sup>1</sup>*  
<sup>1</sup>Simon Fraser University, Burnaby, Canada, <sup>2</sup>University of British Columbia, Vancouver, Canada

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- 648 WTh Healthy Human Brain and Patient Customized Quantitative MRI Templates and their interplay using VBM**  
*Khader Hasan<sup>1</sup>, Joel Steinberg<sup>2</sup>, Gerry Moeller<sup>2</sup>, Liangsuo Ma<sup>2</sup>, Richard Frye<sup>3</sup>, ponnada narayana<sup>2</sup>*  
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- 649 WTh Engineering the Human Connectome Project: Concepts and Realization of High Performance MR**  
*Keith Heberlein<sup>1</sup>, Ralph Kimmlingen<sup>2</sup>, Eva Eberlein<sup>2</sup>, Philipp Hoecht<sup>1</sup>, Dingxin Wang<sup>3</sup>, Thomas Witzel<sup>4</sup>, M. Dylan Tisdall<sup>4</sup>, Boris Keil<sup>4</sup>, Gregor Adriany<sup>5</sup>, Edward Auerbach<sup>5</sup>, Junqian Xu<sup>5</sup>, Essa Yacoub<sup>5</sup>, Steen Moeller<sup>6</sup>, David Feinberg<sup>6</sup>, Lawrence Wald<sup>4</sup>, Kamil Ugurbil<sup>5</sup>, David Van Essen<sup>7</sup>, Van Wedeen<sup>8</sup>, Franz Schmitt<sup>2</sup>*  
<sup>1</sup>Siemens Healthcare, Charlestown, MA, <sup>2</sup>Siemens Healthcare, Erlangen, Germany, <sup>3</sup>Siemens Healthcare, Minneapolis, MN, <sup>4</sup>A.A. Martinos Center for Biomedical Imaging, Boston, MA, <sup>5</sup>Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN, <sup>6</sup>Advanced MRI Technologies, UC Berkeley, Berkeley, CA, <sup>7</sup>Washington University, St Louis, MO, <sup>8</sup>A.A. Martinos Center for Biomedical Imaging, Charlestown, MA
- 650 WTh Sex difference of white matter anisotropic diffusion in developing adolescent brain**  
*Scott Holland<sup>1,2</sup>, Yingying Wang<sup>1,2</sup>, Weihong Yuan<sup>1</sup>, Mekibib Altaye<sup>1</sup>, Chris Adamson<sup>3</sup>, Akila Rajagopal<sup>1</sup>*  
<sup>1</sup>Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States, <sup>2</sup>University of Cincinnati, Cincinnati, OH, United States, <sup>3</sup>Murdoch Children's Research Institute, Victoria, Australia
- 651 WTh Head Motion Artifact Index in Diffusion Weighted Imaging**  
*Lejian Huang<sup>1</sup>, Kristina Herrmann<sup>1</sup>, Marwan Baliki<sup>1</sup>, Ali Mansour<sup>1</sup>, A. Vania Apkarian<sup>1</sup>*  
<sup>1</sup>Northwestern University, Chicago, IL, United States
- 652 WTh A biomimetic phantom of white matter for diffusion MRI - reproducibility and transportability**  
*Penny Hubbard<sup>1</sup>, Feng-Lei Zhou<sup>1</sup>, Tim Dyrby<sup>2</sup>, Stephen Eichhorn<sup>3</sup>, Geoff Parker<sup>1</sup>*  
<sup>1</sup>Imaging Sciences, The University of Manchester, Manchester, United Kingdom, <sup>2</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark, <sup>3</sup>The University of Exeter, Exeter, United Kingdom
- \*653 WTh Automatic HARDI White Matter Tract Labeling with Multiple Atlas Fusion (O-Th2)**  
*Yan Jin<sup>1</sup>, Yonggang Shi<sup>1</sup>, Liang Zhan<sup>1</sup>, Jesse Brown<sup>1</sup>, Susan Bookheimer<sup>1</sup>, Arthur Toga<sup>1</sup>, Greig de Zubicaray<sup>2</sup>, Katie McMahon<sup>2</sup>, Nicholas Martin<sup>3</sup>, Margaret Wright<sup>3</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, CA, <sup>2</sup>University of Queensland, Brisbane St. Lucia, Queensland, <sup>3</sup>Queensland Institute of Medical Research, Herston, Queensland
- 654 WTh New Non-linear Color Look-up Table for Fractional Anisotropy Demonstrated on Multiple System Atrophy**  
*Ji í Keller<sup>1,2</sup>, Aaron Rulseh<sup>2</sup>, Josef Vymaza<sup>2</sup>, Iva Latnerová<sup>2</sup>, Arnost Komárek<sup>3</sup>, Robert Rusina<sup>4</sup>, Hana Brožová<sup>5</sup>*  
<sup>1</sup>Third Faculty of Medicine, Charles University, Prague, Czech Republic, <sup>2</sup>Na Homolce Hospital, Prague, Czech Republic, <sup>3</sup>Faculty of Mathematics and Physics, Charles University, Prague, Czech Republic, <sup>4</sup>Thomayer hospital, Prague, Czech Republic, <sup>5</sup>Department of Neurology & Center of Clinical Neuroscience, 1st Faculty of Medicine, Charles University, Prague, Czech Republic
- 655 WTh BDNF Polymorphism Influence the Degeneration of Corticospinal Tract in Subacute Stroke Patients**  
*Yun-Hee Kim<sup>1</sup>, Won Hyuk Chang<sup>1</sup>, Oh Young Bang<sup>1</sup>, Sung-Tae Kim<sup>1</sup>, Jun Seok Kim<sup>1</sup>, Ji-Young Park<sup>1</sup>, Ahee Lee<sup>1</sup>*  
<sup>1</sup>Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 656 WTh Microstructure of multiple sclerosis lesions**  
*Zsigmond Tamas Kincses<sup>1,2</sup>, Eszter Tóth<sup>1</sup>, Nikoletta Szabó<sup>1,2</sup>, Judit Füvesi<sup>1</sup>, Krisztina Bencsik<sup>1</sup>, László Vécsei<sup>1</sup>*  
<sup>1</sup>Department of Neurology, Albert Szent-Györgyi Clinical Center, University of Szeged, Szeged, Hungary, <sup>2</sup>International Clinical Research Center, St. Anne's University Hospital, Brno, Czech Republic
- 657 WTh The Brain Networks using diffusion tensor imaging tractography Based on Data-Driven Nodes and Edges**  
*Hunki Kwon<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Jun Sung Park<sup>1</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of

- 658 WTh Cortical thickness Guided Mean Diffusivity mapping to cortical surface**  
*Ohhun Kwon<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Sang Won Seo<sup>3</sup>, Jun Sung Park<sup>1</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 659 WTh DTI analysis along fibre tracts in depression. A preliminary tractography study**  
*Davide Laneri<sup>1</sup>, Bruno Dietsche<sup>2</sup>, Alexandra Hellerbach<sup>3</sup>, Heide Lore Backes<sup>2</sup>, Tilo Kircher<sup>4</sup>, Carsten Konrad<sup>5</sup>, Axel Krug<sup>5</sup>, Andreas Jansen<sup>6</sup>, Jens Sommer<sup>5</sup>*  
<sup>1</sup>University of Marburg, N/A, <sup>2</sup>Department of Psychiatry and Psychotherapy, Philipps-University Marburg, Marburg, Germany, <sup>3</sup>Department of Psychiatry and Psychotherapy, Section of BrainImaging, University of Marburg, Marburg, Germany, <sup>4</sup>Klinik für Psychiatrie und Psychotherapie der Philipps-Universität Marburg, Germany, Marburg, Germany, <sup>5</sup>Philipps-University, Marburg, Germany, <sup>6</sup>University of Marburg, Marburg, Germany
- 660 WTh Acceleration of Probabilistic Tractography Using Multi-GPU Parallel Processing**  
*Jungsoo Lee<sup>1</sup>, Sun Mi Park<sup>1</sup>, Dae-Shik Kim<sup>1</sup>*  
<sup>1</sup>Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of
- 661 WTh A Diffusion Tensor Imaging Study of White Matter Integrity in Violent Offenders with Schizophrenia**  
*Yi Liao<sup>1</sup>, Xiaoqi Huang<sup>1</sup>, Qizhu Wu<sup>1</sup>, Fei Li<sup>1</sup>, Lihua Qiu<sup>1</sup>, Jianmei Liu<sup>2</sup>, Danlin Shen<sup>2</sup>, Junmei Hu<sup>2</sup>, Qiyong Gong<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>School of Basic Science and Forensic Medicine, Sichuan University, Chengdu, Sichuan
- 662 WTh Impact of Geometric Distortion Correction on Fiber Orientation Distributions**  
*Jian Lin<sup>1</sup>, Erik Beall<sup>1</sup>, Mark Lowe<sup>1</sup>, Lael Stone<sup>1</sup>, Ken Sakaie<sup>1</sup>*  
<sup>1</sup>The Cleveland Clinic, Cleveland, United States
- 663 WTh Diffusion Imaging Assessment Methodology**  
*Kecheng Liu<sup>1</sup>, David Porter<sup>2</sup>, Wanyong Shin<sup>3</sup>, Erik Beall<sup>4</sup>, Ken Sakaie<sup>3</sup>*  
<sup>1</sup>Siemens Medical Solutions, Inc, Malvern, PA, <sup>2</sup>Siemens Healthcare, Erlangne, Germany, <sup>3</sup>Cleveland Clinic, Cleveland, OH, <sup>4</sup>Cleveland Clinic Foundation, Cleveland, OH
- 664 WTh DWI at 7T with a High Performance Gradient System and a 32 Channel Head Coil: Resolution vs Time**  
*Ralf Lützkendorf<sup>1</sup>, Robin Heidemann<sup>2</sup>, Alfred Anwander<sup>2</sup>, Joerg Stadler<sup>3</sup>, Thorsten Feiweier<sup>4</sup>, Johannes Bernarding<sup>1</sup>*  
<sup>1</sup>IBMI, Otto-von-Guericke University, Magdeburg, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany, <sup>4</sup>Siemens Healthcare, Erlangen, Germany
- \*665 WTh In Vivo Human Brain Measurements of Axon Diameter Using 300 mT/m Maximum Gradient Strengths (O-Th2)**  
*Jennifer McNab<sup>1</sup>, M. Dylan Tisdall<sup>1</sup>, Boris Keil<sup>1</sup>, Thomas Witzel<sup>2</sup>, Himanshu Bhat<sup>3</sup>, Keith Heberlein<sup>3</sup>, Julien Cohen-Adad<sup>1</sup>, Lawrence Wald<sup>1</sup>*  
<sup>1</sup>A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Harvard Medical School, Boston, USA, <sup>2</sup>A.A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Boston, USA, <sup>3</sup>Siemens Medical Solutions USA Inc., Charlestown, USA
- 666 WTh Altered white matter integrity in Children with Prelingual deafness: A high resolution DTI study**  
*Wen Miao<sup>1</sup>, Jianhong Li<sup>2</sup>, Ming Tang<sup>3</sup>, Junfang Xian<sup>2</sup>, Wenjing Li<sup>1</sup>, Zhaohui Liu<sup>2</sup>, Sha Liu<sup>4</sup>, Bernhard Sabel<sup>5</sup>, Zhenchang Wang<sup>2</sup>, Huiguang He<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, CAS, Beijing, China, <sup>2</sup>Department of Radiology, Beijing Tongren Hospital, Capital Medical University, Beijing, China, <sup>3</sup>National Lab of Pattern Recognition, Institute of Automation, CAS, Beijing, China, <sup>4</sup>Beijing Institute of Otolaryngology, Beijing Tongren Hospital, Capital Medical University, Beijing, China, <sup>5</sup>Institute of Medical Psychology, Otto-von-Guericke University of Magdeburg, Magdeburg, Germany
- 667 WTh Quality check on results of DTI analysis: stability effects due to motion artifacts**  
*Hans-Peter Müller<sup>1</sup>, Bernhard Landwehrmeyer<sup>1</sup>, Albert Ludolph<sup>1</sup>, Stefan Klöppele<sup>2</sup>, Jan Kassubek<sup>1</sup>*  
<sup>1</sup>Dept. of Neurology, University of Ulm, Ulm, Germany, <sup>2</sup>Freiburg Brain Imaging, Dept. of Psychiatry and Psychotherapy, University of Freiburg, Freiburg, Germany

## IMAGING METHODS

### Diffusion MRI, continued

- 668 WTh Thalamocortical pathways for pain and touch in thin fiber denervated patients: a DTI study**  
*Irene Perini<sup>1</sup>, Simon Bergstrand<sup>1</sup>, Håkan Olausson<sup>1</sup>, India Morrison<sup>1</sup>*  
<sup>1</sup>Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden
- 669 WTh Could high-resolution acquisition performed on clinical 3T scanner increase the quality of DTI data?**  
*Eric Peterson<sup>1</sup>, Olivier Periot<sup>2</sup>, Gwénaëlle Catheline<sup>2,3</sup>, Jean-michel FRANCONI<sup>1</sup>, Michèle Allard<sup>2,3</sup>, Bassem Hiba<sup>1</sup>*  
<sup>1</sup>UMR 5536 CNRS/Université Victor Segalen, bordeaux, France, <sup>2</sup>INCIA, UMR CNRS 5287, Bordeaux, France, <sup>3</sup>EPHE, Bordeaux, France
- 670 WTh Genetic Analysis of Fibers in White Matter Pathways from HARDI Images**  
*Gautam Prasad<sup>1</sup>, Shantanu Joshi<sup>2</sup>, Neda Jahanshad<sup>2</sup>, Julio Villalon Reina<sup>3</sup>, Iman Aganj<sup>4</sup>, Christophe Lenglet<sup>5</sup>, Guillermo Sapiro<sup>6</sup>, Katie McMahon<sup>6</sup>, Greig de Zubicaray<sup>7</sup>, Nicholas Martin<sup>8</sup>, Margaret Wright<sup>9</sup>, Arthur Toga<sup>2</sup>, Paul Thompson<sup>10</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, USA, <sup>2</sup>UCLA, Los Angeles, CA, <sup>3</sup>Laboratory of Neuro Imaging - UCLA School of Medicine, N/A, <sup>4</sup>Radiology, Massachusetts General Hospital, Harvard Medical School / EECS, MIT, Boston, United States, <sup>5</sup>University of Minnesota, Minneapolis, MN, <sup>6</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, <sup>7</sup>University of Queensland, Brisbane, Australia, <sup>8</sup>Queensland Institute of Medical Research, Herston, Queensland, <sup>9</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>10</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 671 WTh VLPFC-Striatum Pathway in First-Episode Schizophrenia: A Cross-Sectional and Longitudinal DTI Study**  
*Meina Quan<sup>1,2,3</sup>, Yingying Tang<sup>1,4</sup>, Marek Kubicki<sup>1,2,3</sup>, Robert McCarley<sup>1,2,3</sup>, James Levitt<sup>1,2</sup>, Jijun Wang<sup>4</sup>, Martha Shenton<sup>1,2,3</sup>*  
<sup>1</sup>Psychiatry Neuroimaging Laboratory, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, United States, <sup>2</sup>Clinical Neuroscience Division, Laboratory of Neuroscience, Department of Psychiatry, Boston VA Healthcare System, Brockton Division and Harvard Medical School, Brockton, MA, United States, <sup>3</sup>Boston CIDAR, Boston, MA, United States, <sup>4</sup>Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China
- 672 WTh Spatial regularized high resolution DTI using independent component analysis and total variation**  
*Gernot Reishofer<sup>1</sup>, Karl Koschutnig<sup>2</sup>, Christian Langkammer<sup>1</sup>, Margit Jehna<sup>1</sup>, Franz Ebner<sup>1</sup>*  
<sup>1</sup>Medical University of Graz, Graz, Austria, <sup>2</sup>University of Graz, Graz, Austria
- 673 WTh The effect of iron on diffusion tensor-derived scalars**  
*Aaron Rulseh<sup>1</sup>, Jiří Keller<sup>2</sup>, Jaroslav Tintera<sup>3</sup>, Milan Kozisek<sup>4</sup>, Josef Vymazal<sup>5</sup>*  
<sup>1</sup>Na Homolce Hospital, Prague, Czech Republic, <sup>2</sup>Nemocnice Na Homolce, Prague, Czech Republic, <sup>3</sup>Department of Radiology, Institute for Clinical and Experimental Medicine, Prague, Czech Republic, <sup>4</sup>Institute of Organic Chemistry and Biochemistry, Gilead Sciences and IOCB Research Center, Prague, Czech Republic, <sup>5</sup>Na Homolce hospital, Prague, Czech Republic
- 674 WTh Corrections to Diffusivity Values in Fornix**  
*Ken Sakaie<sup>1</sup>, Katherine Koenig<sup>1</sup>, Micheal Phillips<sup>1</sup>, Robert Bermel<sup>1</sup>, Lael Stone<sup>2</sup>, Mark Lowe<sup>1</sup>*  
<sup>1</sup>Imaging Institute, The Cleveland Clinic, Cleveland, United States, <sup>2</sup>Mellen Center, The Cleveland Clinic, Cleveland, United States
- 675 WTh Experimental Calculation of Difference in Shannon Information Between QBI ODF and DSI ODF**  
*Carlos Santos<sup>1</sup>, Rui Lavrador<sup>1</sup>, Nicolás Lori<sup>1,2</sup>*  
<sup>1</sup>IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal, <sup>2</sup>BINP - Brain Imaging Network in Portugal, Coimbra, Portugal
- 676 WTh MRI mean diffusivity detects widespread brain degeneration in multiple sclerosis**  
*Joe Senda<sup>1</sup>, Takashi Tsuboi<sup>1</sup>, Kazuhiro Hara<sup>1</sup>, Ryoichi Nakamura<sup>1</sup>, Hazuki Watanabe<sup>1</sup>, Mizuki Ito<sup>1</sup>, Naoki Atsuta<sup>1</sup>, Hirohisa Watanabe<sup>1</sup>, Shinji Naganawa<sup>2</sup>, Gen Sobue<sup>1</sup>*  
<sup>1</sup>Department of Neurology, Nagoya University Graduate School of Medicine, Nagoya, Japan, <sup>2</sup>Department of Radiology, Nagoya University Graduate School of Medicine, Nagoya, Japan
- 677 WTh Neural injury of uncinate fasciculus in patients with diffuse axonal injury**  
*Jeong Pyo Seo<sup>1</sup>, Mi Young Lee<sup>2</sup>, Sung Ho Jang<sup>3</sup>*  
<sup>1</sup>Department of Physical Therapy, Graduate School of Rehabilitation Science, Daegu University, Daegu, Korea, Republic of, <sup>2</sup>Dept. of Physical Therapy, College of Health and Therapy, Daegu Haany University, Daegu, Korea, Republic of, <sup>3</sup>Department of Physical Medicine and Rehabilitation, College of Medicine, Yeungnam University, Daegu, Korea, Republic of

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- 678 WTh 3D Trajectory of ROTating Planes using Fast spin Echo (3D TROPFE) for Sub-millimeter Resolution DTI**  
*Ashish Tamhane<sup>1</sup>, Yonghua Xu<sup>2</sup>, Lixia Yang<sup>2</sup>, Bin Chen<sup>3</sup>, Xiaodong Guo<sup>1</sup>, Michael Vannier<sup>1</sup>, Jia-Hong Gao<sup>1</sup>*  
<sup>1</sup>Brain Research Imaging Center and Department of Radiology, University of Chicago, Chicago, IL, United States, <sup>2</sup>Xuhui Central Hospital of Shanghai and Chinese Academy of Sciences Shanghai Medical Center, Shanghai, China, <sup>3</sup>Department of Electrical and Computer Engineering, Purdue University Calumet, Hammond, IN, United States
- 679 WTh Reproducibility of Fractional Anisotropy**  
*Jasmin Tröstl<sup>1</sup>, Ronald Sladky<sup>1</sup>, Roland Boubela<sup>1</sup>, Jacqueline Atanelov<sup>1</sup>, Emrah Kacar<sup>1</sup>, Claus Lamm<sup>2</sup>, Ewald Moser<sup>1</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>MR Centre Of Excellence, Medical University Of Vienna, Vienna, Austria, <sup>2</sup>SCAN-Unit, Faculty of Psychology, University of Vienna, Vienna, Austria
- 680 WTh How do cortical thickness profiles depend on thalamic connectivity?**  
*Julio Villalon Reina<sup>1</sup>, Neda Jahanshad<sup>2</sup>, Anand Joshi<sup>3</sup>, Katie McMahon<sup>4</sup>, Greig Zubicaray<sup>5</sup>, Nicholas Martin<sup>6</sup>, Margie Wright<sup>7</sup>, Arthur Toga<sup>2</sup>, Richard Leahy<sup>3</sup>, Paul Thompson<sup>9</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging - UCLA School of Medicine, N/A, <sup>2</sup>UCLA, Los Angeles, CA, <sup>3</sup>University of Southern California, Los Angeles, CA, <sup>4</sup>Centre for Advanced Imaging, The University of Queensland, Brisbane, QLD, <sup>5</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>6</sup>Genetic Epidemiology Laboratory, Queensland Institute of Medical Research, Brisbane, Australia, <sup>7</sup>University of Queensland, School of Psychology, Brisbane, Australia, <sup>8</sup>University of Southern California, Los Angeles, United States, <sup>9</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA
- 681 WTh Optimization of qDTI for Accessing Orientationally Invariant Human Axonal Diameter**  
*Jun-Cheng Weng<sup>1</sup>, Yu-Han Hong<sup>1</sup>, Yeu-Sheng Tyan<sup>2</sup>*  
<sup>1</sup>School of Medical Imaging and Radiological Sciences, Chung Shan Medical University, Taichung, <sup>2</sup>Department of Medical Imaging, Chung Shan Medical University Hospital, Taichung
- 682 WTh Thalamocortical tract between anterior thalamic nuclei and cingulate gyrus in the human brain**  
*Sang Seok Yeo<sup>1</sup>, Mi Young Lee<sup>2</sup>, Sung Ho Jang<sup>3</sup>*  
<sup>1</sup>Department of Rehabilitation Science, Graduate School, Daegu University, Daegu, Korea, Republic of, <sup>2</sup>Dept. of Physical Therapy, College of Health and Therapy, Daegu Haany University, Daegu, Korea, Republic of, <sup>3</sup>Department of Physical Medicine and Rehabilitation, College of Medicine, Yeungnam University, Daegu, Korea, Republic of
- 683 WTh Field strength effects on brain structural connectivity and networks in HARDI**  
*Liang Zhan<sup>1</sup>, Neda Jahanshad<sup>2</sup>, Christophe Lenglet<sup>3</sup>, Bryon A. Mueller<sup>3</sup>, Guillermo Sapiro<sup>3</sup>, Noam Harel<sup>3</sup>, Kelvin O. Lim<sup>3</sup>, Paul Thompson<sup>4</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, United States, <sup>2</sup>University of California Los Angeles, Los Angeles, CA, <sup>3</sup>University of Minnesota, Minneapolis, MN, <sup>4</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 684 WTh How does spatial resolution affect brain connectivity maps?**  
*Liang Zhan<sup>1</sup>, Daniel Franc<sup>2</sup>, Vishal Patel<sup>2</sup>, Neda Jahanshad<sup>3</sup>, Yan Jin<sup>2</sup>, Bryon A. Mueller<sup>4</sup>, Matt Bernstein<sup>5</sup>, Bret Borowski<sup>5</sup>, Clifford Jack<sup>5</sup>, Kelvin O. Lim<sup>4</sup>, Paul Thompson<sup>6</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, United States, <sup>2</sup>University of California, Los Angeles, Los Angeles, CA, <sup>3</sup>UCLA, Los Angeles, United States, <sup>4</sup>University of Minnesota, Minneapolis, MN, <sup>5</sup>Department of Radiology, Mayo Clinic and Foundation, Rochester, MN, <sup>6</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 685 WTh Registration of Spherical Functions from HARDI using Heat Kernel Signature and Möbius Transformation**  
*Liang Zhan<sup>1</sup>, Yalin Wang<sup>2</sup>, Paul Thompson<sup>3</sup>*  
<sup>1</sup>University of California, Los Angeles, Los Angeles, United States, <sup>2</sup>Arizona State University, Mesa, AZ, <sup>3</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, United States
- 686 WTh Latent State-Trait Structure of Resting CBF Before and after Sleep Deprivation**  
*Senhua Zhu<sup>1,2</sup>, Siyuan Hu<sup>2</sup>, Julian Lim<sup>2</sup>, Fang Zhuo<sup>1,2</sup>, Wenchau Wu<sup>2</sup>, David Dinges<sup>2</sup>, John Detre<sup>2</sup>, Hengyi Rao<sup>1,2</sup>*  
<sup>1</sup>Sun Yat-sen University, Guangzhou, China, <sup>2</sup>University of Pennsylvania, Philadelphia, United States

## IMAGING METHODS

### EEG

- 687 WTh EEG DMN: Where is the Light?**  
*Andrew CHEN<sup>\*1</sup>, Kung WANG<sup>1</sup>, Weiqi CUI<sup>2</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical Univers, Beijing, China, <sup>2</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 688 WTh EEG spectral field power (SFP), event-related field potential (ERFP): Human 3D-4D brain function**  
*Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 689 WTh EEG default mode network: Effects of eyes-closed vs. eyes-open on event-related field potentials**  
*Weiqi CUI<sup>1</sup>, Andrew CHEN<sup>\*1</sup>*  
<sup>1</sup>Center for Higher Brain Functions, Capital Medical Univers, Beijing, China
- 690 WTh A novel BCG-artefact correction algorithm for co-registered EEG/fMRI**  
*Jan De Munck<sup>1</sup>, Petra van Houdt<sup>2</sup>, Pauly Ossenblok<sup>3</sup>*  
<sup>1</sup>VU University Medical Center, Amsterdam, Netherlands, <sup>2</sup>Epilepsy Centre Kempenhaeghe, Heeze, Netherlands, <sup>3</sup>Epilepsy center kempenhaeghe, Heeze, Netherlands
- 691 WTh Statistical inference using EEG and fMRI collections of event-related trials from multiple subjects**  
*Arnaud Delorme<sup>1</sup>, Jung Tzyy-Ping<sup>1</sup>, Scott Makeig<sup>1</sup>*  
<sup>1</sup>Swartz Center for Computational Neuroscience, UCSD, La Jolla, CA, United States
- 692 WTh Spectral alteration of brain waves during MBSR meditation: a longitudinal EEG study**  
*Junling Gao<sup>1</sup>, Shan Li<sup>2</sup>, Zhiguo Zhang<sup>2</sup>, Hinhung Sik<sup>3</sup>, Yeungsam Hung<sup>2</sup>, Shingchow Chan<sup>2</sup>, Raymond Cheung<sup>1</sup>, Chunqi Chang<sup>2</sup>*  
<sup>1</sup>Dept. of Medicine, The University of Hong Kong, Hong Kong, Hong Kong, <sup>2</sup>Dept. of EEE, The University of Hong Kong, Hong Kong, Hong Kong, <sup>3</sup>Centre of Buddhism Studies, The University of Hong Kong, Hong Kong, Hong Kong
- 693 WTh Human cortical traveling waves: Dynamical properties and correlations with responses**  
*Pulin Gong<sup>1</sup>, Tim Patten<sup>2</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia, <sup>2</sup>The University of Sydney, Sydney, Australia
- 694 WTh The Coding of Decision and Action in Stimulus-response Binding**  
*Yi-Fang Hsu<sup>1</sup>, Florian Waszak<sup>1</sup>*  
<sup>1</sup>Universite Paris Descartes & CNRS, Paris, France
- 695 WTh ESI in epilepsy: An evaluation of different methods to solve the inverse problem in EEG real data**  
*Danilo Maziero<sup>1</sup>, Tonicarlo Velasco<sup>1</sup>, Marcio Sturzbecher<sup>1</sup>, Agustin Castellanos<sup>2</sup>, Carlos Salmon<sup>1</sup>*  
<sup>1</sup>University of São Paulo, Ribeirão Preto, Brazil, <sup>2</sup>Cuban Neurosciences Center, Havana, Cuba
- 696 WTh Withdrawn**
- 697 WTh Electric fields for anisotropic spherical shell model and their application to brain imaging**  
*Yury Petrov<sup>1</sup>*  
<sup>1</sup>Northeastern University, Boston, United States
- 698 WTh Withdrawn**
- 699 WTh Subsequent Memory Effect in Transient Responses of Photic Flicker-Induced EEG**  
*Naoyuki Sato<sup>1</sup>*  
<sup>1</sup>Future University Hakodate, Hakodate, Japan
- 700 WTh Comparing Finite Difference Forward Models Using Free Energy based on Multiple Sparse Priors**  
*Gregor Strobbe<sup>1</sup>, José David Lopez<sup>2</sup>, Victoria Montes<sup>1</sup>, Pieter van Mierlo<sup>1</sup>, Hans Hallez<sup>3,1</sup>, Stefaan Vandenberghe<sup>1</sup>*  
<sup>1</sup>MEDISIP, Ghent University - IBBT, Ghent, Belgium, <sup>2</sup>Universidad Nacional de Colombia, Medellín, Colombia, <sup>3</sup>Department of Industrial Sciences (IW&T), University College of Bruges-Ostend, Ostend, Belgium
- 701 WTh EEG Mapping of the Brain Listening to Music with Different Tempo: Evidences from Zero Reference EEG**  
*Yin Tian<sup>1,2</sup>, Yongxiu Lai<sup>2</sup>, Peng Xu<sup>2</sup>, weiyi Ma<sup>2</sup>, Dezhong Yao<sup>2</sup>*  
<sup>1</sup>Bio-information College, ChongQing University of Posts and Telecommunications, ChongQing, China, <sup>2</sup>Key Laboratory for NeuroInformation of Ministry of Education, School of Life Science and Technology, University of Electronic Science and Technology of China, ChengDu, China

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## IMAGING METHODS

### EEG, continued

- 702 WTh Exposure to Emotional Films Moulates Late Positive Potentials As Viewing Pictures of Same Emotion**  
*SHAO-YANG TSAI<sup>1,2</sup>, KAI-LUN HSIEH<sup>1</sup>, SHIAU-HUA LIU<sup>1</sup>*  
<sup>1</sup>Department of Counseling and Clinical Psychology, National Dong-hwu University, Hua-Lien, Chinese Taipei, <sup>2</sup>Department of Life Science, National Dong-hwu University, Hua-Lien, Chinese Taipei
- 703 WTh Influence of the DYX1C1 Gene on Orthographic Processing in Chinese Children: an ERP Study**  
*Jiuju Wang<sup>1</sup>, Hua Shu<sup>1</sup>, Mengmeng Su<sup>1</sup>, Yuping Zhang<sup>1</sup>*  
<sup>1</sup>National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 704 WTh EEG default mode network (EEG DMN): Effects of unilateral eyes-closed and eyes-open stimulation**  
*Kun WANG<sup>1</sup>, Andrew CHEN<sup>\*2</sup>*  
<sup>1</sup>Center for Hin Functions, Capital Medical University, Beijing, China, <sup>2</sup>Center for Higher Brain Functions, Capital Medical University, Beijing, China
- 705 WTh Reduced late positivity in younger adults, but not older adults, during short-term repetition**  
*Ting Zhou<sup>1</sup>, Juan Li<sup>2</sup>, Lucas Broster<sup>3</sup>, Yanan Niu<sup>4</sup>, Pengyun Wang<sup>4</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of sciences, Beijing, China, <sup>2</sup>Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Department of Behavioral Science, University of Kentucky College of Medicine, Lexington, KY, <sup>4</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China

## IMAGING METHODS

### MEG

- \*706 WTh "Investigating the temporal dynamics of resting state connectivity with MEG" (O-Th2)**  
*Adam Baker<sup>1</sup>, Matthew Brookes<sup>2</sup>, Penny Probert Smith<sup>1</sup>, Mark Woolrich<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>University of Nottingham, Nottingham, United Kingdom
- 707 WTh Sparse MEG Inversion with an L0 penalty**  
*Ben Cassidy<sup>1</sup>, Victor Solo<sup>2</sup>, Akila Seneviratne<sup>1</sup>*  
<sup>1</sup>The University of New South Wales, Sydney, Australia, <sup>2</sup>University of New South Wales, Sydney, Australia
- 708 WTh Divergence of expressive and receptive MEG defined Language in Refractory Partial Epilepsy**  
*Dawn Eliashiv<sup>1</sup>, Jeffrey Chung<sup>2</sup>, Nicole Gage<sup>3</sup>*  
<sup>1</sup>Cedars Sinai Medical Center, Los Angeles, United States, <sup>2</sup>Cedars Sinai Medical Center, Los Angeles, CA, <sup>3</sup>University of California at Irvine, Irvine, CA
- 709 WTh Measurement of Brain Function in Special Populations with Custom-Engineered MEG Systems**  
*Blake Johnson<sup>1</sup>, Stephen Crain<sup>1</sup>, Graciela Tesan<sup>1</sup>*  
<sup>1</sup>Macquarie University, Sydney, Australia
- 710 WTh Extracting resting state networks from Elekta Neuromag MEG data using independent component analysis**  
*Henry Luchoo<sup>1</sup>, Matthew Brookes<sup>2</sup>, Verena Heise<sup>3</sup>, Clare Mackay<sup>3</sup>, Klaus Ebmeier<sup>4</sup>, Peter Morris<sup>5</sup>, Mark Woolrich<sup>1</sup>*  
<sup>1</sup>Oxford Centre for Human Brain Activity, University of Oxford, Oxford, United Kingdom, <sup>2</sup>Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom, <sup>3</sup>FMRIB Centre, University of Oxford, Oxford, United Kingdom, <sup>4</sup>Dept. of Psychiatry, University of Oxford, Oxford, United Kingdom, <sup>5</sup>Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Oxford, United Kingdom
- \*\*711 WTh Investigating the frequency composition of resting state networks in MEG using ICA**  
*Henry Luchoo<sup>1</sup>, Matthew Brookes<sup>2</sup>, Verena Heise<sup>3</sup>, Clare Mackay<sup>3</sup>, Klaus Ebmeier<sup>4</sup>, Peter Morris<sup>2</sup>, Mark Woolrich<sup>1</sup>*  
<sup>1</sup>Oxford Centre for Human Brain Activity, University of Oxford, Oxford, United Kingdom, <sup>2</sup>Sir Peter Mansfield Magnetic Resonance Centre, University of Nottingham, Nottingham, United Kingdom, <sup>3</sup>FMRIB Centre, University of Oxford, Oxford, United Kingdom, <sup>4</sup>Dept. of Psychiatry, University of Oxford, Oxford, United Kingdom

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## IMAGING METHODS

### MEG, continued

- 712 WTh Imaging Complexity**  
*Stephen Robinson<sup>1</sup>, Arnold Mandell<sup>2</sup>, Richard Coppola<sup>3</sup>*  
<sup>1</sup>MEG Core Group, NIMH/NIH, Bethesda, United States, <sup>2</sup>UCSD & SRI, La Jolla, CA, <sup>3</sup>NIMH/NIH, Bethesda, MD
- 713 WTh Neuromagnetic response and its relation to cortical thickness in ultra-high-risk for psychosis**  
*Kyungsoon Shin<sup>1</sup>, Wi Hoon Jung<sup>2</sup>, June Sic Kim<sup>3</sup>, Joon Hwan Jang<sup>4</sup>, Jae Yeon Hwang<sup>4</sup>, Chun Kee Chung<sup>2</sup>, Jun Soo Kwon<sup>4</sup>*  
<sup>1</sup>Clinical Cognitive Neuroscience Center, Seoul, Korea, Republic of, <sup>2</sup>Seoul National University, Seoul, Korea, Republic of, <sup>3</sup>MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Department of Psychiatry, Seoul National University College of Medicine, Seoul, Korea, Republic of
- 714 WTh Posture effects on perspective taking as revealed by evoked and oscillatory responses in the MEG**  
*Hongfang Wang<sup>1</sup>, Klaus Kessler<sup>1</sup>*  
<sup>1</sup>University of Glasgow, Glasgow, United Kingdom
- 715 WTh Linking Behavior and Magnetoencephalographic Recordings with Video**  
*Andrey Zhdanov<sup>1,2</sup>, Juha Wilenius<sup>2</sup>, Ritva Paetau<sup>3,4</sup>, Antti Ahonen<sup>5</sup>, Jyrki Mäkelä<sup>2</sup>*  
<sup>1</sup>Aalto University School of Science, Espoo, Finland, <sup>2</sup>BioMag Laboratory, Helsinki University Central Hospital, Helsinki, Finland, <sup>3</sup>Department of Clinical Neurophysiology, Helsinki University Central Hospital, Helsinki, Finland, <sup>4</sup>Department of Pediatric Neurology, Helsinki University Central Hospital, Helsinki, Finland, <sup>5</sup>Elekta Oy, Helsinki, Finland

## IMAGING METHODS

### MR Spectroscopy

- 716 WTh Dynamic 31P-MRS during Visual Stimulation Protocols in healthy young adult subjects**  
*Felipe Barreto<sup>1,2</sup>, Carlos Salmon<sup>1,2</sup>, Thiago Costa<sup>3,4</sup>, Ricardo Landim<sup>5,4</sup>, Gabriela Castellano<sup>5,4</sup>*  
<sup>1</sup>Dept. of Physics, University of São Paulo, Ribeirão Preto, SP, Brazil, <sup>2</sup>CInAPCe, Ribeirão Preto, SP, Brazil, <sup>3</sup>Gleb Wataghin Physics Institute, UNICAMP, Campinas, SP, Brazil, <sup>4</sup>CInAPCe, Campinas, SP, Brazil, <sup>5</sup>Gleb Wataghin Physics Institute, UNICAMP, Campinas, Brazil
- 717 WTh Long-term investigation of primary motor cortex metabolism in concussed athletes**  
*Vincent Beaulé<sup>1</sup>, Sara Tremblay<sup>1</sup>, Louis De Beaumont<sup>2</sup>, Sebastien Proulx<sup>1</sup>, Julien Doyon<sup>1</sup>, Malgorzata Marjanska<sup>3</sup>, Maryse Lassonde<sup>1</sup>, Hugo Théoret<sup>1</sup>*  
<sup>1</sup>Université de Montréal, Montréal, Canada, <sup>2</sup>Université de Québec à Trois-Rivières, Trois-Rivières, Canada, <sup>3</sup>University of Minnesota, Minnesota, United States
- 718 WTh 31P-fMRS investigation of metabolite changes in visual cortex due to stimulus frequency variations**  
*Thiago Costa<sup>1</sup>, Ricardo Landim<sup>1</sup>, Elvis Silva<sup>1</sup>, Felipe Barreto<sup>2</sup>, Carlos Salmon<sup>2</sup>, Roberto Covolan<sup>1</sup>, Gabriela Castellano<sup>1</sup>*  
<sup>1</sup>Neurophysics Group, Gleb Wataghin Physics Institute, University of Campinas - UNICAMP, Campinas, Brazil, <sup>2</sup>Dept. of Physics and Mathematics, University of São Paulo at Ribeirão Preto - USP-RP, Ribeirão Preto, Brazil
- 719 WTh Neurochemical Effects of Fetal Alcohol Exposure in the Deep Cerebellar Nuclei**  
*Lindie Du Plessis<sup>1,2</sup>, Aaron Hess<sup>1,2</sup>, Christopher Molteno<sup>3,4</sup>, Joseph Jacobson<sup>5,4,6</sup>, Sandra Jacobson<sup>5,4,6</sup>, Ernesta Meintjes<sup>1,2</sup>, André Van der Kouwe<sup>7,8</sup>*  
<sup>1</sup>MRC/UCT Medical Imaging Research Unit, University of Cape Town, Cape Town, South Africa, <sup>2</sup>Department of Human Biology, University of Cape Town, Cape Town, South Africa, <sup>3</sup>University of Cape Town Faculty of Health Sciences, Cape Town, South Africa, <sup>4</sup>Department of Psychiatry and Behavioral Neurosciences, Wayne State University School of Medicine, Detroit, MI, <sup>5</sup>Wayne State University School of Medicine, Detroit, MI, <sup>6</sup>Department of Psychiatry, University of Cape Town, Cape Town, South Africa, <sup>7</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, <sup>8</sup>Department of Radiology, Harvard Medical School, Boston, MA

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## IMAGING METHODS

### MR Spectroscopy, continued

- 720 WTh** **Glutamate concentration in the anterior cingulate cortex and sensation seeking over the lifespan**  
*Tobias Gleich<sup>1</sup>, Robert Lorenz<sup>1</sup>, Simone Kühn<sup>1</sup>, Michael Rapp<sup>1</sup>, Juergen GALLINAT<sup>1</sup>*  
<sup>1</sup>Charité Universitätsmedizin Berlin, Berlin, Germany
- 721 WTh** **Withdrawn**
- 722 WTh** **Pictorial Review, analysis and comparison of MR spectroscopy of normal brain at 1.5T and 4T MRI**  
*Muhammad Naeem Khan<sup>1</sup>, Hina Mohsin<sup>2</sup>*  
<sup>1</sup>IWK health centre, Dalhousie University, Halifax, Nova Scotia, N/A, <sup>2</sup>IWK health centre, Halifax, Canada
- 723 WTh** **LCModel Identification of Macromolecule Resonances in the Human Brain**  
*Jack Knight-Scott<sup>1</sup>, Grace Fong<sup>2</sup>, Yevgeniya Lyubich<sup>2</sup>, Susan Palasis<sup>2</sup>*  
<sup>1</sup>CHOA, Atlanta, United States, <sup>2</sup>CHOA, Atlanta, GA
- 724 WTh** **Investigation of NAA and NAAG dynamics underlying visual stimulation using MEGA-PRESS**  
*Ricardo Landim<sup>1,2</sup>, Richard Edden<sup>3</sup>, Bernd Foerster<sup>4,2</sup>, Li Li<sup>5,2</sup>, Roberto Covolan<sup>1,2</sup>, Gabriela Castellano<sup>1,2</sup>*  
<sup>1</sup>Neurophysics Group, Gleb Wataghin Physics Institute, University of Campinas - UNICAMP, Campinas, Brazil, <sup>2</sup>CInAPCe Program (Cooperação Interinstitucional de Apoio a Pesquisas sobre o Cérebro), Sao Paulo State, Brazil, <sup>3</sup>Johns Hopkins University School of Medicine, Baltimore, United States, <sup>4</sup>Philips Medical Systems, Sao Paulo, Brazil, <sup>5</sup>Neurology Department, Medical Sciences School, UNICAMP, Campinas, Brazil
- 725 WTh** **The Limits of Detection and Estimation of a Biomarker from MRS Data with an SVD-based Method**  
*yao li<sup>1</sup>, Lauren B. Krupp<sup>2</sup>, Petar M. Djuri<sup>2</sup>, Mirjana M. Savati<sup>3</sup>, Huijing Yu<sup>2</sup>*  
<sup>1</sup>Shanghai Jiao Tong university, Shanghai, China, <sup>2</sup>Stony Brook University, Stony Brook, NY, <sup>3</sup>Baylor College of Medicine, Houston, TX
- 726 WTh** **Spectral Edited 1H MR Spectroscopy for the Investigation of Functional Brain Disorders**  
*Nouha Salibi<sup>1</sup>, Ravi Seethamraju<sup>1</sup>, Chun Zuo<sup>2</sup>, Keith Heberlein<sup>1</sup>*  
<sup>1</sup>Siemens Healthcare, Malvern, PA, <sup>2</sup>McLean Hospital, Belmont, MA
- 727 WTh** **Relationship between TMS-derived measures of GABAB and 1H-MRS measures of glutamate and GABA in M1**  
*Sara Tremblay<sup>1</sup>, Vincent Beaulé<sup>1</sup>, Louis De Beaumont<sup>2</sup>, Sebastien Proulx<sup>1</sup>, Julien Doyon<sup>1</sup>, Malgorzata Marjanska<sup>3</sup>, Maryse Lassonde<sup>1</sup>, Hugo Théoret<sup>1</sup>*  
<sup>1</sup>Université de Montréal, Montréal, Canada, <sup>2</sup>Université de Québec à Trois-Rivières, Trois-Rivières, Canada, <sup>3</sup>University of Minnesota, Minnesota, United States
- 728 WTh** **Human Neurogenesis Signal Predicts Hippocampal Structural Plasticity following ECT**  
*Michael Valenzuela<sup>1</sup>, Perminder Sachdev<sup>1</sup>, Colleen Loo<sup>1</sup>, Christos Pantelis<sup>2</sup>, Jesus Pujol<sup>3</sup>, Dennis Velakoulis<sup>2</sup>, Murat Yücel<sup>2</sup>, Narcis Cardoner<sup>4</sup>, Mirjana Maleti Savati<sup>5</sup>, Oren Contreras Rodriguez<sup>3</sup>, Mikel Urretavizcaya<sup>4</sup>, Jose Menchón<sup>4</sup>, Chao Suo<sup>1</sup>, Petar Djuri<sup>6</sup>*  
<sup>1</sup>University of New South Wales, Sydney, Australia, <sup>2</sup>Melbourne Neuropsychiatry Centre, Department of Psychiatry, the University of Melbourne, Melbourne, Australia, <sup>3</sup>Institut d'Alta Tecnologia-PRBB, CRC Mar, Hospital de Mar, Barcelona, Spain, <sup>4</sup>Bellvitge University Hospital-IDIBELL, Barcelona, Spain, <sup>5</sup>Texas Children's Hospital, Baylor College of Medicine, Houston, United States, <sup>6</sup>Stony Brook University, Stony Brook, United States
- \*729 WTh** **Reduced GABA in the Visual Cortex of Patients with NF1 – A New Perspective on the Disease Mechanism (O-W4)**  
*Ines Violante<sup>1</sup>, Maria Ribeiro<sup>1</sup>, Richard Edden<sup>2</sup>, Inês Bernardino<sup>1</sup>, Jose Rebola<sup>1</sup>, Pedro Guimarães<sup>3</sup>, Gil Cunha<sup>1</sup>, Eduardo Silva<sup>1</sup>, Miguel Castelo-Branco<sup>1</sup>*  
<sup>1</sup>Visual Neurosciences Lab, IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal, <sup>2</sup>The Johns Hopkins University School of Medicine, Baltimore, United States, <sup>3</sup>IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal
- 730 WTh** **Functional Imaging with Simultaneous Double Voxel Spectroscopy**  
*Paul Wighton<sup>1</sup>, M. Dylan Tisdall<sup>1</sup>, Jodi Gilman<sup>1</sup>, Sang Lee<sup>1</sup>, Hans Breiter<sup>1</sup>, Andre van der Kouwe<sup>1</sup>*  
<sup>1</sup>Massachusetts General Hospital, Boston, MA
- 731 WTh** **In vivo high-resolution localized 1H MRS in the awake rat brain at 7 Tesla**  
*Su Xu<sup>1,2</sup>, Xi Chen<sup>3</sup>, Yadong Ji<sup>4</sup>, Yihong Yang<sup>3</sup>, Rao Gullapalli<sup>1,2</sup>, Radi Masri<sup>4</sup>*  
<sup>1</sup>Department of Diagnostic Radiology and Nuclear Medicine, University of Maryland School of Medicine, Baltimore, United States, <sup>2</sup>Core for Translational Research in Imaging @ Maryland, University of Maryland School of Medicine, Baltimore, United States, <sup>3</sup>Neuroimaging Research Branch, National Institute on Drug Abuse, National Institutes of Health, Baltimore, United States, <sup>4</sup>Department of Endodontics, Prosthodontics and Operative Dentistry, Univ. of Maryland Dental School, Baltimore, United States

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## IMAGING METHODS

### Multi-Modal Imaging

- 732 WTh A Programmable Biomimetic Testbed for Evaluation of Functional Brain Activation**  
*Randall Barbour<sup>1</sup>, Randall Andronica<sup>1</sup>, S. S. Barbour<sup>2</sup>, Harry Graber<sup>1</sup>, Daniel Lee<sup>1</sup>, Pflieger Mark<sup>3</sup>, J. D. Nicoles<sup>3</sup>, Yaling Pei<sup>2</sup>, Douglas Pfeil<sup>1</sup>, Christoph Schmitz<sup>1</sup>, Anandita Tyag<sup>2</sup>, Yong Xu<sup>1</sup>*  
<sup>1</sup>SUNY Downstate Medical Center, Brooklyn, NY, <sup>2</sup>NIRx Medical Technologies LLC, Glen Head, NY, <sup>3</sup>Source Signal Imaging Inc, San Diego, CA, <sup>4</sup>NIRx Medizintechnik GmbH, Berlin, Germany
- 733 WTh Integration of Concurrent Real-time fMRI and EEG data: Real-time fMRI and EEG Neurofeedback**  
*Jerzy Bodurka<sup>1</sup>, Vadim Zotev<sup>1</sup>, Raquel Phillips<sup>1</sup>, Han Yuan<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK
- 734 WTh Integration of EEG and MEG in Sparse Source Imaging**  
*Lei Ding<sup>1</sup>, Han Yuan<sup>2</sup>, Min Zhu<sup>3</sup>*  
<sup>1</sup>University of Oklahoma, Norman, United States, <sup>2</sup>Laureate Institute for Brain research, Tulsa, OK, <sup>3</sup>University of Oklahoma, Norman, OK
- 735 WTh Resting-state fMRI and MEG brain networks in epilepsy**  
*Linda Douw<sup>1,2,3</sup>, Naoaki Tanaka<sup>4,3</sup>, Matti Hamalainen<sup>4,3</sup>, Cornelis Stam<sup>5</sup>, Steven Stufflebeam<sup>4,3,6</sup>*  
<sup>1</sup>Martinos center for biomedical imaging, Charlestown, United States, <sup>2</sup>VU University Medical Center, Amsterdam, Netherlands, <sup>3</sup>Harvard Medical School, Boston, MA, <sup>4</sup>Martinos center for biomedical imaging, Charlestown, MA, <sup>5</sup>Department of Clinical Neurophysiology, VU University Medical Centre, Amsterdam, Netherlands, <sup>6</sup>Harvard-MIT division of health sciences and technology, Cambridge, MA
- 736 WTh Correlation analysis between the simultaneously recorded resting-state fNIRS and fMRI signals**  
*Lian Duan<sup>1</sup>, Rui-na Dai<sup>1</sup>, Rui Li<sup>1</sup>, Wei-jie Liu<sup>1</sup>, Chen Zhao<sup>1</sup>, Chao-Zhe Zhu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 737 WTh BOLD Correlates of Upper and Lower Alpha Rhythms**  
*Xu Lei<sup>1</sup>, Xu Anbing<sup>1</sup>, Huan Liu<sup>1</sup>, Zhiying Zhao<sup>1</sup>, Yanhan Zhu<sup>2</sup>*  
<sup>1</sup>School of Psychology, Southwest University, Chongqing, China, <sup>2</sup>School of Political Science and Public Management, Southwest University, Chongqing, China
- 738 WTh Suppress ultra-low-field MRI noise using a data consistency constraint**  
*Fa-Hsuan Lin<sup>1</sup>, Panu Vesanen<sup>2</sup>, Yi-Cheng Hsu<sup>1</sup>, Jaakko Nieminen<sup>2</sup>, Koos Zevenhoven<sup>2</sup>, Juhani Dabek<sup>2</sup>, Andrey Zhdanov<sup>2</sup>, Lauri Parkkonen<sup>3</sup>, Risto Ilmoniemi<sup>2</sup>*  
<sup>1</sup>National Taiwan University, Taipei, <sup>2</sup>Aalto University School of Science, Espoo, Finland, <sup>3</sup>Aalto University School of Science and Technology, Espoo, Finland
- 739 WTh Neuroimaging of the periaqueductal gray: State of the field**  
*Clas Linnman<sup>1</sup>, Eric Moulton<sup>1</sup>, Gabi Barmettler<sup>1</sup>, Lino Becerra<sup>2</sup>, David Borsook<sup>3</sup>*  
<sup>1</sup>McLean Hospital, Harvard Medical School, Belmont, United States, <sup>2</sup>Departments of Psychiatry and Radiology, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, <sup>3</sup>Department of Radiology, Children's Hospital Boston, Harvard Medical School, Boston, MA
- 740 WTh Inferring Deep Brain Activity from Cortical Activation on Cognitive Tasks Using fMRI and fNIRS**  
*Ning Liu<sup>1</sup>, Xu Cui<sup>1</sup>, Allan Reiss<sup>1</sup>*  
<sup>1</sup>Stanford University, Stanford, United States
- 741 WTh EEG power spectrum and BOLD signal in the irritable tissue in patient with refractory epilepsy**  
*Radek Marecek<sup>1</sup>, Michal Miki<sup>1</sup>, Milan Brázdil<sup>1</sup>*  
<sup>1</sup>CEITEC, Masaryk University, Brno, Czech Republic
- 742 WTh Electrophysiological correlation patterns of resting state networks in single subjects**  
*Matthias Meyer<sup>1</sup>, Erik van Oort<sup>2</sup>, Markus Barth<sup>1</sup>*  
<sup>1</sup>Radboud University Nijmegen, Donders Institute For Brain, Cognition And Behaviour, Nijmegen, Netherlands, <sup>2</sup>MIRA Institute, University of Twente, Donders Institute, Radboud University Nijmegen, Nijmegen, Netherlands
- 743 WTh Performance evaluation of an integrative software environment for analysis of multi-modality neuroim**  
*Otto Muzik<sup>1</sup>, Eishi Asano<sup>2</sup>, Jing Hua<sup>2</sup>, Csaba Juhasz<sup>2</sup>, Darshan Pa<sup>2</sup>*  
<sup>1</sup>Wayne State University, Detroit, United States, <sup>2</sup>Wayne State University, Detroit, MI

## IMAGING METHODS

### Multi-Modal Imaging, continued

- 744 WTh Functional Interhemispheric Connectivity Related with Morphological Asymmetry**  
*Jun Sung Park<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>4</sup>*  
<sup>1</sup>Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsang-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of
- 745 WTh A Comparison Study of Parkinson's Disease-related Patterns between FDG PET and fMRI at Rest State**  
*Shichun Peng<sup>1</sup>, Tao Wu<sup>2</sup>, Yilong Ma<sup>1</sup>, Phoebe Spetsieris<sup>1</sup>, Zheng Zheng<sup>2</sup>, Xiaoli Wu<sup>2</sup>, Piu Chan<sup>2</sup>, David Eidelberg<sup>1</sup>*  
<sup>1</sup>Feinstein Institute for Medical Research, Manhasset, NY, USA, <sup>2</sup>Xuanwu Hospital, Beijing, China
- 746 WTh A new approach to auditory attention network examination: a simultaneous ERP-fMRI study**  
*Mateusz Rusiniak<sup>1</sup>, Monika Lewandowska<sup>1</sup>, Tomasz Wolak<sup>1</sup>, Agnieszka Pluta<sup>1</sup>, Malgorzata Ganc<sup>1</sup>, Rafal Milner<sup>1</sup>, Lech Iliwa<sup>1</sup>*  
<sup>1</sup>The Institute of Physiology and Pathology of Hearing, Warsaw, Poland
- 747 WTh Does a high-density (256 channels) EEG net reduce BOLD sensitivity in combined EEG-fMRI?**  
*Johan van der Meer<sup>1</sup>, Jennifer Ramautar<sup>1</sup>, Ysbrand van der Werf<sup>1,2</sup>, Marcus Spaan<sup>3</sup>, Eus Van Someren<sup>1,2</sup>*  
<sup>1</sup>Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands, <sup>2</sup>VU University Medical Center, Amsterdam, Netherlands, <sup>3</sup>Universiteit of Amsterdam, Amsterdam, Netherlands
- 748 WTh The Superposition of Task-dependent and Default Mode Networks During a Mundane Target Detection Task**  
*Jennifer Walz<sup>1</sup>, Jordan Muraskin<sup>1</sup>, Robin Goldman<sup>1</sup>, Truman Brown<sup>2</sup>, Paul Sajda<sup>1</sup>*  
<sup>1</sup>Columbia University, New York, NY, <sup>2</sup>Medical University of South Carolina, Charleston, SC
- 749 WTh Concordance of MEG and fMRI Patterns in Adolescents during Verb Generation**  
*Yingying Wang<sup>1,2</sup>, Scott Holland<sup>1,2</sup>, Jennifer Vannest<sup>3</sup>*  
<sup>1</sup>Cincinnati Children's Hospital Research Foundation, Cincinnati, OH, United States, <sup>2</sup>University of Cincinnati, Cincinnati, OH, United States, <sup>3</sup>Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States
- 750 WTh Variational Bayes Inverse Solution for Simultaneous EEG/MEG**  
*William Winter<sup>1</sup>, Javier Garcia<sup>2</sup>, Mingxiong Huang<sup>3</sup>, Ramesh Srinivasan<sup>2</sup>, Samuel Thorpe<sup>2</sup>*  
<sup>1</sup>UC Irvine, Irvine, CA, United States, <sup>2</sup>UC Irvine, Irvine, CA, <sup>3</sup>UC San Diego, San Diego, CA
- 751 WTh Regional Variations in the time course of EEG-fMRI signal coupling**  
*HONGJING XIA<sup>1</sup>, Mark Cohen<sup>1</sup>, Dan Ruan<sup>1</sup>*  
<sup>1</sup>University of California Los Angeles, Los Angeles, United States
- 752 WTh Development of Biosignal Integration Analysis System for Human Brain Function and Behavior**  
*Yui Yamaguchi<sup>1</sup>, Akihiro Ishikawa<sup>2</sup>, Yoshiharu Ito<sup>3</sup>*  
<sup>1</sup>Shimadzu Corp., Tokyo, Japan, <sup>2</sup>Shimadzu Corp., Kyoto, Japan, <sup>3</sup>KISSEI COMTEC Co.,Ltd., Matsumoto, Japan
- 753 WTh Roles of posterior parietal regions in the control of alerting, orienting and executive control**  
*Xuntao Yin<sup>1</sup>, Lu Zhao<sup>2</sup>, Shuwei Liu<sup>1</sup>, Alan Evans<sup>2</sup>*  
<sup>1</sup>Research Center for Sectional and Imaging Anatomy, Shandong University School of Medicine, Jinan, China, <sup>2</sup>Montreal Neurological Institute, Montreal, Quebec
- 754 WTh Interhemispheric Asymmetry of Cardioballistic Artifacts in Simultaneous EEG-fMRI**  
*Vadim Zotev<sup>1</sup>, Han Yuan<sup>1</sup>, Raquel Phillips<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK
- 755 WTh Simultaneous Real-Time fMRI and EEG Neurofeedback for Self-Regulation of Human Brain Activity**  
*Vadim Zotev<sup>1</sup>, Raquel Phillips<sup>1</sup>, Han Yuan<sup>1</sup>, Wayne Drevets<sup>1</sup>, Jerzy Bodurka<sup>1</sup>*  
<sup>1</sup>Laureate Institute for Brain Research, Tulsa, OK

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## IMAGING METHODS

### Non-BOLD fMRI

- 756 WTh Assessment of hierarchy of motor function under sedation- using continuous arterial spin labeling**  
*Ram Adapa<sup>1</sup>, Emmanuel Stamatakis<sup>1</sup>, David Menon<sup>1</sup>*  
<sup>1</sup>Division of Anaesthesia, University of Cambridge, Cambridge, United Kingdom
- 757 WTh Comparison of cASL and BOLD fMRI to investigate auditory processing under sedation**  
*Ram Adapa<sup>1</sup>, David Menon<sup>1</sup>, Emmanuel Stamatakis<sup>1</sup>*  
<sup>1</sup>Division of Anaesthesia, University of Cambridge, Cambridge, United Kingdom
- 758 WTh Automated multiple vascular territories mapping from VEPASL MRI using spatial consistent k-means**  
*Hewei Cheng<sup>1</sup>, Rui Wang<sup>2</sup>, Rong Xue<sup>2</sup>, Danny JJ Wang<sup>3</sup>, Yong Fan<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Department of Neurology, UCLA, Los Angeles, United States
- 759 WTh BOLD and CBF responses during the Valsalva maneuver**  
*Daniel Handwerker<sup>1</sup>, Wen-Ming Luh<sup>1</sup>, Paula Wu<sup>1</sup>, Peter Bandettini<sup>1</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, MD
- 760 WTh Classical pathways and quantum clouds — implication in functional brain mapping**  
*Cameron Leith<sup>1</sup>, L. D. Robbins<sup>2</sup>, L. B. Siegel<sup>3</sup>, S. Ouyang<sup>4</sup>, H. Sun<sup>1</sup>*  
<sup>1</sup>Neurodynamics Research Institute, Chicago, United States, <sup>2</sup>Robbins Headache Clinic, Northbrook, IL, <sup>3</sup>North Shore Rheumatology, Lake Forest, IL, <sup>4</sup>University of California, Los Angeles, CA
- 761 WTh White matter fMRI using intra-voxel phase gradient**  
*Guoxiang Liu<sup>1</sup>*  
<sup>1</sup>National Institute of Information and Communications Technology, Kobe, Japan

- 762 WTh Whole Brain Cerebral Perfusion among Older Adults is Moderated by Strength Training and Gender**  
*Xiaomeng Xu<sup>1</sup>, Beth Jerskey<sup>2</sup>, Denise Cote<sup>2</sup>, Edward Walsh<sup>3</sup>, Jason Hassenstab<sup>4</sup>, Maura Ladino<sup>5</sup>, Uraina Clark<sup>3</sup>, Donald Labbe<sup>2</sup>, John Gunstad<sup>6</sup>, Athena Poppas<sup>2</sup>, Ronald Cohen<sup>7</sup>, Richard Hoge<sup>8</sup>, Lawrence Sweet<sup>3</sup>*  
<sup>1</sup>Alpert Medical School of Brown University, Providence, United States, <sup>2</sup>Alpert Medical School of Brown University, Providence, RI, <sup>3</sup>Brown University, Providence, RI, <sup>4</sup>Washington University in St. Louis, St. Louis, United States, <sup>5</sup>Columbia University, New York, NY, <sup>6</sup>Kent State University, East Liverpool, OH, <sup>7</sup>Warren Alpert Medical School of Brown University, Providence, RI, <sup>8</sup>Université de Montréal, Montréal, Canada
- 763 WTh A Flexible Framework of Perfusion fMRI with Asymmetric Label and Control Acquisitions by pCASL GRASE**  
*Lirong Yan<sup>1</sup>, Emily Kilroy<sup>1</sup>, Danny Wang<sup>1</sup>*  
<sup>1</sup>UCLA, Los Angeles, United States
- 764 WTh Turbo-flash based multi-slice ASL for fMRI and functional connectivity at 7T**  
*Zhentao Zuo<sup>1</sup>, Rui Wang<sup>1</sup>, Rong Xue<sup>1</sup>, Yan Zhuo<sup>1</sup>, Danny Wang<sup>2</sup>*  
<sup>1</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Neurology, University of California Los Angeles, Los Angeles, CA

## IMAGING METHODS

### Optical Imaging/NIRS

- 765 WTh Development of Newly fNIRS+EEG System for Whole Brain Studies of Seamless Area**  
*Ishikawa Akihiro<sup>1</sup>, Udagawa Haruhide<sup>1</sup>, Masuda Yoshinori<sup>1</sup>, Yamaguchi Shumpei<sup>1</sup>, Kohno Satoru<sup>1</sup>, Amita Takashi<sup>1</sup>, Inoue Yoshihiro<sup>1</sup>*  
<sup>1</sup>SHIMADZU Corporation, Kyoto, Japan
- 766 WTh Hemodynamic observer model for blind identification of evoked human brain activity**  
*Muhammad Aqil<sup>1</sup>, Keum-Shik Hong<sup>1</sup>, Myung-Yung Jeong<sup>1</sup>, Shuzhi Sam Ge<sup>2</sup>*  
<sup>1</sup>Pusan National University, Busan, Korea, Republic of, <sup>2</sup>Pusan National University; National University of Singapore, Busan, Korea, Republic of

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## IMAGING METHODS

### Optical Imaging/fNIRS, continued

- 767 WTh Functional brain imaging during exercise of muscles of mastication using vectors derived from NIRS**  
*Masaaki Arai<sup>1</sup>, Kayoko Yoshino<sup>2,3</sup>, Noriyuki Oka<sup>2</sup>, Toshinori Kato<sup>2</sup>*  
<sup>1</sup>Total Health Advisers Co., Ltd., Chiba, Japan, <sup>2</sup>Department of Brain Environmental Research, KATOBRAIN Co., Ltd., Tokyo, Japan, <sup>3</sup>Graduate school of Media and Governance, Keio University, Kanagawa, Japan
- 768 WTh NIRS-Based Hyperscanning Reveals Increased Interpersonal Coherence in Superior Frontal Cortex during**  
*Xu Cui<sup>1</sup>, Daniel Bryant<sup>2</sup>, Allan Reiss<sup>2</sup>*  
<sup>1</sup>Stanford University, Stanford, United States, <sup>2</sup>Stanford University, Stanford, CA
- 769 WTh Functional near-infrared brain imaging assisted by a low-cost mobile phone camera**  
*Qianqian Fang<sup>1</sup>*  
<sup>1</sup>Massachusetts General Hospital, Charlestown, United States
- 770 WTh Evaluation of Scalp Blood Contribution on NIRS Signal Using Multi-distance Optodes and ICA**  
*Tsukasa Funane<sup>1</sup>, Hirokazu Asumori<sup>1</sup>, Takusige Katura<sup>1</sup>, Masashi Kiguchi<sup>1</sup>, Akiko Obata<sup>1</sup>, Hiroki Sato<sup>1</sup>*  
<sup>1</sup>Hitachi, Ltd., Central Research Laboratory, Hatoyama, Japan
- 771 WTh Simulation of Near-Infrared Light Considering Individual Anatomy: Impact on Optical Neuroimaging**  
*Florian Haeussinger<sup>1</sup>, Sebastian Heinzel<sup>2</sup>, Tim Hahn<sup>3</sup>, Martin Schecklmann<sup>4</sup>, Ann-Christine Ehlis<sup>2</sup>, Andreas Fallgatter<sup>5</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy at the University Hospital, Tuebingen, Germany, <sup>2</sup>University of Tuebingen, Dept. of Psychiatry and Psychotherapy, Tuebingen, Germany, <sup>3</sup>University of Frankfurt, Frankfurt, Germany, <sup>4</sup>Department of Psychiatry and Psychotherapy at the University Hospital, Regensburg, Germany, <sup>5</sup>University of Tuebingen, Department of Psychiatry and Psychotherapy, Tuebingen, Germany
- 772 WTh The impact of age and gender on prefrontal cortex processing during verbal fluency: an fNIRS study**  
*Sebastian Heinzel<sup>1,2</sup>, Florian Metzger<sup>1</sup>, Ann-Christine Ehlis<sup>1</sup>, Robert Korell<sup>1</sup>, Ahmed Alboji<sup>1</sup>, Florian Haeussinger<sup>1</sup>, Katja Hagen<sup>1,2</sup>, Gerhard Eschweiler<sup>1</sup>, Daniela Berg<sup>3,2</sup>, Andreas Fallgatter<sup>1</sup>*  
<sup>1</sup>University of Tuebingen, Dept. of Psychiatry and Psychotherapy, Tuebingen, Germany, <sup>2</sup>German Center for Neurodegenerative Diseases (DZNE), Tuebingen, Germany, <sup>3</sup>University of Tuebingen, Dept. of Neurodegeneration, Hertie-Institute of Clinical Brain Research, Tuebingen, Germany
- 773 WTh Spontaneous fluctuation contributed to the trail-to-trail variability in fNIRS signal**  
*Xiaosu Hu<sup>1</sup>, Noman Naseer<sup>1</sup>, Keum-Shik Hong<sup>1</sup>, Shuzhi Sam Ge<sup>2</sup>*  
<sup>1</sup>Pusan National University, Busan, Korea, Republic of, <sup>2</sup>Pusan National University; National University of Singapore, Busan, Korea, Republic of
- 774 WTh Theoretical and physiological explanation of two types of initial dip using vector phase contrasts**  
*Toshinori Kato<sup>1</sup>, Kayoko Yoshino<sup>1,2</sup>*  
<sup>1</sup>Department of Brain Environmental Research, KATOBRAIN Co., Ltd., Tokyo, Japan, <sup>2</sup>Graduate school of Media and Governance, Keio University, Kanagawa, Japan
- 775 WTh Low Frequency Physiological Noise in Functional Infrared Spectroscopy**  
*Evgeniya Kirilina<sup>1,2</sup>, Daniel Adebisi<sup>1</sup>, Arthur Jacobs<sup>1,2</sup>*  
<sup>1</sup>Free University Berlin, Berlin, Germany, <sup>2</sup>Dahlem Institute of Neuroimaging of Emotions, Berlin, Germany
- 776 WTh Resting State Connectivity in the Prefrontal Cortex Measured By Hemodynamic Optical Signal**  
*Andrei V. Medvedev<sup>1</sup>*  
<sup>1</sup>Center for Functional and Molecular Imaging, Georgetown University, Washington, DC
- 777 WTh Topological functional organization of the human brain as revealed by resting-state fNIRS**  
*Haijing Niu<sup>1</sup>, Jinhui Wang<sup>1</sup>, Tengda Zhao<sup>1</sup>, Ni Shu<sup>1</sup>, Yong He<sup>1</sup>*  
<sup>1</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China
- 778 WTh Monitoring of functional cortical recovery during exercise after a stroke using Vector-NIRS**  
*Noriyuki Oka<sup>1</sup>, Kayoko Yoshino<sup>1,2</sup>, Toshinori Kato<sup>1</sup>*  
<sup>1</sup>Department of Brain Environmental Research, KATOBRAIN Co., Ltd., Tokyo, Japan, <sup>2</sup>Graduate school of Media and Governance, Keio University, Kanagawa, Japan
- 779 WTh Brain haemodynamics captured with optical topography**  
*Felipe Orihuela-Espina<sup>1</sup>, Daniel Leff<sup>1</sup>, David James<sup>2</sup>, Ara Darzi<sup>1</sup>, Guang-Zhong Yang<sup>1</sup>*  
<sup>1</sup>Imperial College London, London, United Kingdom, <sup>2</sup>Imperial College, London, United Kingdom
- 780 WTh Signal to noise ratio improvement in functional NIRS signal**  
*Hendrik Santosa<sup>1</sup>, Keum-Shik Hong<sup>1</sup>, Se-ho Lee<sup>2</sup>*  
<sup>1</sup>Pusan National University, Busan, Korea, Republic of, <sup>2</sup>Pusan National University, Busan, Korea, Republic of

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## IMAGING METHODS

### Optical Imaging/NIRS, continued

- 781 WTh Near-Infrared Spectroscopy (NIRS) Brain-Computer Interface (BCI) study with haptic FES feedback**  
*Markus Schürholz<sup>1</sup>, mohit rana<sup>2</sup>, Josué Dalboni<sup>3</sup>, Woosang Cho<sup>1</sup>, Martin Rohm<sup>4</sup>, Niels Birbaumer<sup>5</sup>, Ranganatha Sitaram<sup>6</sup>*  
<sup>1</sup>Institute for Medical Psychology and Behavioural Neurobiology, Tübingen, Germany, <sup>2</sup>institute of medical psychology and behavioural neurobiology, tuebingen, Germany, <sup>3</sup>Institute of Medical Psychology and Behavioural Neurobiology, Tübingen, Germany, <sup>4</sup>Klinik für Paraplegiologie, Heidelberg, Germany, <sup>5</sup>University of Tübingen, Tübingen, Germany, <sup>6</sup>Institute of medical psychology and behavioral neurobiology, Tuebingen, Germany
- 782 WTh Neural Correlates of Heart Rate during Mental Arithmetic Task and Verbal Fluency Tasks**  
*Jie Shi<sup>1</sup>, Huancong Zuo<sup>2</sup>, Masako Okomoto<sup>3</sup>, Kaoru Sakatani<sup>4</sup>*  
<sup>1</sup>Institute of Neurological Disorder, Yuquan Hospital, School of Medicine Tsinghua University, Beijing, China, <sup>2</sup>Department of Neurosurgery, Yuquan Hospital, School of Medicine Tsinghua University, Beijing, China, <sup>3</sup>Center for Development of Advanced Medical Technology, Jichi Medical University, Tokyo, Japan, <sup>4</sup>Department of Neurological Surgery, Nihon University School of Medicine, Tokyo, Japan
- 783 WTh Effective Connectivity based on Granger Causality in NIRS data evoked by Motor execution and Imagery**  
*MASAKO SUGAI<sup>1</sup>, MASAHARU ADACHI<sup>1</sup>*  
<sup>1</sup>TOKYO DENKI UNIVERSITY, TOKYO, Japan
- 784 WTh Gender difference in the brain hemodynamic responses during an emotional Go/NoGo task**  
*Toshio Watanuki<sup>1</sup>, Koji Matsuo<sup>2</sup>, Kazuteru Egashira<sup>3</sup>, Mami Nakashima<sup>4</sup>, Masayuki Nakano<sup>5</sup>, Toshio Matsubara<sup>1</sup>, Yoshifumi Watanabe<sup>1</sup>*  
<sup>1</sup>Yamaguchi University Graduate School of Medicine, Yamaguchi, Japan, Ube, Japan, <sup>2</sup>Yamaguchi University Graduate School Of Medicine, Ube, Yamaguchi, Japan, <sup>3</sup>Department of Psychiatry, Yamaguchi Grand Medical Center, Yamaguchi, Japan, Ube, Japan, <sup>4</sup>Division Of Neuropsychiatry, Department Of Neuroscience, Yamaguchi University Gr, Ube, Yamaguchi, <sup>5</sup>Division Of Neuropsychiatry, Department Of Neuroscience, Yamaguchi University Gr, Japan

- 785 WTh Spatial and frequential structures of superficial physiological interference in fNIRS measurement**  
*Xu Xu<sup>1</sup>, Yu-Jin Zhang<sup>1</sup>, Fenghua Tian<sup>2</sup>, Lian Duan<sup>1</sup>, Hanli Liu<sup>2</sup>, Chao-Zhe Zhu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>University of Texas at Arlington, Tx, United States
- 786 WTh Neurophysiological language test by event-related oxygen regulation using vectors derived from NIRS**  
*Kayoko Yoshino<sup>1</sup>, Toshinori Kato<sup>2</sup>*  
<sup>1</sup>Graduate school of Media and Governance, Keio University, Kanagawa, Japan, <sup>2</sup>Department of Brain Environmental Research, KATOBRAIN Co.,Ltd., Tokyo, Japan
- 787 WTh Prefrontal lobe function in Chinese depression: a study with 45-channel near-infrared spectroscopy**  
*XQ Zhang<sup>1</sup>, HC Zuo<sup>2</sup>, XM Liu<sup>2</sup>, LJ Shi<sup>1</sup>, CY Shen<sup>1</sup>, B Xu<sup>2</sup>, PZ Liu<sup>2</sup>*  
<sup>1</sup>Tsinghua University School of Medicine, Beijing, China, <sup>2</sup>Tsinghua University Yuquan Hospital, Beijing, China

## IMAGING METHODS

### PET

- 788 WTh Reference cluster normalization improves detection of frontotemporal lobar degeneration**  
*Juergen Dukart<sup>1</sup>, Henryk Barthe<sup>2</sup>, Janine Diel-Schmid<sup>3</sup>, Andreas Fellgiebel<sup>4</sup>, Stefan Förster<sup>3</sup>, Alexander Kurz<sup>3</sup>, Robert Pernecky<sup>3</sup>, Osama Sabri<sup>2</sup>, Igor Yakushev<sup>3</sup>, Bogdan Draganski<sup>5</sup>, Richard Frackowiak<sup>6</sup>, Alexander Drzezga<sup>3</sup>, Karsten Müller<sup>7</sup>, Matthias Schroeter<sup>8</sup>*  
<sup>1</sup>Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland, <sup>2</sup>University Hospital Leipzig, Leipzig, Germany, <sup>3</sup>Technische Universität München, Munich, Germany, <sup>4</sup>University Hospital Mainz, Mainz, Germany, <sup>5</sup>LREN, Département des neurosciences cliniques - CHUV, Lausanne, Switzerland, <sup>6</sup>LREN, Département des Neurosciences Cliniques, CHUV, Université de Lausanne, Lausanne, Switzerland, Lausanne, Switzerland, <sup>7</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>8</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

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## IMAGING METHODS

### PET, continued

- 789 WTh A new method of brain extract from PET using CT brain mask**  
*Chan mi Kim<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Hunki Kwon<sup>1</sup>, Dong-Kyun Lee<sup>1</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 790 WTh GABA-A receptors and the transition from resting-state to stimulus induced activity**  
*Pengmin Qin<sup>1</sup>, Simone Grimm<sup>2</sup>, Niall Duncan<sup>3</sup>, Christine Wiebking<sup>4</sup>, Oliver Lyttelton<sup>5</sup>, Dave Hayes<sup>6</sup>, Paul Gravel<sup>7</sup>, Jeroen Verhaeghe<sup>7</sup>, Alexey Kostikov<sup>7</sup>, Ralf Schirmacher<sup>7</sup>, Andrew Reader<sup>7</sup>, Juergen Baudewig<sup>8</sup>, Malek Bajbouj<sup>9</sup>, Georg Northoff<sup>9</sup>*  
<sup>1</sup>University of Ottawa Institute of Mental Health Research, N/A, <sup>2</sup>Cluster Languages of Emotion, Freie Universität Berlin, berlin, Germany, <sup>3</sup>Institute of Mental Health Research, Ottawa, Canada, <sup>4</sup>Institute of Mental Health Research, Ottawa, N/A, <sup>5</sup>Institute of Mental Health Research Ottawa, N/A, <sup>6</sup>University of Ottawa, Institute of Mental Health Research, N/A, <sup>7</sup>McConnell Brain Imaging Centre, Montreal, Canada, <sup>8</sup>FU Berlin, Berlin, Germany, <sup>9</sup>Department of Psychiatry, Charité-Universitätsmedizin Berlin, Berlin, Germany
- 791 WTh Normal database of the serotonergic system in healthy subjects using multi-tracer PET**  
*Markus Savli<sup>1</sup>, Andreas Bauer<sup>2</sup>, Daniela Haeusler<sup>3</sup>, Yu-Shin Ding<sup>4</sup>, Andreas Hahn<sup>1</sup>, Tina Kroll<sup>2</sup>, Johanna Ungersboeck<sup>3</sup>, Alexander Neumeister<sup>4</sup>, Shannan Henry<sup>5</sup>, Markus Mitterhauser<sup>3</sup>, Wolfgang Wadsak<sup>3</sup>, Siegfried Kasper<sup>1</sup>, Rupert Lanzenberger<sup>1</sup>*  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Institute of Neuroscience and Medicine (INM-2), Research Centre Jülich, Jülich, Germany, <sup>3</sup>Department of Nuclear Medicine, Medical University of Vienna, Vienna, Austria, <sup>4</sup>Department of Radiology and Psychiatry, New York University School of Medicine, New York, USA, <sup>5</sup>Department of Psychiatry, Yale University School of Medicine, New Haven, USA

- \*792 WTh Quantification of dopamine in the human striatum in anatomical and connectivity derived subdivisions (O-Th2)**  
*Andri Tziortzi<sup>1</sup>, Suzanne Haber<sup>2</sup>, Graham Searle<sup>3</sup>, Charalampos Tsoumpas<sup>4</sup>, Christopher Long<sup>5</sup>, Paul Shotbolt<sup>6</sup>, Eugenii Rabiner<sup>3</sup>, Roger Gunn<sup>3</sup>, Mark Jenkinson<sup>1</sup>*  
<sup>1</sup>University of Oxford, UK, <sup>2</sup>University of Rochester, NY, USA, <sup>3</sup>Imanova London, UK, <sup>4</sup>King's College London, UK, <sup>5</sup>MIT Center for Neuroeconomics Boston, USA, <sup>6</sup>Imperial College London, UK

## INFORMATICS

### Atlases

- 793 WTh Longitudinal T2 and DTI Atlases of Neonatal Brain**  
*Jordan Bai<sup>1</sup>, Marielle Fortier<sup>2</sup>, Michael Meaney<sup>3,4</sup>, anqi qiu<sup>1,5,3</sup>*  
<sup>1</sup>Department of Bioengineering, National University of Singapore, Singapore, Singapore, <sup>2</sup>Radiology Department, KK Women's and Children's Hospital, Singapore, Singapore, <sup>3</sup>Singapore Institute for Clinical Sciences, the Agency for Science, Technology and Research, Singapore, Singapore, <sup>4</sup>Departments of Psychiatry and Neurology & Neurosurgery, McGill University, Montreal, Canada, <sup>5</sup>Clinical Imaging Research Center, National University of Singapore, Singapore, Singapore
- 794 WTh Creating an MRI anatomic atlas of the human cervical spine: Implications for spinal fMRI**  
*David Cadotte<sup>1</sup>, Michael Fehlings<sup>2</sup>, David Mikulis<sup>2</sup>, Natalia Nugaeva<sup>2</sup>, Jefferson Wilson<sup>2</sup>*  
<sup>1</sup>University of Toronto, Toronto, Canada, <sup>2</sup>University of Toronto, Toronto, Ontario
- \*795 WTh Establishing homotopic inter-hemispheric regional correspondences via rest functional connectivity (O-M4)**  
*Marc Joliot<sup>1</sup>, Mikaël Naveau<sup>1</sup>, Pierre-Yves Hervé<sup>1</sup>, Laurent Petit<sup>1</sup>, Laure Zago<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Gael Jobard<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>, Bernard Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France
- 796 WTh Surface-based Brodmann's area Atlas in individual subject**  
*Yoon Jeong Koo<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Jun Sung Park<sup>1</sup>, Hyuk Jin Yun<sup>1</sup>, Dong Young Lee<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Psychiatry, Seoul National University, Seoul, Korea, Republic of

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- 797 WTh Integrated Visualization of the Human Brain Transcriptome, Anatomy, and Cytoarchitecture**  
*Christopher Lau<sup>1</sup>, David Feng<sup>1</sup>, Yang Li<sup>1</sup>, Angela Guillozet-Bongaarts<sup>1</sup>, Tim Dolbeare<sup>1</sup>, Changkyu Lee<sup>1</sup>, Zackery Riley<sup>1</sup>, Barry Daly<sup>2</sup>, Rao Gullipalli<sup>2</sup>, Alan McMillan<sup>2</sup>, Dharmendra Patel<sup>3</sup>, Adolfo Sequeira<sup>3</sup>, Elaine Shen<sup>1</sup>, Michael Hawrylycz<sup>1</sup>, Chinh Dang<sup>1</sup>, Allan Jones<sup>1</sup>, Lydia Ng<sup>1</sup>*  
<sup>1</sup>Allen Institute for Brain Science, Seattle, United States, <sup>2</sup>University of Maryland School of Medicine, Baltimore, United States, <sup>3</sup>University of California Irvine, Irvine, United States
- 798 WTh A new processing pipeline and release of cytoarchitectonic probabilistic maps – JuBrain**  
*Hartmut Mohlberg<sup>1</sup>, Simon Eickhoff<sup>1,2,3</sup>, Axel Schleicher<sup>1</sup>, Karl Zilles<sup>4,5,3</sup>, Katrin Amunts<sup>1,6,3</sup>*  
<sup>1</sup>Institute of Neurosciences and Medicine INM-1, Research Centre Juelich, Juelich, Germany, <sup>2</sup>Institute for Clinical Neuroscience and Medical psychology, Duesseldorf, Germany, <sup>3</sup>JARA-BRAIN, Juelich-Aachen Research Alliance, Aachen, Germany, <sup>4</sup>Institute of Neurosciences and Medicine INM-2, Research Centre Juelich, Juelich, Germany, <sup>5</sup>C. and O. Vogt Institute for Brain Research, Heinrich-Heine University, Duesseldorf, Germany, <sup>6</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, RWTH Aachen University, Aachen, Germany
- 799 WTh Multimodal Brain Atlas of the New Zealand Rabbit based on Diffusion and Structural MRI**  
*Emma Muñoz-Moreno<sup>1,2,3</sup>, Ariadna Arbat-Plana<sup>1,2,3</sup>, Elisenda Eixarch<sup>1,2,3</sup>, Dafnis Batalle<sup>1,2,3</sup>, Miriam Illa<sup>1,2,3</sup>, Eduard Gratacos<sup>1,2,3</sup>*  
<sup>1</sup>Department of Maternal-Fetal Medicine, ICGON, Hospital Clínic of Barcelona, Barcelona, Spain, <sup>2</sup>Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS), University of Barcelona, Barcelona, Spain, <sup>3</sup>Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Barcelona, Spain
- 800 WTh Tractography-based parcellation of human left Wernicke's area**  
*Jiaoqian Wang<sup>1</sup>, Lingzhong Fan<sup>2</sup>, Yu Zhang<sup>3</sup>, Jinping Xu<sup>1</sup>, Chunshui Yu<sup>4</sup>, Tianzi Jiang<sup>5</sup>*  
<sup>1</sup>Key Laboratory for NeuroInformation of the Ministry of Education, School of Life Science and Technol, Chengdu, China, <sup>2</sup>Institution of Automation, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Institution of Automation, Beijing, China, <sup>4</sup>Department of Radiology, Tianjin Medical University General Hospital, Tianjin, China, <sup>5</sup>Key Laboratory for NeuroInformation of the Ministry of Education, School of Life Science and Technol, Chengdu, China

- 801 WTh A databank, rather than statistical, model of normal ageing brain structure to indicate pathology**  
*David Alexander Dickie<sup>1</sup>, Dominic Job<sup>1</sup>, David Rodriguez Gonzalez<sup>1</sup>, Susan Shenkin<sup>2</sup>, Joanna Wardlaw<sup>1</sup>*  
<sup>1</sup>Brain Research Imaging Centre (BRIC) and the SINAPSE collaboration, The University of Edinburgh, Edinburgh, United Kingdom, <sup>2</sup>Geriatric Medicine Unit and the SINAPSE collaboration, The University of Edinburgh, Edinburgh, United Kingdom
- 802 WTh Graphically-Driven Exploration and Informatics of Neuroimaging Data Archives**  
*Ian Bowman<sup>1</sup>, Shantanu Joshi<sup>1</sup>, Jack Van Horn<sup>1</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA
- 803 WTh LORIS: A web-based data management system for multi-center studies**  
*Samir Das<sup>1</sup>, Alex Zijdenbos<sup>2</sup>, Dave MacFarlane<sup>3</sup>, Zia Mohaddes<sup>3</sup>, Mirela Petkova<sup>4</sup>, Christine Rogers<sup>3</sup>, Penelope Kostopoulos<sup>3</sup>, Alan Evans<sup>3</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Canada, <sup>2</sup>Biospective, Montreal, Quebec, <sup>3</sup>Montreal Neurological Institute, Montreal, Quebec, <sup>4</sup>Douglas Hospital, Montreal, Quebec
- 804 WTh NITRC: Neuroimaging Informatics Tools and Resources Clearinghouse - An Update**  
*Christian Haselgrove<sup>1</sup>, David Kennedy<sup>2</sup>*  
<sup>1</sup>UMass Medical School, Worcester, MA, <sup>2</sup>University of Massachusetts Medical Center, Worcester, United States
- 805 WTh BIL&GIN: a database for the study of hemispheric specialization**  
*Laurent Petit<sup>1</sup>, Fabrice Crivello<sup>1</sup>, Emmanuel Mellet<sup>1</sup>, Gael Jobard<sup>1</sup>, Laure Zago<sup>1</sup>, Marc Joliot<sup>1</sup>, Guy Perchey<sup>1</sup>, Bernard Mazoyer<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN-UMR5296 CNRS CEA Bordeaux University, Bordeaux, France
- 806 WTh Discovering the relations between mind, brain, and mental disorders using topic mapping**  
*Russell Poldrack<sup>1</sup>, Jeanette Mumford<sup>2</sup>, Tom Schonberg<sup>2</sup>, Bishal Barman<sup>3</sup>, Donald Kalar<sup>4</sup>, Tal Yarkoni<sup>5</sup>*  
<sup>1</sup>UT Austin, Austin, United States, <sup>2</sup>University of Texas at Austin, Austin, United States, <sup>3</sup>University of Texas at Austin, Austin, TX, <sup>4</sup>NASA Ames Research Center, Mountain View, CA, <sup>5</sup>University of Colorado, Boulder, CO

## INFORMATICS

### Databasing and Data Sharing, continued

- 807 WTh Child Psychiatry Neuroimaging Portal**  
*Pallavi Rane<sup>1</sup>, Steven Hodge<sup>1</sup>, Christian Haselgrove<sup>1</sup>, David Kennedy<sup>1</sup>*  
<sup>1</sup>University of Massachusetts Medical Center, Worcester, United States
- 808 WTh Co-Author Network of Neuroimaging Researchers: A Decade of OHBM Conference Oral Presentations**  
*Qawi Telesford<sup>1</sup>, Satoru Hayasaka<sup>2</sup>*  
<sup>1</sup>Wake Forest University, Winston-Salem, NC, <sup>2</sup>Wake Forest University School of Medicine, Winston-Salem, NC
- 809 WTh Extensions and improvements to the Neurosynth framework for automated meta-analysis**  
*Tal Yarkoni<sup>1</sup>, Russell Poldrack<sup>2</sup>, Thomas Nichols<sup>3</sup>, David Van Essen<sup>4</sup>, Tor Wager<sup>5</sup>*  
<sup>1</sup>University of Colorado Boulder, Boulder, United States, <sup>2</sup>UT Austin, Austin, United States, <sup>3</sup>University of Warwick, Dept. of Statistics, Coventry, United Kingdom, <sup>4</sup>Washington University, N/A, <sup>5</sup>Department of Psychology and Neuroscience, University of Colorado at Boulder, Boulder, CO

## INFORMATICS

### Pipelines

- 810 WTh A Highly Parallelized Framework for Computationally Intensive MRI/MRS Data Analysis**  
*Roland Boubela<sup>1,2,3</sup>, Wolfgang Huf<sup>1,2,3</sup>, Klaudius Kalcher<sup>1,2,3</sup>, Ronald Sladky<sup>1</sup>, Peter Filzmoser<sup>2</sup>, Siegfried Kasper<sup>4</sup>, Lukas Pezawas<sup>4</sup>, Ewald Moser<sup>1</sup>, Christian Windischberger<sup>1</sup>*  
<sup>1</sup>Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Statistics and Probability Theory, Vienna University of Technology, Vienna, Austria, <sup>3</sup>Division of Biological Psychiatry, Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria, <sup>4</sup>Department of Psychiatry and Psychotherapy, Medical University of Vienna, Vienna, Austria
- 811 WTh AFNI: State of the Software — 2012**  
*Robert Cox<sup>1</sup>, Richard Reynolds<sup>1</sup>, Daniel Glen<sup>1</sup>, Ziad Saad<sup>1</sup>, Gang Chen<sup>1</sup>*  
<sup>1</sup>SSCC/NIMH/NIH/DHHS/USA, Bethesda, MD
- 812 WTh PANDA: a Pipeline for Analysing brain Diffusion imAges**  
*Zaixu Cui<sup>1</sup>, Suyu Zhong<sup>1</sup>, Yong He<sup>1</sup>, Gaolang Gong<sup>1</sup>*  
<sup>1</sup>State key laboratory of cognitive neuroscience and learning, Beijing Normal University, Beijing, China
- 813 WTh “aa”: Parallel Processing and Efficient Workflows with Matlab on your Cluster or in the Cloud**  
*Rhodri Cusack<sup>1</sup>, Alejandro Vicente-Grabovetsky<sup>2</sup>, Daniel Mitchell<sup>3</sup>, Jonathan Peelle<sup>4</sup>*  
<sup>1</sup>University of Western Ontario, London, Ontario, <sup>2</sup>Donders Centre for Cognitive Neuroimaging, Nijmegen, Netherlands, <sup>3</sup>MRC Cognition and Brain Sciences Unit, Cambridge, United Kingdom, <sup>4</sup>University of Pennsylvania, Philadelphia, United States
- 814 WTh Pipeline methodology for structural connectivity analysis: application to the normal brain**  
*Hugo Ferreira<sup>1</sup>, Carmen Ferra<sup>2</sup>, Pedro Gonçalves-Pereira<sup>3,2</sup>, Rui Manaças<sup>3,4</sup>, Alexandre Andrade<sup>1</sup>*  
<sup>1</sup>Institute of Biophysics and Biomedical Engineering, Faculty of Sciences of the University of Lisbon, Lisboa, Portugal, <sup>2</sup>Escola Superior de Tecnologias da Saúde, Instituto Politécnico de Lisboa, Lisboa, Portugal, <sup>3</sup>Serviço de Radiologia, Hospital dos Lusíadas, Lisboa, Portugal, <sup>4</sup>Serviço de Neuroradiologia, Hospital dos Capuchos, Lisboa, Portugal

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### Pipelines, continued

- 815 WTh Nipype 2012: more packages, more reusable workflows and more reproducible research**  
*Krzysztof Gorgolewski<sup>1</sup>, Yaroslav Halchenko<sup>2</sup>, Michael Notter<sup>3</sup>, Gaël Varoquaux<sup>4</sup>, Michael Waskom<sup>5</sup>, Erik Ziegler<sup>6</sup>, Satrajit Ghosh<sup>7</sup>*  
<sup>1</sup>University of Edinburgh, Edinburgh, United Kingdom, <sup>2</sup>Dartmouth College, Hannover, NH, <sup>3</sup>University of Zurich, Zurich, Switzerland, <sup>4</sup>INRIA, Saclay, France, <sup>5</sup>Stanford University, Palo Alto, CA, <sup>6</sup>Université de Liège, Liège, Belgium, <sup>7</sup>MIT, Cambridge, MA
- 816 WTh BrainVoyager MRI Data Processing Without Human Assistance by Use of AutoIT in Pipeline-Like Design**  
*Rui Lavrador<sup>1</sup>, Carlos Santos<sup>1</sup>, Nicolás Lori<sup>1,2</sup>*  
<sup>1</sup>IBILI, Faculty of Medicine, University of Coimbra, Coimbra, Portugal, <sup>2</sup>BINP - Brain Imaging Network in Portugal, Coimbra, Portugal
- 817 WTh The State of SUMA: Group Methods, Atlases, Automation & Resting-State**  
*Ziad Saad<sup>1</sup>, Richard Reynolds<sup>2</sup>, Michael Beauchamp<sup>3</sup>, Robert Cox<sup>2</sup>*  
<sup>1</sup>National Institutes of Health, Bethesda, MD, <sup>2</sup>National Institute of Mental Health, Bethesda, MD, <sup>3</sup>UT Health Science Center at Houston, Houston, TX
- 818 WTh Withdrawn**

## LEARNING AND MEMORY

### Implicit Memory

- 819 WTh Rapid amygdala responses during trace fear conditioning without awareness**  
*Nicholas Balderston<sup>1</sup>, Doug Schultz<sup>1</sup>, Fred Helmstetter<sup>1,2</sup>*  
<sup>1</sup>University of Wisconsin-Milwaukee, Milwaukee, WI, <sup>2</sup>Medical College of Wisconsin, Milwaukee, WI
- 820 WTh Role of N250 in Encoding Human Faces: An ERP Study**  
*Chetwyn Chan<sup>1</sup>, Sam Chan<sup>1</sup>, Zhong-lin Lu<sup>2</sup>, Kin-hung Ting<sup>1</sup>*  
<sup>1</sup>Applied Cognitive Neuroscience Laboratory, The Hong Kong Polytechnic University, Hong Kong, Hong Kong, <sup>2</sup>Centre for Cognitive Science, Ohio State University, Columbus, OH
- 821 WTh fMRI repetition effects in priming and recognition memory tasks**  
*Chi-Lan Yang<sup>1</sup>, Han-Yuan Lai<sup>1</sup>, Yu-Yun Hsu<sup>1</sup>, Yun-Shin Wen<sup>1</sup>, YU-YI CHENG<sup>1</sup>, Yuong-Hsuen Ni<sup>1</sup>, Chun-Yu Lin<sup>1</sup>*  
<sup>1</sup>Department of Psychology, National Cheng Kung University, Tainan, Chinese Taipei

## LEARNING AND MEMORY

### Long-Term Memory (Episodic and Semantic)

- 822 WTh Memantine impairs declarative learning and associated hippocampal function in healthy human subjects**  
*Benjamin Becker<sup>1</sup>, Eva Klein<sup>1</sup>, Nadine Striepens<sup>1</sup>, Yoan Mihov<sup>1</sup>, Keith Kendrick<sup>2</sup>, Juergen Reuß<sup>3</sup>, Koen Schruers<sup>4</sup>, Liesbet Goossens<sup>4</sup>, Thomas Schlaepfer<sup>1</sup>, Rene Hurlmann<sup>1</sup>*  
<sup>1</sup>University of Bonn, Bonn, Germany, <sup>2</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>3</sup>Beta Clinic, Bonn, Germany, <sup>4</sup>Maastricht University, Maastricht, Netherlands
- 823 WTh Recognition Memory Performance is modulated by tDCS over the Left Posterior Parietal Cortex**  
*Shih-kuen Cheng<sup>1</sup>, Nei-Feng Chen<sup>1</sup>, Chi-Hung Juan<sup>2</sup>, Daisy Hung<sup>3</sup>, Ovid J.-L. Tzeng<sup>4</sup>*  
<sup>1</sup>National Central University, Jhongli City, Chinese Taipei, <sup>2</sup>National Central University, Jhongli, Chinese Taipei, <sup>3</sup>Institute of Cognitive Neuroscience, National Central University, Jhongli City, Chinese Taipei, <sup>4</sup>Laboratories for Cognitive Neuroscience, National Yang-Ming University, Taipei, Chinese Taipei

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## LEARNING AND MEMORY

### Long-Term Memory (Episodic and Semantic), continued

- 824 WTh Memory Activation for Recollection and Familiarity in the Medial Temporal Lobes using fMRI**  
*Dietmar Cordes<sup>1</sup>, Grit Herzmann<sup>2</sup>, Rajesh Nandy<sup>3</sup>, Tim Curran<sup>2</sup>*  
<sup>1</sup>University of Colorado-Denver, Aurora, CO, <sup>2</sup>University of Colorado-Boulder, Boulder, CO, <sup>3</sup>University of California (UCLA), Los Angeles, CA
- 825 WTh Reactivating Memory Traces during Sleep: A Localized Sleep Spindle Response**  
*Roy Cox<sup>1</sup>, Marieke de Boer<sup>1</sup>, Winni Hofman<sup>1</sup>, Lucia Talamini<sup>1</sup>*  
<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands
- 826 WTh Retention-Dependent Increases in Sleep Spindle Density: a Slow Wave Sleep-Specific Phenomenon**  
*Roy Cox<sup>1</sup>, Winni Hofman<sup>1</sup>, Lucia Talamini<sup>1</sup>*  
<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands
- 827 WTh Withdrawn**
- 828 WTh A 7T resting state fMRI study of MTL-Neocortical Connectivity Changes after Spatial Learning**  
*Raphael Kaplan<sup>1</sup>, Wen-Ming Luh<sup>1</sup>, Christian Doeller<sup>2</sup>, Neil Burgess<sup>3</sup>, Peter Bandettini<sup>4</sup>*  
<sup>1</sup>National Institute of Mental Health, Bethesda, United States, <sup>2</sup>Donders Centre for Cognitive Neuroimaging: Radboud University, Nijmegen, Netherlands, <sup>3</sup>University College London, London, United Kingdom, <sup>4</sup>National Institutes of Health, Bethesda, United States
- \*829 WTh The role of classical speech areas in auditory long-term memory (O-Th3)**  
*Anke Karabanov<sup>1</sup>, Rainer Paine<sup>2</sup>, Mark Hallett<sup>2</sup>, Mortimer Mishkin<sup>3</sup>*  
<sup>1</sup>Danish Research Center for Magnetic Imaging, Copenhagen, Denmark, <sup>2</sup>National Institute of Neurological Disorder and Stroke, Bethesda, MD, <sup>3</sup>National Institute of Mental Health, Bethesda, MD
- 830 WTh Consolidation of social memories in resting state networks**  
*Peter Klaver<sup>1</sup>, Maximilian Geiger<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Zurich, Switzerland
- 831 WTh Magnetoencephalographic features of semantic and episodic memory deficit in Alzheimer's disease**  
*Valentina La Corte<sup>1</sup>, Gianfranco Dalla Barba<sup>2,3</sup>, Jean-Didier Lemaréchal<sup>2</sup>, Nathalie George<sup>2</sup>*  
<sup>1</sup>aUniversité Pierre et Marie Curie-Paris VI, CRICM, Paris, France, bINSERM, UMR\_S975, Paris, France c, France, <sup>2</sup>aUniversité Pierre et Marie Curie-Paris VI, CRICM, Paris, France, bINSERM, UMR\_S975, Paris, France c, Paris, France, <sup>3</sup>aUniversité Pierre et Marie Curie-Paris VI, CRICM, Paris, France, bINSERM, UMR\_S975, Paris, France cCNRS, UMR 7225, Paris, France, Paris, France
- 832 WTh The Neural Mechanisms Underlying Different Memory Durations**  
*Qi Liu<sup>1</sup>, Gui Xue<sup>1,2</sup>, Hongli Xue<sup>1</sup>, Yunxin Wang<sup>1</sup>, Chuansheng Chen<sup>3</sup>, Qi Dong<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China, <sup>2</sup>University of Southern California, Los Angeles, CA, <sup>3</sup>Department of Psychology and Social Behavior, University of California, Irvine, Irvine, United States
- 833 WTh Late posterior negativity and color source retrieval**  
*Aiqing Nie<sup>1,1</sup>*  
<sup>1</sup>Zhejiang University, Hangzhou, Zhejiang Province, China
- 834 WTh Memory encoding is boosted by blocking irrelevant memories by posterior alpha activity**  
*Hyojin Park<sup>1</sup>, Jarang Hahn<sup>1</sup>, Hyejin Kang<sup>1</sup>, Eunjoo Kang<sup>2</sup>, June Sic Kim<sup>3</sup>, Chun Kee Chung<sup>3</sup>, Ole Jensen<sup>4</sup>, Dong Soo Lee<sup>1</sup>*  
<sup>1</sup>Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>2</sup>Kangwon National University, Chuncheon, Korea, Republic of, <sup>3</sup>MEG Center, Department of Neurosurgery, Seoul National University College of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Donders Centre for Cognitive Neuroimaging, Radboud University Nijmegen, Nijmegen, Netherlands
- 835 WTh Hippocampal Lateralization Predicts Spatial Memory Performance: A Study of Sex Differences**  
*Jonas Persson<sup>1</sup>, Jonas Engman<sup>1</sup>, Arvid Morell<sup>1</sup>, Johan Wikström<sup>1</sup>, Hedvig Söderlund<sup>1</sup>*  
<sup>1</sup>Uppsala University, Uppsala, Sweden
- \*836 WTh Sub-Regions in Human Entorhinal Cortex are Domain-Sensitive (O-Th3)**  
*Heidrun Schultz<sup>1</sup>, Tobias Sommer<sup>1</sup>, Jan Peters<sup>1</sup>*  
<sup>1</sup>Department of Systems Neuroscience, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

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## LEARNING AND MEMORY

### Long-Term Memory (Episodic and Semantic), continued

- 837 WTh Interference with memory retrieval following rTMS stimulation of the inferior parietal lobule**  
*Carlo Sestieri<sup>1</sup>, Maurizio Corbetta<sup>2</sup>, Paolo Capotosto<sup>1</sup>, Annalisa Tosoni<sup>3</sup>, Gian Luca Roman<sup>4</sup>*  
<sup>1</sup>Dept. of Neuroscience and Imaging, University G.d'Annunzio, Chieti, Italy, <sup>2</sup>Dept. Neurology, Radiology, and Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO, <sup>3</sup>Dept. of Neuroscience and Imaging, University G.d'Annunzio, Chieti, Italy, <sup>4</sup>Department of Neuroscience and Imaging – G. D'Annunzio University of Chieti, Chieti, Chieti
- 838 WTh Qualitatively different memory signals in human rhinal cortex and hippocampus revealed via iEEG**  
*Bernhard Staresina<sup>1</sup>, Juergen Fell<sup>2</sup>, Anne Do Lam<sup>3</sup>, Nikolai Axmacher<sup>2</sup>, Richard Henson<sup>1</sup>*  
<sup>1</sup>MRC Cognition & Brain Sciences Unit, Cambridge, United Kingdom, <sup>2</sup>Dept. of Epileptology, Univ. of Bonn, Bonn, Germany, <sup>3</sup>Epileptology, University of Bonn, Bonn, Germany
- 839 WTh The Role of the Hippocampus in Consolidating Episodic Regularities**  
*Carly Sweegers<sup>1</sup>, Atsuko Takashima<sup>2</sup>, Guillén Fernández<sup>2</sup>, Lucia Talamini<sup>1</sup>*  
<sup>1</sup>University of Amsterdam, Amsterdam, Netherlands, <sup>2</sup>Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands
- 840 WTh Changes in resting-state correlations following the encoding of complex scenes**  
*Arielle Tambini<sup>1</sup>, Eyal Bar-David<sup>1</sup>, Lila Davachi<sup>1</sup>, Elizabeth Phelps<sup>1</sup>, Ulrike Rimmele<sup>1</sup>*  
<sup>1</sup>New York University, New York, United States
- 841 WTh High field MRI reveals specific episodic memory correlates in the subfields of the hippocampus**  
*Scott Travis<sup>1</sup>, Rawle Carter<sup>1</sup>, Esther Fujiwara<sup>1</sup>, Yushan Huang<sup>2</sup>, Ashley Radomski<sup>1</sup>, Peter Seres<sup>2</sup>, Nikolai Malykhin<sup>3</sup>*  
<sup>1</sup>University of Alberta, Edmonton, Alberta, <sup>2</sup>University of Alberta, Edmonton, Alberta, <sup>3</sup>University of Alberta, Edmonton, Canada
- \*842 WTh Posterior Hippocampus and Fornix Contributes to Long-Term Memory Consolidation of Contextual Memory (O-Th3)**  
*Sicong Tu<sup>1,2</sup>, Michael Hornberger<sup>1</sup>*  
<sup>1</sup>Neuroscience Research Australia, Sydney, Australia, <sup>2</sup>University of New South Wales, Sydney, Australia
- 843 WTh Differential congruency effects on memory retrieval owing to consolidation and memory type**  
*Marlieke van Kesteren<sup>1</sup>, Mark Rijpkema<sup>1</sup>, Dirk Ruiters<sup>2</sup>, Guillén Fernández<sup>2</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands, <sup>2</sup>Radboud University Medical Centre, Nijmegen, Netherlands
- 844 WTh Temporal neocortex shows antero-posterior functional dissociation during retrieval of remote memory**  
*Takamitsu Watanabe<sup>1</sup>, Hiroko Kimura<sup>1</sup>, Satoshi Hirose<sup>1</sup>, Hiroyuki Wada<sup>2</sup>, Yoshio Ima<sup>2</sup>, Toru Machida<sup>2</sup>, Ichiro Shirouzu<sup>2</sup>, Yasushi Miyashita<sup>1</sup>, Seiki Konishi<sup>1</sup>*  
<sup>1</sup>Department of Physiology, The University of Tokyo School of Medicine, Tokyo, Japan, <sup>2</sup>Department of Radiology, NTT Medical Center Tokyo, Tokyo, Japan
- \*845 WTh Increased functional connectivity between hippocampus and striatum during memory consolidation (O-Th3)**  
*Daniel Woolley<sup>1</sup>, Dante Mantini<sup>1</sup>, Rudi D'Hooge<sup>1</sup>, Stephan Swinnen<sup>1</sup>, Nicole Wenderoth<sup>1</sup>*  
<sup>1</sup>KU Leuven, Leuven, Belgium
- 846 WTh The Relationship between Repetition Interval and Memory Performance: An fMRI Study**  
*Hongli Xue<sup>1</sup>, Gui Xue<sup>1</sup>, Qi Liu<sup>1</sup>, Chuansheng Chen<sup>2</sup>, Qi Dong<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing, China, <sup>2</sup>University of California, Irvine, Irvine, CA

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## LEARNING AND MEMORY

### Neural Plasticity and Recovery of Function

- 847 WTh Structural, perfusion and behavioral correlations in children with hemiplegic cerebral palsy**  
*Moran Artzi<sup>1,2</sup>, Maya Weinstein<sup>3,4</sup>, Dido Green<sup>5,6</sup>, Vicki Myers<sup>3</sup>, Shelly Shiran<sup>7</sup>, Liat Ben-Sira<sup>7</sup>, Elka Miller<sup>8</sup>, Mitchell Schertz<sup>9</sup>, Andrew Gordon<sup>10</sup>, Aviva Fattal-Valevsky<sup>9,11</sup>, Dafna Ben Bashat<sup>8</sup>*  
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- 848 WTh Parietofrontal integrity after stroke determines neural modulation skill acquired via BCI training**  
*Ethan Buch<sup>1</sup>, Amir Modir Shanechi<sup>1,2</sup>, Alissa Fourkas<sup>1</sup>, Cornelia Weber<sup>3</sup>, Niels Birbaumer<sup>3,4</sup>, Leonardo Cohen<sup>1</sup>*  
<sup>1</sup>National Institute of Neurological Disorders and Stroke (NINDS), NIH, Bethesda, MD, United States, <sup>2</sup>University School of Medicine, St. Louis, MO, <sup>3</sup>Institute of Medical Psychology and Behavioral Neurobiology, University of Tübingen, Tübingen, Germany, <sup>4</sup>Ospedale San Camillo, IRCCS, Venice, Italy
- 849 WTh The varied cortical activation is prompted by 2x2 levels of thermal pain stimuli: an fMRI study**  
*Sharon Chia-Ju Chen<sup>1</sup>, Hsin-Yun Lee<sup>1</sup>, Chuan-Li Lin<sup>2</sup>, Yen-Yu Chiu<sup>3</sup>, Pei-Rong Chen<sup>2</sup>, Yi Lu<sup>2</sup>, Guan-Wen Chih<sup>4</sup>, Gin-Chung Liu<sup>3</sup>, Jau-Hong Lin<sup>2</sup>*  
<sup>1</sup>Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung, <sup>2</sup>Department of Physical Theray, Kaohsiung Medical University, Kaohsiung, <sup>3</sup>Department of Medical Imaging, Kaohsiung Medical University, Kaohsiung, <sup>4</sup>Department of Medical Imaging and Radiological Sciences, Kaohsiung Medical University, Kaohsiung
- 850 WTh Neural field theory of calcium dependent plasticity**  
*Park Fung<sup>1</sup>, Peter Robinson<sup>1</sup>*  
<sup>1</sup>University of Sydney, Sydney, Australia
- 851 WTh Long term, hebbian-like, traces of prior neuronal activations are revealed in resting state fMRI**  
*Tal Harmelech<sup>1</sup>, Eliahu Wertman<sup>2</sup>, Son Preminger<sup>1</sup>, Rafael Malach<sup>1</sup>*  
<sup>1</sup>Weizmann Institute of Science, Rehovot, Israel, <sup>2</sup>Hebrew University, Jerusalem, Israel
- 852 WTh The paradox of expertise: musical training intensity both increases and decreases brain structures**  
*Clara James<sup>1</sup>, Mathias Oechslin<sup>1</sup>, Dimitri Van De Ville<sup>2</sup>, Claude-Alain Hauert<sup>1</sup>, Céline Descloux<sup>3</sup>, François Lazeyras<sup>4</sup>*  
<sup>1</sup>FPSE, University of Geneva, Geneva, Switzerland, <sup>2</sup>UniGE/EPFL, Lausanne, Switzerland, <sup>3</sup>Medical University of Lausanne, Lausanne, Switzerland, <sup>4</sup>Department of Radiology & CIBM, University of Geneva, Geneva, Switzerland
- 853 WTh The effects of limb immobilization on brain plasticity**  
*Nicolas Langer<sup>1</sup>, Alexandra Müller<sup>2</sup>, Hans-Peter Simmen<sup>2</sup>, Lutz Jäncke<sup>3</sup>, Jürgen Hänggi<sup>4</sup>*  
<sup>1</sup>University Zurich, N/A, <sup>2</sup>University Hospital Zurich, Zurich, Switzerland, <sup>3</sup>University of Zurich, Zurich, Switzerland, <sup>4</sup>Division of Neuropsychology, University of Zurich, Zurich, Switzerland
- 854 WTh Increased BOLD variability and functional connectivity changes in congenitally blind individuals**  
*Andrea Leo<sup>1</sup>, Giulio Bernardi<sup>1</sup>, Giacomo Handjaras<sup>1</sup>, Emiliano Ricciardi<sup>1</sup>, Pietro Pietrini<sup>1</sup>*  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa Medical School, Pisa, Italy
- 855 WTh Assessment of cortical reorganization after face transplantation by fEEG – a three year experience**  
*Vlodek Siemionow<sup>1</sup>, Katarzyna Kisiel-Sajewicz<sup>2</sup>, Alexandria Wyant<sup>3</sup>, Guang Yue<sup>4</sup>, Maria Siemionow<sup>5</sup>*  
<sup>1</sup>Departments of Biomedical Engineering and Rehabilitation, Cleveland Clinic, Cleveland, OH, USA, <sup>2</sup>University School of Physical Education in Wrocław, Wrocław, Poland, <sup>3</sup>Department of Biomedical Engineering, Cleveland Clinic, Cleveland, OH, USA, <sup>4</sup>Kessler Foundation Research Center, West Orange, NJ, USA, <sup>5</sup>Department of Plastic Surgery, Cleveland Clinic, Cleveland, OH, USA

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## LEARNING AND MEMORY

### Neural Plasticity and Recovery of Function, continued

- 856 WTh Training-induced structural changes after 45 minutes of balance training: A 7 Tesla MRI study**  
*Marco Taubert<sup>1</sup>, Bernhard Sehm<sup>1</sup>, Robert Trampel<sup>1</sup>, Virginia Conde Ruiz<sup>1</sup>, Marcel Weiss<sup>1</sup>, Dimo Ivanov<sup>1</sup>, Thomas Fritz<sup>1</sup>, Robert Turner<sup>1</sup>, Arno Villringer<sup>1</sup>, Patrick Ragert<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 857 WTh Insights into the brain of an elite athlete: Evidence from structural neuroimaging**  
*Marco Taubert<sup>1</sup>, Uwe Wenze<sup>2</sup>, Bogdan Draganski<sup>3</sup>, Maren Witt<sup>2</sup>, Patrick Ragert<sup>1</sup>, Jürgen Krug<sup>2</sup>, Arno Villringer<sup>1</sup>*  
<sup>1</sup>Max-Planck-Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Faculty of Sports Sciences, University of Leipzig, Leipzig, Germany, <sup>3</sup>LREN, Département des neurosciences cliniques - CHUV, Lausanne, Switzerland
- 858 WTh Rapid changes in brain structure in response to exercise in sedentary adults**  
*Adam Thomas<sup>1,2</sup>, Andrea Dennis<sup>2</sup>, Nancy Rawlings<sup>2</sup>, Lucy Matthews<sup>3</sup>, Charlotte Stagg<sup>3</sup>, Martyn Morris<sup>4</sup>, Shannon Kolind<sup>3</sup>, Peter Bandettini<sup>5</sup>, Helen Dawes<sup>4</sup>, Heidi Johansen-Berg<sup>3</sup>*  
<sup>1</sup>NIMH, Bethesda, MD, <sup>2</sup>FMRIB, University of Oxford, Oxford, United Kingdom, <sup>3</sup>University of Oxford, Oxford, United Kingdom, <sup>4</sup>Oxford Brookes University, Oxford, United Kingdom, <sup>5</sup>National Institutes of Health, Bethesda, United States
- 859 WTh Functional Plasticity of the Resting Human Brain Induced by Long-Term Driving**  
*Lubin Wang<sup>1</sup>, Qiang Liu<sup>2,3</sup>, Hong Li<sup>2,3</sup>, Dewen Hu<sup>1</sup>*  
<sup>1</sup>College of Mechatronics and Automation, National University of Defense Technology, Changsha, China, <sup>2</sup>Key Laboratory of Cognition and Personality (SWU), Ministry of Education, Chongqing, China, <sup>3</sup>School of Psychology, Southwest University, Chongqing, China
- 860 WTh Effects of l-dopa in an auditory operant conditioning task**  
*Tina Weis<sup>1</sup>, Sebastian Puschmann<sup>1</sup>, Andre Brechmann<sup>2</sup>, Christiane Thiel<sup>1,3</sup>*  
<sup>1</sup>Biological Psychology Lab, Institute of Psychology, Carl von Ossietzky University, Oldenburg, Germany, <sup>2</sup>Leibniz Institute of Neurobiology, Special Lab Non-Invasive Brain Imaging, Magdeburg, Germany, <sup>3</sup>Research Center Neurosensory Science, Carl von Ossietzky University, Oldenburg, Germany

## LEARNING AND MEMORY

### Skill Learning

- 861 WTh Individual Differences in Sensitivity to Interference during Motor Sequence Learning: an fMRI Study**  
*Genevieve Albouy<sup>1</sup>, Luca Matarazzo<sup>2</sup>, Christina Schmidt<sup>3</sup>, Ariane Foret<sup>2</sup>, Laura Mascetti<sup>4</sup>, Martin Desseilles<sup>5</sup>, Thien Thanh Dang-Vu<sup>3</sup>, Pierre Orban<sup>1</sup>, Evelyne Balteau<sup>3</sup>, Christophe Phillips<sup>6</sup>, Christian Degueldre<sup>3</sup>, Habib Benali<sup>7</sup>, Philippe PEIGNEUX<sup>8</sup>, Andre Luxen<sup>3</sup>, Avi Karn<sup>9</sup>, Pierre Maquet<sup>3</sup>, Maria Korman<sup>9</sup>, Julien Doyon<sup>10</sup>*  
<sup>1</sup>CRIUGM, University of Montreal, Montreal, Canada, <sup>2</sup>Cyclotron Research Centre, University of Liege, Liege, Belgium, <sup>3</sup>Cyclotron Research Centre, Liège, Belgium, <sup>4</sup>University of Liège, Cyclotron Research Centre, Liège, Belgium, <sup>5</sup>University of Liège and Massachusetts General Hospital, N/A, <sup>6</sup>Cyclotron Research Centre, University of Liege, Sart Tilman, Liege, Belgium, <sup>7</sup>INSERM, Paris, France, <sup>8</sup>Université Libre de Bruxelles (ULB), Bruxelles, Belgium, <sup>9</sup>University of Haifa, Haifa, Israel, <sup>10</sup>Functional Neuroimaging Unit, CRIUGM, University of Montreal, Montreal, PQ
- 862 WTh Expertise modulates brain activity during passive driving: a study in professional and naïve drivers**  
*Giulio Bernardi<sup>1</sup>, Emiliano Ricciardi<sup>1,2,3</sup>, Giacomo Handjaras<sup>1</sup>, Anna Gaglianese<sup>1</sup>, Lorenzo Sani<sup>1,2,3</sup>, Alessandra Papasogli<sup>4</sup>, Riccardo Ceccarelli<sup>1</sup>, Ferdinando Franzoni<sup>5</sup>, Fabio Galetta<sup>5</sup>, Gino Santoro<sup>5</sup>, Rainer Goebel<sup>6</sup>, Pietro Pietrini<sup>1,2</sup>*  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology, University of Pisa, Pisa, Italy, <sup>2</sup>Department of Laboratory Medicine and Molecular Diagnostics, AOUP, Pisa, Italy, <sup>3</sup>MRI Laboratory, Fondazione Regione Toscana/CNR 'G.Monasterio', Pisa, Italy, <sup>4</sup>Formula Medicine, Viareggio, Italy, <sup>5</sup>Department of Internal Medicine, University of Pisa, Pisa, Italy, <sup>6</sup>Maastricht University, Maastricht, Netherlands
- 863 WTh Long-term motor training improves manual dexterity and reduces neural activity in motor cortex**  
*Dorothee Callaert<sup>1</sup>, Katrien Vercauteren<sup>1</sup>, Stefan Sunaert<sup>2</sup>, Stephan Swinnen<sup>1</sup>, Nicole Wenderoth<sup>1</sup>*  
<sup>1</sup>Movement Control and Neuroplasticity Research Group, Department of Kinesiology, KU Leuven, Leuven, Belgium, <sup>2</sup>Radiology, KU Leuven, Leuven, Belgium
- 864 WTh Dissociable brain mechanisms of short-term and long-term preservation of perceptual learning**  
*Yulong Ding<sup>1</sup>, You Wang<sup>1</sup>, Zhe Qu<sup>1</sup>*  
<sup>1</sup>Sun Yat-Sen University, Guangzhou, China

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## LEARNING AND MEMORY

### Skill Learning, continued

- 865 WTh Basal Ganglia Network Dysfunction during Motor Sequence Learning in Writer's Cramp Patients**  
*Cécile Galléa<sup>1</sup>, Meirav Balas<sup>2</sup>, David Grabl<sup>3</sup>, Melanie Pelegrini-Issac<sup>4</sup>, Marie Vidailhet<sup>5</sup>, Lehericy Stéphane<sup>6</sup>*  
<sup>1</sup>Institut du Cerveau et de la Moelle - ICM, Paris, France, <sup>2</sup>Centre de Neuroimagerie de Recherche (CENIR), Paris, France, <sup>3</sup>Federation de Neurologie, Groupe Hospitalier Pitié-Salpêtrière, Paris, France, <sup>4</sup>Université Pierre et Marie Curie, U678, Paris, France, <sup>5</sup>Université Pierre et Marie Curie-Paris 6, Centre de Recherche de l'Institut du Cerveau et de la Moe, Paris, France, <sup>6</sup>Centre de Neuro-Imagerie de Recherche (CENIR), CR-ICM, Inserm, U975, CNRS, UMR 7225, Paris, France
- \*866 WTh Motor learning and offline processes of consolidation associated with rapid GABA modulation (O-T2)**  
*Christel Gudberg<sup>1</sup>, Charlotte Stagg<sup>1</sup>, Jamie Near<sup>1</sup>, Heidi Johansen-Berg<sup>1</sup>*  
<sup>1</sup>Nuffield Department of Clinical Neurosciences (FMRIB), University of Oxford, Oxford, United Kingdom
- 867 WTh A quantitative meta-analysis of motor learning in the human brain**  
*Robert Hardwick<sup>1</sup>, Chris Miall<sup>1</sup>, Claudia Rottschy<sup>2</sup>, Simon Eickhoff<sup>3</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Department of Neurology, University Hospital Aachen, N/A, <sup>3</sup>Research Center Jülich, Jülich, Germany
- 868 WTh Visuo-motor learning measured via high-resolution PASL fMRI at 7T**  
*Steffen Krieger<sup>1</sup>, Robert Turner<sup>1</sup>, Leigh Johnston<sup>2</sup>, Gary Egan<sup>3</sup>*  
<sup>1</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>University of Melbourne, Melbourne, Australia, <sup>3</sup>Monash University, Melbourne, Australia
- 869 WTh Abacus training effects on numerical memory activates a frontal-parietal network**  
*Yongxin Li<sup>1</sup>, Yuzheng Hu<sup>2</sup>, Jian Weng<sup>1</sup>, Ming Zhao<sup>3</sup>, Feiyan Chen<sup>1</sup>*  
<sup>1</sup>Bio-X Laboratory, Department of Physics, Hangzhou, China, <sup>2</sup>National Institute on Drug Abuse, Baltimore, MD, <sup>3</sup>Zhejiang University, Hangzhou, China
- \*870 WTh Hippocampal and prefrontal reorganization is associated with the maturation of fact retrieval (O-Th3)**  
*Shaozheng Qin<sup>1</sup>, Soohyun Cho<sup>2</sup>, Miriam Rosenberg-Lee<sup>3</sup>, Dave Geary<sup>4</sup>, Vinod Menon<sup>5</sup>*  
<sup>1</sup>Stanford University, Stanford, United States, <sup>2</sup>Stanford University, Stanford, CA, <sup>3</sup>Stanford University, N/A, <sup>4</sup>University of Missouri, Missouri, MO, <sup>5</sup>Stanford school of medicine, Palo Alto, CA
- 871 WTh Motor Memory Consolidation Effects Distinct Resting State Networks**  
*Saber Sami<sup>1</sup>, Chris Miall<sup>1</sup>, Edwin Robertson<sup>2</sup>*  
<sup>1</sup>University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Harvard Medical School, Boston, MA
- 872 WTh Don't Talk to Me: Reduced Functional Connectivity Following Errors in Task Performance**  
*Benjamin Shannon<sup>1</sup>, Marcus Raichle<sup>2</sup>, Abraham Snyder<sup>2</sup>, Sanjeev Vaishnavi<sup>2</sup>*  
<sup>1</sup>Washington University, Saint Louis, United States, <sup>2</sup>Washington University, Saint Louis, MO
- \*873 WTh Differential contribution of BA4a and BA4p to motor learning (O-T2)**  
*Nikhil Sharma<sup>1</sup>, Michael Dimyan<sup>2</sup>, Carlo Pierpaoli<sup>2</sup>, Lindsay Walker<sup>3</sup>, Alissa Fourkas<sup>4</sup>, Leonardo Cohen<sup>5</sup>*  
<sup>1</sup>NINDS, Bethesda, United States, <sup>2</sup>NIH, Bethesda, MD, <sup>3</sup>NIH, Bethesda, United States, <sup>4</sup>NINDS, Bethesda, MD, <sup>5</sup>National Institute of Neurological Disorders and Stroke (NINDS), NIH, Bethesda, MD
- 874 WTh Experience-dependent Changes in Intrinsic Functional Connectivity: Tool-use and Supramarginal Gyrus**  
*Kwangsun Yoo<sup>1</sup>, William Sohn<sup>1</sup>, Yong Jeong<sup>1</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of

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## LEARNING AND MEMORY

### Working Memory

- 875 WTh Training-related plasticity in brain activity following visual spatial working memory training**  
*Sharona Atkins<sup>1</sup>, Donald Bolger<sup>2</sup>, Michael Bunting<sup>3</sup>, Michael Dougherty<sup>1</sup>*  
<sup>1</sup>Department of Psychology, University of Maryland, College Park, MD, <sup>2</sup>Department of Human Development, University of Maryland, College Park, MD, <sup>3</sup>Center for Advanced Study of Language, University of Maryland, College Park, MD
- 876 WTh Syntactic Contributions to Working Memory: A Neural Basis of the Sentence Superiority Effect**  
*Corinna Bonhage<sup>1</sup>, Christian Fiebach<sup>2</sup>, Angela Friederici<sup>1</sup>, Jörg Bahlmann<sup>3</sup>, Jutta Mueller<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>University of Frankfurt, Frankfurt am Main, Germany, <sup>3</sup>University of California, Berkeley, CA
- 877 WTh Influence of the Visual Context during the Maintenance of Motion Information in Working Memory**  
*Claire Calmels<sup>1</sup>, Marion Foutren<sup>2</sup>, Cornelis Stam<sup>3</sup>*  
<sup>1</sup>INSEP, N/A, <sup>2</sup>INSEP Recherche, Paris, France, <sup>3</sup>Department of Clinical Neurophysiology, VU University Medical Centre, Amsterdam, Netherlands
- 878 WTh EEG Oscillation of encoding concrete biology concepts presented in pictures vs words**  
*Wen-Chi Chou<sup>1</sup>, Hsiao-Ching She<sup>2</sup>, Tzyy-Ping Jung<sup>3</sup>*  
<sup>1</sup>Institute of Education, National Chiao-Tung University, Hsinchu, Chinese Taipei, <sup>2</sup>Institute of Education, National Chiao Tung University, HsinChu, Chinese Taipei, <sup>3</sup>University of California, San Diego, California, United States
- 879 WTh Identifying working memory representations of complex motion patterns in parietal cortex using fMRI**  
*Thomas Christophel<sup>1</sup>, John-Dylan Haynes<sup>1</sup>*  
<sup>1</sup>BCCN, Berlin, Germany
- 880 WTh EEG correlates associated with maintenance of temporal order information in visual working memory**  
*Barbara Dolenc<sup>1</sup>, Grega Repovš<sup>2</sup>, Jurij Bon<sup>1</sup>, Jurij Dreo<sup>1</sup>, Dejan Georgiev<sup>1</sup>, Blaž Koritnik<sup>3</sup>*  
<sup>1</sup>Laboratory for Cognitive Neuroscience, Department of Neurology, University Medical Centre, Ljubljana, Slovenia, <sup>2</sup>Department of Psychology, Faculty of Arts, University of Ljubljana, Ljubljana, Slovenia, <sup>3</sup>Institute of Clinical Neurophysiology, University Medical Centre, Ljubljana, Slovenia
- 881 WTh Neural Systems Underlying Distracter Inhibition in Verbal Working Memory**  
*Christian Fiebach<sup>1</sup>, Christine Stelze<sup>2</sup>, Ulrike Basten<sup>1</sup>*  
<sup>1</sup>Goethe University Frankfurt, Frankfurt am Main, Germany, <sup>2</sup>Charité Universitaetsmedizin, Berlin, Germany
- 882 WTh Functional brain reorganization following unilateral lesions of the hippocampal formation**  
*Carsten Finke<sup>1</sup>, Hannah Bruehl<sup>2</sup>, Emrah Duze<sup>2</sup>, Hauke Heekeren<sup>2</sup>, Christoph Ploner<sup>1</sup>*  
<sup>1</sup>Charité - Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Department of Education and Psychology, Freie Universitaet Berlin, Berlin, Germany, <sup>3</sup>Department of Neurology, University Hospital of Magdeburg, Magdeburg, Germany
- 883 WTh A Study on Small-World Brain Networks in Schizophrenia Patients during Working Memory Performance**  
*Hao He<sup>1,2</sup>, Jing Sui<sup>1</sup>, Qingbao Yu<sup>1</sup>, Jessica Turner<sup>1</sup>, Dara Manoach<sup>3</sup>, Scott Sponheim<sup>4</sup>, Vince Calhoun<sup>1,2</sup>*  
<sup>1</sup>The Mind Research Network, Albuquerque, NM, <sup>2</sup>Dept. of Electrical and Computer Engineering, University of New Mexico, Albuquerque, NM, <sup>3</sup>Dept. of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA, <sup>4</sup>Minneapolis VA Health Care System and Dept. of Psychiatry, University of Minnesota, Minneapolis, MN
- 884 WTh The EEG dynamic of visual working memory task involving chemistry**  
*Li-Yu Huang<sup>1</sup>, Hsiao-Ching She<sup>1</sup>, Tzyy-Ping Jung<sup>2</sup>, Ming-Hua Chuang<sup>1</sup>*  
<sup>1</sup>Institute of Education, National Chiao-Tung University, Hsinchu, Chinese Taipei, <sup>2</sup>University of California, San Diego, California, United States
- 885 WTh Alpha oscillations serve to protect against distracters: a case for pulsed inhibition**  
*Ole Jensen<sup>1</sup>, Saskia Haegens<sup>1</sup>, Mathilde Bonnefond<sup>1</sup>*  
<sup>1</sup>Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands
- 886 WTh Frontal Neuroimaging Indicators for Mild Cognitive Impairment during Working Memory**  
*Yang Jiang<sup>1</sup>, Lucas Broster<sup>1</sup>, Chunyan Guo<sup>2</sup>, Jessica Clark<sup>3,1</sup>, Erin Walsh<sup>1</sup>, McKinley Heflin<sup>1</sup>, Gregory Jicha<sup>1</sup>*  
<sup>1</sup>University of Kentucky College of Medicine, Lexington, KY, USA, <sup>2</sup>Capital Normal University, Beijing, China, <sup>3</sup>National Rehabilitation Hospital, Washington DC, USA

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## LEARNING AND MEMORY

### Working Memory, continued

- \*887 WTh Influence of acute bouts of submaximal exercise on working memory: An fMRI — study (O-Th3)**  
*Karl Koschutnig<sup>1</sup>, Kerstin Schweitzer<sup>2</sup>, Gernot Reishofer<sup>3</sup>, Wolfram Mueller<sup>2</sup>, Franz Ebner<sup>3</sup>, Christa Neuper<sup>4</sup>*  
<sup>1</sup>Karl-Franzens University, Graz, Austria, <sup>2</sup>Medical University, Graz, Austria, <sup>3</sup>Medical University of Graz, Graz, Austria, <sup>4</sup>Karl Franzens University, Graz, Austria
- 888 WTh Magnetic resonance morphometric analysis of cingulate cortex and human memory in normal aging**  
*Stanislav Kozlovskiy<sup>1</sup>, Alexander Vartanov<sup>1</sup>, Evgenia Nikonova<sup>1</sup>, Maria Pyasik<sup>1</sup>, Boris Velichkovsky<sup>1</sup>*  
<sup>1</sup>Lomonosov Moscow State University, Moscow, Russian Federation
- 889 WTh Training of Small-World Networks in the Human Brain**  
*Nicolas Langer<sup>1</sup>, Lutz Jäncke<sup>2</sup>, Klaus Oberauer<sup>2</sup>, Claudia von Bastian<sup>2</sup>, Helen Wirz<sup>2</sup>*  
<sup>1</sup>University Zurich, N/A, <sup>2</sup>University of Zurich, Zurich, Switzerland
- 890 WTh Electrophysiological correlates of working memory in college students with schizotypal traits**  
*Hyo-Jin Lee<sup>1</sup>, Kyoung-Mi Jang<sup>2</sup>, Chang-Hwan Im<sup>3</sup>, Myung-Sun Kim<sup>4</sup>*  
<sup>1</sup>Department of Psychology, Sungshin Women's University, Seoul, Korea, Republic of, <sup>2</sup>Department of Psychology, Sungshin Women's University, Seoul, Korea, Republic of, <sup>3</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>4</sup>Department of Psychology, Sungshin Women's University, Seoul, Korea, Republic of
- 891 WTh Effect of gender on auditory “What” and “Where” neural networks – An fMRI study**  
*Ada Leung<sup>1</sup>, Sylvain Moreno<sup>2</sup>, Claude Alain<sup>2</sup>*  
<sup>1</sup>Department of Occupational Therapy, University of Alberta, Edmonton, Canada, <sup>2</sup>Rotman Research Institute at Baycrest, University of Toronto, Toronto, Ontario
- \*\*892 WTh Using fMRI and TMS to Study Interactions of the Motor System and Working Memory**  
*Diana Liao<sup>1</sup>, Jeffrey Yau<sup>1</sup>, Diane Echavarria<sup>1</sup>, Monica Faulkner<sup>1</sup>, John Desmond<sup>1</sup>, Cherie Marvel<sup>1</sup>*  
<sup>1</sup>Johns Hopkins University School of Medicine, Baltimore, United States
- 893 WTh Spontaneous Alpha Oscillations Predict Encoding in a Precision Visual Short-term Memory Task**  
*Nicholas Myers<sup>1</sup>, Mark Stokes<sup>1</sup>, Alexandra Murray<sup>1</sup>, Anna Nobre<sup>1</sup>*  
<sup>1</sup>Oxford University, Oxford, United Kingdom
- 894 WTh Brain structures associated with working memory performance: a voxel-based morphometric study**  
*Wen-Ju Pan<sup>1</sup>, Matthew Magnuson<sup>1</sup>, Garth Thompson<sup>1</sup>, Hillary Schwarb<sup>2</sup>, Eric Schumacher<sup>2</sup>, Shella Keilholz<sup>1</sup>*  
<sup>1</sup>Georgia Institute of Technology and Emory University, Atlanta, GA, <sup>2</sup>Georgia Institute of Technology, Atlanta, GA
- 895 WTh Load-Dependent Brain Activation for Verbal Working Memory in Stroke Patients**  
*Ji-Young Park<sup>1</sup>, Yun-Hee Kim<sup>1</sup>, Won Hyuk Chang<sup>1</sup>, Chin Wook Chung<sup>1</sup>, Ahee Lee<sup>1</sup>, Eun-Hee Park<sup>1</sup>*  
<sup>1</sup>Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 896 WTh Exercise Stressor Subdivides Gulf War Veterans with Chronic Fatigue Syndrome**  
*Megna Raksit<sup>1</sup>, Murugan Ravindran<sup>1</sup>, Oluwatoyin Adewuyi<sup>1</sup>, Rakib Rayhan<sup>1</sup>, James Baraniuk<sup>1</sup>, John VanMeter<sup>1</sup>*  
<sup>1</sup>Georgetown University, Washington DC, United States
- 897 WTh Relationship between Task Performance and Prefrontal Cortex Activity for Working Memory Tasks**  
*Hiroki Sato<sup>1</sup>, Ryuta Aoki<sup>2,3</sup>, Takusige Katura<sup>1</sup>, Ryoichi Matsuda<sup>2</sup>, Hideaki Koizumi<sup>1</sup>*  
<sup>1</sup>Hitachi, Ltd., Central Research Laboratory, Hatoyama, Japan, <sup>2</sup>Graduate School of Arts and Sciences, The University of Tokyo, Tokyo, Japan, <sup>3</sup>Japan Society for the Promotion of Science, Tokyo, Japan
- 898 WTh Exercise effects on brain and cognition in children: An fMRI study**  
*Kerstin Schweitzer<sup>1</sup>, Alexandra Unger<sup>1</sup>, Karl Koschutnig<sup>2</sup>, Gernot Reishofer<sup>1</sup>, Vincent Grote<sup>3</sup>, Christa Neuper<sup>4</sup>, Wolfram Müller<sup>1</sup>*  
<sup>1</sup>Medical University, Graz, Austria, <sup>2</sup>Karl-Franzens University, Graz, Austria, <sup>3</sup>Human Research, Institute for Health Technology and Prevention Research, Weiz, Austria, <sup>4</sup>Karl Franzens University, Graz, Austria
- 899 WTh A Self-Ordered Search task for fMRI**  
*Matthew Scoggins<sup>1</sup>, Heather Conklin<sup>1</sup>, Yimei Li<sup>1</sup>, Tianshu Feng<sup>1</sup>, Jason Ashford<sup>1</sup>, Ping Zou<sup>1</sup>, Melissa Jones<sup>1</sup>, Carlos Parra<sup>1</sup>, Samina Taherbhoy<sup>1</sup>, Robert Ogg<sup>1</sup>*  
<sup>1</sup>St. Jude Children's Research Hospital, Memphis, United States
- 900 WTh Shared and Distinct Frontal, Parietal and Striatum Bases for Item and Category Working Memory**  
*Carol Seger<sup>1</sup>, Kurt Braunlich<sup>2</sup>, Javier Gomez-Larkin<sup>3</sup>*  
<sup>1</sup>Colorado State University, Fort Collins, United States, <sup>2</sup>Colorado State University, Fort Collins, CO, <sup>3</sup>College of Charleston, Charleston, SC

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LEARNING AND MEMORY  
Working Memory, continued

**Moved MT to 1070 The EEG Oscillations Associated with Encoding of Physics Concepts**

*Hsiao-Ching She*<sup>1</sup>, *Kevin Lai*<sup>1</sup>, *Sheng-Chen Chen*<sup>1</sup>, *Klaus Germann*<sup>2</sup>, *Tzyy-Ping Jung*<sup>3</sup>  
<sup>1</sup>Institute of Education, National Chiao Tung University, Hsin Chu, Chinese Taipei, <sup>2</sup>Institute of Cognitive Science, University of Osnabrueck, Osnabrueck, Germany, <sup>3</sup>Institute for Neural Computation, University of California, San Diego, California, United States

**902 WTh Parametric processing of multiple tactile stimulus attributes in human working memory**

*Bernhard Spitzer*<sup>1</sup>, *Matthias Gloel*<sup>1</sup>, *Felix Blankenburg*<sup>1</sup>  
<sup>1</sup>Department of Neurology and Bernstein Center for Computational Neuroscience, Charité, Berlin, Germany

**903 WTh Fronto-Striatal Involvement in Load-Dependent Working Memory Updating**

*Christine Stelzel*<sup>1,2,3</sup>, *Andreas Bartsch*<sup>4</sup>, *Andreas Heckel*<sup>4</sup>, *Martin Bendszus*<sup>4</sup>, *Henrik Walter*<sup>1,2</sup>, *Christian Fiebach*<sup>5</sup>  
<sup>1</sup>Department of Psychiatry and Psychotherapy, Charité Universitaetsmedizin, Berlin, Germany, <sup>2</sup>Berlin School of Mind and Brain, Berlin, Germany, <sup>3</sup>Department of Psychology, Humboldt University Berlin, Berlin, Germany, <sup>4</sup>Department of Neuroradiology, University of Heidelberg, Heidelberg, Germany, <sup>5</sup>Department of Psychology, University of Frankfurt, Frankfurt am Main, Germany

**904 WTh Dissociating Attention Load and Working Memory in the Fronto-Parietal Network: an Aging Study**

*Kamen Tsvetanov*<sup>1</sup>, *Pia Rotshtein*<sup>1</sup>, *Theodoros Arvanitis*<sup>2</sup>, *Glyn Humphreys*<sup>3</sup>  
<sup>1</sup>School of Psychology, University of Birmingham, Birmingham, United Kingdom, <sup>2</sup>Electronic, Electrical and Computer Engineering, University of Birmingham, Birmingham, United Kingdom, <sup>3</sup>Department of Experimental Psychology, University of Oxford, Oxford, United Kingdom

**905 WTh Predicting future Working Memory capacity with high accuracy from MRI**

*Henrik Ullman*<sup>1</sup>, *Rita Almeida*<sup>1</sup>, *Torkel Klingberg*<sup>1</sup>  
<sup>1</sup>Neuroscience Department, Karolinska Institutet, Stockholm, Sweden

**906 WTh Timing of perceptual mismatch enhancement in the hippocampus revealed by a ECoG study**

*Ruijie Wu*<sup>1</sup>, *Zuxiang Liu*<sup>2</sup>, *Chencan Qian*<sup>2</sup>, *Bing Ni*<sup>3</sup>  
<sup>1</sup>Institute of Biophysics, Beijing, China, <sup>2</sup>Institute of Biophysics, Beijing, Beijing, <sup>3</sup>Department of Functional Neurosurgery Xuanwu hospital, Beijing, Beijing

**907 WTh Frontopolar Cortices were Involved during Encoding of a Two-digit Sequence Memory Task in a Memorist**

*Li-Jun Yin*<sup>1,2</sup>, *Yu-Ting Lou*<sup>2</sup>, *Ming-Xia Fan*<sup>3</sup>, *Yu-Wei Jiang*<sup>3</sup>, *Yi Hu*<sup>2</sup>, *Zhao-Xin Wang*<sup>1,3</sup>  
<sup>1</sup>Institute of Cognitive Neuroscience, East China Normal University, Shanghai, China, <sup>2</sup>Department of Psychology, School of Psychology and Cognitive Science, East China Normal University, Shanghai, China, <sup>3</sup>Shanghai Key Laboratory of MRI, East China Normal University, Shanghai, China

**908 WTh Differential influences of positive emotional arousal on spatial and verbal working memory**

*Dong Yunying*<sup>1</sup>, *Gao Xin*<sup>1</sup>, *Zhou Renlai*<sup>2</sup>  
<sup>1</sup>Key Laboratory of Child Development and Learning Science (Southeast University), Ministry of Education, Nanjing, China, <sup>2</sup>Beijing Key Lab of Applied Experimental Psychology, Beijing Normal University, Beijing, China

**909 WTh Fusiform & Inferior Frontal Gyrus activation in attentional top-down modulation to emotional stimuli**

*Maryam Ziaei*<sup>1</sup>, *Rachel Elands*<sup>2</sup>, *Nathalie Peira*<sup>3</sup>, *Jonas Persson*<sup>4</sup>  
<sup>1</sup>Stockholm University, Stockholm, Sweden, <sup>2</sup>Leiden University, Leiden, Netherlands, <sup>3</sup>Uppsala University and Ghent University, Uppsala, Sweden, <sup>4</sup>Aging Research Center, Karolinska Institute and Stockholm University, Stockholm, Sweden

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## LIFESPAN DEVELOPMENT

### Aging

- 910 WTh Connectivity changes during inner speech with healthy ageing**  
*Smriti Agarwal<sup>1</sup>, Sharon Geva<sup>2</sup>, P Simon Jones<sup>1</sup>, Emmanuel Stamatakis<sup>3</sup>, Elizabeth Warburton<sup>1</sup>*  
<sup>1</sup>University of Cambridge, Cambridge, United Kingdom, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>Queens' College, Cambridge, Cambridge, United Kingdom
- 911 WTh Neuroimaging of healthy ageing and stress**  
*Josephine Archer<sup>1</sup>, S.H. Annabel Chen<sup>1</sup>, Annie Lee<sup>2</sup>, anqi qiu<sup>2</sup>*  
<sup>1</sup>Nanyang Technological University, Singapore, Singapore, <sup>2</sup>National University of Singapore, Singapore, Singapore
- 912 WTh Age related functional brain connectivity changes**  
*Perrine Bertrand<sup>1</sup>, Isabelle Berry<sup>1</sup>, Pierre Celsis<sup>1</sup>, Helene Gros-Dagnac<sup>1</sup>, Jorge Gutierrez<sup>1</sup>, Jean-Albert Lotterie<sup>1</sup>, Abdel-Kader Boulanouar<sup>2</sup>*  
<sup>1</sup>INSERM Unit825, Toulouse, France, <sup>2</sup>INSERM, Toulouse, France
- 913 WTh Changes in Working Memory and Default Mode Networks related to age: a resting state fMRI study**  
*Perrine Bertrand<sup>1</sup>, Jorge Gutierrez<sup>1</sup>, Helene Gros-Dagnac<sup>1</sup>, Jean-Albert Lotterie<sup>1</sup>, Isabelle Berry<sup>1</sup>, Pierre Celsis<sup>1</sup>, Abdel-Kader Boulanouar<sup>2</sup>*  
<sup>1</sup>INSERM Unit825, Toulouse, France, <sup>2</sup>INSERM, Toulouse, France
- 914 WTh Fish Consumption and Brain Structure in a Multi-Site Community Cohort**  
*Christina Boyle<sup>1</sup>, Cyrus Raji<sup>2</sup>, Leonid Teverovskiy<sup>2</sup>, Priya Rajagopalan<sup>1</sup>, Sarah Madsen<sup>1</sup>, Lewis Kuller<sup>2</sup>, Owen Carmichael<sup>2</sup>, James Becker<sup>2</sup>, Oscar Lopez<sup>2</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>Laboratory of Neuro Imaging, UCLA School of Medicine, Los Angeles, CA, USA, <sup>2</sup>University of Pittsburgh, Pittsburgh, PA, USA
- \*915 WTh Responsiveness to missed chances in successful aging (O-Th4)**  
*Stefanie Brassens<sup>1</sup>, Christian Büchel<sup>1</sup>*  
<sup>1</sup>University Medical Center Hamburg-Eppendorf, Department of Systems Neuroscience, Hamburg, Germany
- 916 WTh White matter correlates of BOLD signal responsivity to working memory demands in old age**  
*Agnieszka Z Burzynska<sup>1</sup>, Preuschhof Claudia<sup>2</sup>, Irene Nage<sup>2</sup>, Douglas Garrett<sup>1</sup>, Shu-Chen Li<sup>1</sup>, Lars Bäckman<sup>3</sup>, Ulman Lindenberger<sup>1</sup>, Hauke Heekeren<sup>2</sup>*  
<sup>1</sup>MPI for Human Development, Berlin, Germany, <sup>2</sup>Freie Universitaet Berlin, Berlin, Germany, <sup>3</sup>Karolinska Institutet, Stockholm, Sweden
- 917 WTh Mapping Life-span Functional Connectome Changes**  
*Miao Cao<sup>1</sup>, Jinhui Wang<sup>1</sup>, Zhengjia Dai<sup>1</sup>, Xiaoyan Cao<sup>2</sup>, Lili Jiang<sup>2</sup>, Feng-Mei Fan<sup>3</sup>, Xiao-Wei Song<sup>4</sup>, Mingrui Xia<sup>1</sup>, Ni Shu<sup>1</sup>, Xi-Nian Zuo<sup>2</sup>, Yong He<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China, <sup>2</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>3</sup>Psychiatry Research Center, Beijing Huilongguan Hospital, Beijing, China, <sup>4</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China
- 918 WTh Improving the detection of blood pressure and regional gray matter volume associations in the health**  
*Nicolas Cherbuin<sup>1</sup>, Moyra Mortby<sup>2</sup>, Andrew Janke<sup>3</sup>, Walter Abhayaratna<sup>2</sup>, Perminder Sachdev<sup>4</sup>, Kaarin Anstey<sup>2</sup>*  
<sup>1</sup>Australian National University, Canberra, Australia, <sup>2</sup>Australian National University, Canberra, ACT, <sup>3</sup>University of Queensland, Brisbane, QLD, <sup>4</sup>University of New South Wales, Sydney, NSW
- \*919 WTh Dopamine modulates episodic memories in old age (O-Th4)**  
*Rumana Chowdhury<sup>1</sup>, Marc Guitart-Masip<sup>2</sup>, Nico Bunzeck<sup>3</sup>, Raymond Dolan<sup>2</sup>, Emrah Duzel<sup>1</sup>*  
<sup>1</sup>Institute of Cognitive Neuroscience, London, United Kingdom, <sup>2</sup>Wellcome Trust Centre for Neuroimaging, London, United Kingdom, <sup>3</sup>University Medical Center, Hamburg, Germany
- 920 WTh The neural correlates of recollection and familiarity during aging**  
*Fabienne Collette<sup>1</sup>, Christine Bastin<sup>1</sup>, Sarah Genon<sup>1</sup>, Eric Salmon<sup>1</sup>, Lucie Angel<sup>2</sup>*  
<sup>1</sup>Cyclotron Research Centre, LIEGE, Belgium, <sup>2</sup>François-Rabelais University, TOURS, France
- 921 WTh Evidence of an associated decline in age related hippocampal microstructure and recollection memory**  
*Daniel Cox<sup>1,2,3</sup>, Hamied Haroon<sup>1,2</sup>, Geoffrey Parker<sup>1,2</sup>, Daniela Montaldi<sup>3</sup>, Laura Parkes<sup>1,2</sup>*  
<sup>1</sup>Imaging Sciences, School of Cancer and Enabling Sciences, University of Manchester, Manchester, United Kingdom, <sup>2</sup>Biomedical Imaging Institute, University of Manchester, Manchester, United Kingdom, <sup>3</sup>School of Psychological Sciences, University of Manchester, Manchester, United Kingdom
- \*922 WTh Sex and Age effects on grey matter loss in late life — A longitudinal study of 1172 healthy elderly (O-Th4)**  
*Fabrice Crivello<sup>1</sup>, Pauline Maillard<sup>1</sup>, Blandine Grassiot<sup>1</sup>, Carole Dufouil<sup>2</sup>, Nicolas Delcroix<sup>1</sup>, Nathalie Tzourio-Mazoyer<sup>1</sup>, Christophe Tzourio<sup>2,3</sup>, Bernard Mazoyer<sup>1</sup>*  
<sup>1</sup>GIN UMR5296 CNRS CEA Bordeaux University, Bordeaux, France, <sup>2</sup>INSERM, Neuroepidemiology U708, Bordeaux, France, <sup>3</sup>Bordeaux University, Bordeaux, France

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## LIFESPAN DEVELOPMENT

### Aging, continued

- 923 WTh Impact of glucose levels on memory retrieval, hippocampal volume and hippocampal barrier density**  
*Agnes Flöel<sup>1</sup>, Lucia Kerti<sup>2</sup>, Angela Winkler<sup>1</sup>, Veronica Witte<sup>3</sup>*  
<sup>1</sup>Charite Universitätsmedizin Berlin, Berlin, Germany, <sup>2</sup>Charité University Hospital, Berlin, Germany, <sup>3</sup>Charite University Berlin, Berlin, Germany
- 924 WTh Accelerated brain aging in older adults with type 2 diabetes mellitus**  
*Katja Franke<sup>1</sup>, Christian Gaser<sup>1</sup>, Brad Manor<sup>2</sup>, Vera Novak<sup>2</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Department of Psychiatry, University Hospital, Jena, Germany, <sup>2</sup>Beth Israel Deaconess Medical Center, Boston, MA
- 925 WTh Decreased specificity of functional networks in the aging brain**  
*Linda Geerligs<sup>1</sup>, Natalia Maria Maurits<sup>2</sup>, Remco Renken<sup>2</sup>, Monicque Lorist<sup>1</sup>*  
<sup>1</sup>University of Groningen, Groningen, Netherlands, <sup>2</sup>University Medical Center Groningen, Groningen, Netherlands
- 926 WTh Trajectories of functional brain networks connectivity over life-span brain development**  
*Suril Gohel<sup>1</sup>, Xin Di<sup>1</sup>, Bharat Biswal<sup>1</sup>*  
<sup>1</sup>University of Medicine and Dentistry of New Jersey, Newark, United States
- 927 WTh Dyslipidemia Mediates myo-Inositol Elevation in Obesity**  
*Andreana Haley<sup>1</sup>, Mitzi Gonzales<sup>1</sup>, Takashi Tarumi<sup>1</sup>, Hirofumi Tanaka<sup>1</sup>*  
<sup>1</sup>University of Texas at Austin, Austin, TX, United States
- 928 WTh Age-Related Decrease of Functional Connectivity in the Motor Initiation Network**  
*Felix Hoffstaedter<sup>1</sup>, Christian Grefkes<sup>2,3</sup>, Christian Roski<sup>1</sup>, Svenja Caspers<sup>1</sup>, Karl Zilles<sup>1,4</sup>, Simon Eickhoff<sup>1,5</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Jülich, Germany, <sup>2</sup>Max Planck Institute for Neurological Research Cologne, Cologne, Germany, <sup>3</sup>Department of Neurology, Cologne University, Cologne, Germany, <sup>4</sup>C. & O. Vogt Institute for Brain Research, Heinrich Heine University, Düsseldorf, Germany, <sup>5</sup>Institute of Clinical Neuroscience and Medical Psychology, Heinrich Heine University, Düsseldorf, Germany
- 929 WTh Temporal precedence in cortical gray/white matter contrast alteration prior to the cortical thinning**  
*Seun Jeon<sup>1</sup>, Uicheul Yoon<sup>2</sup>, Eun Kyoung Kim<sup>1</sup>, Sang Won Seo<sup>3</sup>, Duk L. Na<sup>3</sup>, Jong-Min Lee<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, Hanyang University, Seoul, Korea, Republic of, <sup>2</sup>Department of Biomedical Engineering, Catholic University of Daegu, Gyeongsan-si, Korea, Republic of, <sup>3</sup>Department of Neurology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea, Republic of
- 930 WTh Increased bilateral neural activity on a semantic judgment task begins in middle age**  
*Kristen Kennedy<sup>1</sup>, Andrew Hebrank<sup>2</sup>, Denise Park<sup>2</sup>, Karen Rodrigue<sup>3</sup>*  
<sup>1</sup>University of Texas at Dallas, Dallas, United States, <sup>2</sup>University of Texas at Dallas, Dallas, TX, <sup>3</sup>UT Dallas, DALLAS, United States
- 931 WTh Omega-3 supplementation improves cognitive functions and brain structure in the elderly**  
*Lucia Kerti<sup>1</sup>, Veronica Witte<sup>2</sup>, Agnes Flöel<sup>3</sup>*  
<sup>1</sup>Charité University Hospital, Berlin, Germany, <sup>2</sup>Charite University Berlin, Berlin, Germany, <sup>3</sup>Charite Universitätsmedizin Berlin, Berlin, Germany
- 932 WTh Aging and Top-down Response Selection: Behavioural and Functional Connectivity Changes**  
*Robert Langner<sup>1,2</sup>, Simone Behrwind<sup>2</sup>, Edna-Clarisse Cieslik<sup>2</sup>, Christian Roski<sup>2</sup>, Svenja Caspers<sup>2</sup>, Karl Zilles<sup>1,2</sup>, Simon Eickhoff<sup>1,2</sup>*  
<sup>1</sup>Heinrich Heine University, Duesseldorf, Germany, <sup>2</sup>Research Centre Juelich, Juelich, Germany
- 933 WTh Gender Effects on Basal Ganglia Volume across the Lifespan in Healthy Adults**  
*Wenjing Li<sup>1,2</sup>, Martin Walter<sup>2,3</sup>, Meng Li<sup>1,2</sup>, Wen Miao<sup>1</sup>, Bernhard Bogerts<sup>2</sup>, Marie-José van Tol<sup>2,3</sup>, Huiguang He<sup>1</sup>*  
<sup>1</sup>Institute of Automation, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Department of Psychiatry and Psychotherapy, Otto-von-Guericke University, Magdeburg, Germany, <sup>3</sup>Leibniz Institute for Neurobiology, Magdeburg, Germany
- 934 WTh Anatomical Correlates of Longevity in 905 Elderly Subjects**  
*Sarah Madsen<sup>1</sup>, Priya Rajagopalan<sup>1</sup>, Christina Boyle<sup>1</sup>, Lubov Zeifman<sup>2</sup>, Cyrus Raji<sup>3</sup>, Leonid Teverovskiy<sup>3</sup>, Lewis Kuller<sup>3</sup>, Michael Gach<sup>4</sup>, Owen Carmichael<sup>5</sup>, James Becker<sup>3</sup>, Oscar Lopez<sup>3</sup>, Paul Thompson<sup>1</sup>*  
<sup>1</sup>UCLA, Los Angeles, CA, <sup>2</sup>Carnegie Mellon University, Pittsburgh, PA, <sup>3</sup>University of Pittsburgh, Pittsburgh, PA, <sup>4</sup>Nevada Cancer Institute, Las Vegas, NV, <sup>5</sup>University of Pittsburgh, Pittsburgh, CA

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- 935 WTh High “normal” blood glucose is associated with accelerated brain aging**  
*Moyra Mortby*<sup>1</sup>, *Nicolas Cherbuin*<sup>1</sup>, *Andrew Janke*<sup>2</sup>, *Perminder Sachdev*<sup>3</sup>, *Kaarin Anstey*<sup>1</sup>  
<sup>1</sup>Australian National University, Canberra, ACT, Australia, <sup>2</sup>University of Queensland, Brisbane, QLD, Australia, <sup>3</sup>University of New South Wales, Sydney, NSW, Australia
- 936 WTh Brain structural complexity and life course cognitive changes**  
*Nazahah Mustafa*<sup>1,2,3</sup>, *Trevor Ahearn*<sup>4,3</sup>, *Gordon Waiter*<sup>1,3</sup>, *Alison Murray*<sup>1,3</sup>, *Lawrence Whalley*<sup>5</sup>, *Roger Staff*<sup>4,3</sup>  
<sup>1</sup>Aberdeen Biomedical Imaging Centre, University of Aberdeen, Aberdeen, United Kingdom, <sup>2</sup>Universiti Malaysia Perlis, Perlis, Malaysia, <sup>3</sup>Scottish Imaging Network: A Platform for Scientific Excellence (SINAPSE), Scotland, United Kingdom, <sup>4</sup>Aberdeen Royal Infirmary, NHS Grampian, Aberdeen, United Kingdom, <sup>5</sup>University of Aberdeen, Aberdeen, United Kingdom
- 937 WTh The Correlation between BOLD Based Aging Index and Neuropsychological Tests**  
*Toshiharu Nakai*<sup>1</sup>, *Naoki Kamiya*<sup>2</sup>, *Kayako Matsuo*<sup>3</sup>, *Makoto Miyakoshi*<sup>4</sup>, *S.H. Annabel Chen*<sup>5</sup>  
<sup>1</sup>Neuroimaging & Informatics Lab, NCGG, Ohbu, Japan, <sup>2</sup>Neuroimaging & Informatics Lab, NCGG, Ohbu, Aichi, <sup>3</sup>National Taiwan University, Taipei, <sup>4</sup>JSPS, Tokyo, Japan, <sup>5</sup>Nanyang Technological University, Singapore, Singapore
- 938 WTh Functional connectivity patterns of the right temporoparietal junction become more distinct with age**  
*Thomas Nickl-Jockschat*<sup>1</sup>, *Robert Langner*<sup>2</sup>, *Oliver Jakobs*<sup>3</sup>, *Edna-Clarisse Cieslik*<sup>4</sup>, *Svenja Caspers*<sup>5</sup>, *Christian Roski*<sup>6</sup>, *Karl Zilles*<sup>7</sup>, *Simon Eickhoff*<sup>7</sup>  
<sup>1</sup>RWTH Aachen University, N/A, <sup>2</sup>RWTH Aachen University, Aachen, Germany, <sup>3</sup>C. & O. Vogt Institute for Brain Research, Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany, <sup>4</sup>Research Center Jülich, Institute of Neuroscience and Medicine, Jülich, Germany, <sup>5</sup>Institute of Neuroscience and Medicine, INM-2, Research Center Jülich, Jülich, Germany, <sup>6</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Jülich, Germany, <sup>7</sup>Research Center Jülich, Jülich, Germany
- 939 WTh White Matter Integrity in Older People with HIV**  
*Talia Nir*<sup>1</sup>, *Neda Jahanshad*<sup>1</sup>, *Krista Nicolas*<sup>2</sup>, *Edgar Busovaca*<sup>2</sup>, *Paul Thompson*<sup>1</sup>, *Victor Valcour*<sup>2</sup>  
<sup>1</sup>Laboratory of Neuro Imaging, Department of Neurology, UCLA School of Medicine, Los Angeles, CA, United States, <sup>2</sup>Memory and Aging Center, UCSF, San Francisco, CA, United States
- 940 WTh Gender trumps MCI — A Voxel-Based Morphometric Study**  
*Christiane Oedekoven*<sup>1</sup>, *Andreas Jansen*<sup>1</sup>, *Dirk Leube*<sup>2</sup>  
<sup>1</sup>Clinic for Psychiatry and Psychotherapy, Philipps-University, Marburg, Germany, <sup>2</sup>Clinic for Psychiatry and Psychotherapy, Marburg, Germany
- 941 WTh A preliminary volumetric study of brain aging in a Brazilian population and the effect of sex**  
*Maria Otaduy*<sup>1,2</sup>, *Khallil Chaim*<sup>1</sup>, *Claudia Leite*<sup>1</sup>, *Edson Amaro Junior*<sup>1</sup>  
<sup>1</sup>LIM44- Medical School of the University of São Paulo, São Paulo, Brazil, <sup>2</sup>InAPCe (Cooperação Interinstitucional de Apoio para Pesquisas sobre o Cérebro), São Paulo, Brazil
- 942 WTh Effects of Cortisol Challenge on Amygdalar Functional Connectivity in Young Women**  
*William Ottowitz*<sup>1</sup>, *Michael Gregory*<sup>2</sup>, *Curt LaFrance*<sup>3</sup>, *Lawrence Sweet*<sup>3</sup>  
<sup>1</sup>Columbia University, New York, United States, <sup>2</sup>Harvard University, Boston, MA, <sup>3</sup>Brown University, Providence, RI
- 943 WTh Limbic system alteration in aging: multimodal imaging in a large elderly community (AMImage Study)**  
*Amandine Pelletier*<sup>1,2</sup>, *Bixente Dilharreguy*<sup>1</sup>, *Michèle Allard*<sup>1,2</sup>, *Olivier Periot*<sup>1</sup>, *Bassem Hiba*<sup>3</sup>, *Martine Bordessoules*<sup>1</sup>, *Karine Pérès*<sup>4</sup>, *Hélène Amieva*<sup>4</sup>, *Jean-François Dartigues*<sup>4</sup>, *Gwénaëlle Catheline*<sup>1,2</sup>  
<sup>1</sup>Université de Bordeaux, INCIA, UMR 5287, Bordeaux, France, <sup>2</sup>EPHE, Bordeaux, France, <sup>3</sup>RMSB, UMR 5536, Bordeaux, France, <sup>4</sup>Université de Bordeaux, ISPED, Centre Inserm U897, Bordeaux, France
- 944 WTh Functional Connectivity of Cognitive and Motor Processing in Healthy Aging**  
*Christian Roski*<sup>1</sup>, *Svenja Caspers*<sup>1</sup>, *Angela Laird*<sup>2</sup>, *Peter Fox*<sup>2</sup>, *Karl Zilles*<sup>1,3,4</sup>, *Simon Eickhoff*<sup>1,5</sup>  
<sup>1</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Jülich, Germany, <sup>2</sup>University of Texas Health Science Center San Antonio, San Antonio, United States, <sup>3</sup>C. & O. Vogt Institute for Brain Research, Heinrich Heine University, Düsseldorf, Germany, <sup>4</sup>JARA-BRAIN, Jülich-Aachen Research Alliance, Jülich, Germany, <sup>5</sup>Institute of Clinical Neuroscience and Medical Psychology, Heinrich Heine University, Düsseldorf, Germany
- \*945 WTh Supervisory Experience in Midlife Slows Rate of Hippocampal Atrophy in Late Life (O-Th4)**  
*Chao Suo*<sup>1</sup>, *Irene Leon*<sup>2</sup>, *Henry Brodaty*<sup>1</sup>, *Julian Trollor*<sup>1</sup>, *Wei Wen*<sup>1</sup>, *Perminder Sachdev*<sup>1</sup>, *Michael Valenzuela*<sup>1</sup>  
<sup>1</sup>University of New South Wales, Sydney, Australia, <sup>2</sup>University of Almeria, Almeria, Spain

- 946 WTh Age-related changes in local and distributed variability of brain signals with normal aging**  
*Vasily Vakorin<sup>1</sup>, Natasa Kovacevic<sup>1</sup>, Andreea Oliviana Diaconescu<sup>2</sup>, Hongye Wang<sup>1</sup>, Bratislav Mistic<sup>1</sup>, Olga Krakovska<sup>3</sup>, Anthony McIntosh<sup>1</sup>*  
<sup>1</sup>Rotman Research Institute, Baycrest Centre, Toronto, Canada, <sup>2</sup>Translational Neuromodeling Unit (TNU), University & ETH Zürich, Zurich, Switzerland, <sup>3</sup>York University, Toronto, Canada
- 947 WTh A lateral-medial shift in the prefrontal cortex underlies intact emotion processing in aging**  
*Carien van Reekum<sup>1</sup>, Stacey Schaefer<sup>2</sup>, Regina Lapate<sup>2</sup>, Tom Johnstone<sup>1</sup>, Aaron Heller<sup>2</sup>, Catherine Norris<sup>3</sup>, Patricia Tun<sup>4</sup>, Margie Lachman<sup>4</sup>, Carol Ryff<sup>5</sup>, Richard Davidson<sup>2</sup>*  
<sup>1</sup>University of Reading, Reading, United Kingdom, <sup>2</sup>University of Wisconsin-Madison, Madison, WI, <sup>3</sup>Dartmouth College, Hanover, NH, <sup>4</sup>Brandeis University, Waltham, MA
- 948 WTh Aging-related changes of resting-state functional connectivity in the networks of emotional memory**  
*Haibao Wang<sup>1</sup>, Yongqiang Yu<sup>1</sup>, Liyan Xu<sup>1</sup>, Wen Song<sup>1</sup>, Zhihao Li<sup>2</sup>, Xiaoping Hu<sup>2</sup>*  
<sup>1</sup>the first affiliated hospital of Anhui medical university, Hefei, Anhui, China, <sup>2</sup>BITC of Emory university, Atlanta, GA, USA
- 949 WTh Relationship among Elderly's Attentional Brain Networks, Physical Activity, and Body Composition**  
*Yung-Shun Wang<sup>1</sup>, Dong-Yang Fong<sup>2</sup>, Daisy Hung<sup>3</sup>, Erik Chang<sup>4</sup>*  
<sup>1</sup>National Yang-Ming University, Taipei, Chinese Taipei, <sup>2</sup>National Taiwan University of Technology, Taipei, Chinese Taipei, <sup>3</sup>Institute of Cognitive Neuroscience, National Central University, Jhongli city, Chinese Taipei, <sup>4</sup>Institute of cognitive neuroscience, National Central University, Jhongli City, Chinese Taipei
- 950 WTh Diffusion Tensor Imaging of White Matter Degeneration in Aging**  
*Fan-pei Yang<sup>1</sup>, Yi-Ting Ou<sup>2</sup>, Yao-Chia Shi<sup>3,4</sup>, Kayako Matsuo<sup>4</sup>, Shen-Hsin Chen<sup>5</sup>, Toshiharu Naka<sup>6</sup>, Wen-Yih Tseng<sup>4,7</sup>*  
<sup>1</sup>National Tsing Hua University, Hsichu, <sup>2</sup>Department of Foreign Languages and Literature, National Tsing Hua University, Hsinchu, <sup>3</sup>Institute of Biomedical Engineering, National Taiwan University, Taipei, <sup>4</sup>Center for Optoelectronic Biomedicine, National Taiwan University College of Medicine, Taipei, <sup>5</sup>Division of Psychology, School of Humanities and Social Sciences, Nanyang Technological University, Singapore, Singapore, <sup>6</sup>National Center for Geriatrics and Gerontology, Aichi, Japan, <sup>7</sup>Department of Medical Imaging, National Taiwan University Hospital, Taipei
- 951 WTh Age-related changes in intrinsic functional connectivity across life-span: exploratory analyses**  
*Zhi Yang<sup>1,2</sup>, Feng-Mei Fan<sup>3,4</sup>, Li-Li Jiang<sup>4,2</sup>, Xiao-Yan Cao<sup>5,4</sup>, Xiao-Wei Song<sup>6</sup>, F. Xavier Castellanos<sup>7,8</sup>, Michael Milham<sup>8,9</sup>, Xi-Nian Zuo<sup>4,2</sup>*  
<sup>1</sup>Key Laboratory of Behavioral Science, Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Magnetic Resonance Imaging Research Center, Institute of Psychology, CAS, Beijing, China, <sup>3</sup>Psychiatry Research Center, Beijing Huilongguan Hospital, Beijing, China, <sup>4</sup>Laboratory for Functional Connectome and Development, Institute of Psychology, CAS, Beijing, China, <sup>5</sup>Center for Cognition and Brain Disorders and The Affiliated Hospital, Hangzhou Normal University, Hangzhou, Zhejiang, China, <sup>6</sup>Institute of Biophysics, Chinese Academy of Sciences, Beijing, China, <sup>7</sup>New York University Child Study Center, New York, NY, <sup>8</sup>Phyllis Green and Randolph C wen Institute for Pediatric Neuroscience, New York, NY, <sup>9</sup>Center for the Developing Brain, Child Mind Institute, New York, NY
- 952 WTh The anatomical region- and age- dependence of the 0.9 ppm macromolecule/lipid peak in normal brain**  
*Qiang Yue<sup>1</sup>, Zhiyong Yang<sup>2</sup>, Hong Quan<sup>2</sup>, Wenting Ren<sup>2</sup>, Ting Cao<sup>2</sup>, Xiaoyun Zhang<sup>3</sup>, Hongyan Zhu<sup>4</sup>, Haoyang Xing<sup>1</sup>, Mengqi Liu<sup>1</sup>, Dong Zhou<sup>3</sup>, Graham Kemp<sup>5</sup>, Qi-Yong Gong<sup>1</sup>*  
<sup>1</sup>Huaxi MR Research Center (HMRRRC), Department of Radiology, West China Hospital of Sichuan University, Chengdu, China, <sup>2</sup>Laboratory of Medical Physics, Physics and Technology School, Wuhan University, Wuhan, China, <sup>3</sup>Department of Neurology, West China Hospital of Sichuan University, Chengdu, China, <sup>4</sup>Laboratory of Stem Cell Biology, State Key laboratory of Biotherapy, West China Hospital of Sichuan, Chengdu, China, <sup>5</sup>University of Liverpool, Liverpool, United Kingdom
- 953 WTh Age-related changes in expectation-based modulation of motion detectability**  
*Theodore Zanto<sup>1</sup>, Robert Sekuler<sup>2</sup>, Chad Dube<sup>2</sup>, Adam Gazzaley<sup>1</sup>*  
<sup>1</sup>University of California San Francisco, San Francisco, CA, United States, <sup>2</sup>Brandeis, Waltham, MA, United States
- 954 WTh "Last in, first out" age-related cortical thinning revealed with scale space search**  
*Lu Zhao<sup>1</sup>, Maxime Boucher<sup>1,2</sup>, Pedro Rosa-Neto<sup>1</sup>, Alan Evans<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, McGill University, Montreal, Canada, <sup>2</sup>School of Computer Science, McGill University, Montreal, Canada

## LIFESPAN DEVELOPMENT

### Aging, continued

- \*955 WTh Differential lifespan trajectories and associations of human brain structure and function (O-Th4)**  
*Juan Zhou<sup>1,2,3</sup>, Philip Reiss<sup>3,4</sup>, Lei Huang<sup>3</sup>, Stan Colcombe<sup>4</sup>, Clare Kelly<sup>3</sup>, Adriana Di Martino<sup>3</sup>, F. Xavier Castellanos<sup>3,4</sup>, Michael Milham<sup>4,5</sup>*  
<sup>1</sup>Duke-NUS Graduate Medical School, Singapore, Singapore,  
<sup>2</sup>Agency for Science, Technology and Research, Singapore, Singapore,  
<sup>3</sup>New York University Child Study Center, New York, NY,  
<sup>4</sup>Nathan Kline Institute for Psychiatric Research, Orangeburg, NY,  
<sup>5</sup>Child Mind Institute, New York, NY
- \*956 WTh Individual Change Patterns in Elderly and the Structural Covariance of Decline (O-Th4)**  
*Gabriel Ziegler<sup>1</sup>, Robert Dahnke<sup>1</sup>, Christian Gaser<sup>2</sup>*  
<sup>1</sup>Structural Brain Mapping Group, Jena University Hospital, Jena, Germany,  
<sup>2</sup>Structural Brain Mapping Group, Department of Psychiatry, University of Jena, Jena, Germany

## LIFESPAN DEVELOPMENT

### Normal Brain Development: Fetus to Adolescence

- 957 WTh Profiling regional age dependence of metabolites within human brain during the first year**  
*Hongyu An<sup>1</sup>, Yasheng Chen<sup>1</sup>, Yang Yang<sup>2</sup>, Li Wang<sup>1</sup>, Feng Shi<sup>1</sup>, Dinggang Shen<sup>1</sup>, Lester Kwok<sup>1</sup>, Weili Lin<sup>1</sup>*  
<sup>1</sup>UNC-CH, Chapel Hill, NC, <sup>2</sup>Univ. of Virginia, Charlottesville, VA
- 958 WTh Increased SES reduces cortical thickness: Consistent evidence from two pediatric MRI datasets**  
*Brian Avants<sup>1</sup>, Emily Kilroy<sup>2</sup>, Gwen Lawson<sup>3</sup>, Jiong Jiong Wang<sup>2</sup>*  
<sup>1</sup>University of Pennsylvania, Philadelphia, United States,  
<sup>2</sup>university of california los angeles, los angeles, CA,  
<sup>3</sup>university of pennsylvania, philadelphia, PA
- 959 WTh Spatial inhomogeneous cerebral blood flow in the first year brain development**  
*Yasheng Chen<sup>1</sup>, Hongyu An<sup>1</sup>, Weili Lin<sup>1</sup>*  
<sup>1</sup>UNC-Chapel Hill, Chapel Hill, NC
- 960 WTh Hemodynamic responses in the infant brain: Towards a standard model**  
*Alex Cristia<sup>1</sup>, Emmanuel Dupoux<sup>2</sup>, Yasuyo Minagawa-Kawai<sup>3</sup>*  
<sup>1</sup>MPI, Nijmegen, Netherlands, <sup>2</sup>LSCP, Paris, France,  
<sup>3</sup>Keio University, Tokyo, Japan
- 961 WTh Functional Connectivity Changes in a Developing Brain of Healthy Infants**  
*Eswar Damaraju<sup>1</sup>, John Phillips<sup>1,2</sup>, Jean Lowe<sup>2</sup>, Elena Allen<sup>1</sup>, Vince Calhoun<sup>1,2</sup>, Arvind Caprihan<sup>1</sup>*  
<sup>1</sup>The Mind Research Network and LBERI, Albuquerque, USA,  
<sup>2</sup>University of New Mexico, Albuquerque, USA
- 962 WTh Cortical thickness and surface area developmental trajectories in the NIH MRI Study of Normal Brain**  
*Simon Ducharme<sup>1</sup>, Kelly Botteron<sup>2</sup>, Tuong-Vi Nguyen<sup>3</sup>, Claude Lepage<sup>3</sup>, Alan Evans<sup>3</sup>, Sherif Karama<sup>3</sup>*  
<sup>1</sup>McGill University, Montreal, Canada, <sup>2</sup>Washington University, St-Louis, MO, <sup>3</sup>Montreal Neurological Institute, Montreal, Quebec
- 963 WTh The Development of Default and Dorsal Attention Networks in Early Infancy**  
*Wei Gao<sup>1</sup>, John Gilmore<sup>1</sup>, Dinggang Shen<sup>1</sup>, Keith Smith<sup>1</sup>, Hongtu Zhu<sup>1</sup>, Weili Lin<sup>1</sup>*  
<sup>1</sup>University of North Carolina at Chapel Hill, Chapel Hill, United States

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## LIFESPAN DEVELOPMENT

### Normal Brain Development: Fetus to Adolescence, continued

- 964 WTh Development of body language perception: an fmri study**  
*Marie-Helene Grosbras<sup>1</sup>, Patrick Ross<sup>1</sup>*  
<sup>1</sup>University of Glasgow, Glasgow, United Kingdom
- 965 WTh Brain Plasticity and Reading Ability: A Longitudinal Structural MRI Study of Typical Children**  
*Suzanne Houston<sup>1,2</sup>, Tami Katzir<sup>3</sup>, Frank Manis<sup>1</sup>, Eric Kan<sup>2</sup>, Genevieve Rodriguez<sup>2</sup>, Elizabeth Sowell<sup>4,2</sup>*  
<sup>1</sup>Department of Psychology, University of Southern California, Los Angeles, CA, United States, <sup>2</sup>Division of Research on Children, Youth and Families, Children's Hospital Los Angeles, Los Angeles, CA, United States, <sup>3</sup>University of Haifa, Haifa, Israel, <sup>4</sup>Department of Pediatrics, Keck School of Medicine, University of Southern California, Los Angeles, CA, United States
- 966 WTh Structural network development of human brain with DTI**  
*Hao Huang<sup>1</sup>, Ni Shu<sup>2</sup>, Virendra Mishra<sup>3</sup>, Tina Jeon<sup>3</sup>, Gaolang Gong<sup>2</sup>, Qi Dong<sup>2</sup>, Yong He<sup>2</sup>*  
<sup>1</sup>University of Texas Southwestern Medical Center, Dallas, United States, <sup>2</sup>Beijing Normal University, Beijing, China, <sup>3</sup>University of Texas Southwestern Medical Center, Dallas, TX
- 967 WTh Gender differences with development**  
*Budhachandra Khundrakpam<sup>1</sup>, Stephanie Ameis<sup>2</sup>, John Lewis<sup>1</sup>, Andrew Reid<sup>1</sup>, Alan Evans<sup>1</sup>*  
<sup>1</sup>Montreal Neurological Institute, Montreal, Canada, <sup>2</sup>The Hospital for Sick Children, University of Toronto, Toronto, Canada
- 968 WTh Relationships between Cerebral Blood Flow and IQ in Typically Developing Children and Adolescents**  
*Emily Kilroy<sup>1</sup>, Collin Liu<sup>2</sup>, Lirong Yan<sup>2</sup>, Danny Wang<sup>2</sup>*  
<sup>1</sup>UCLA, Department of Neurology, Los Angeles, United States, <sup>2</sup>UCLA, Department of Neurology, Los Angeles, CA
- 969 WTh Sustained attention is associated with right-sided white matter microstructure in children**  
*Brith Klarborg<sup>1</sup>, Kathrine Skak Madsen<sup>1,2</sup>, Martin Vestergaard<sup>1</sup>, Arnold Skimminge<sup>1</sup>, Terry Jernigan<sup>3,2</sup>, William Baaré<sup>1,2</sup>*  
<sup>1</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre, Hvidovre, Denmark, <sup>2</sup>Center for Integrated Molecular Brain Imaging, Copenhagen, Denmark, <sup>3</sup>Center for Human Development, University of California, San Diego, CA, United States
- 970 WTh Obesity, fitness, and cortical thickness in children**  
*Cynthia Krafft<sup>1</sup>, Jordan Pierce<sup>1</sup>, Amanda Rodrigue<sup>1</sup>, Nicolette Schwarz<sup>1</sup>, Lingxi Chi<sup>1</sup>, Abby Weinberger<sup>1</sup>, Kara Dyckman<sup>1</sup>, Patricia Miller<sup>2</sup>, Phillip Tomporowski<sup>1</sup>, Nathan Yanasak<sup>3</sup>, Jerry Allison<sup>3</sup>, Catherine Davis<sup>3</sup>, Jennifer McDowell<sup>1</sup>*  
<sup>1</sup>University of Georgia, Athens, GA, United States, <sup>2</sup>San Francisco State University, San Francisco, CA, United States, <sup>3</sup>Georgia Health Sciences University, Augusta, GA, United States
- 971 WTh Dopamine transporter genotype linked to striatal microstructure in typically-developing children**  
*Kathrine Skak Madsen<sup>1,2</sup>, William Baaré<sup>1,2</sup>, Terry Jernigan<sup>1,2,3</sup>*  
<sup>1</sup>Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital, Hvidovre, Denmark, <sup>2</sup>Center for Integrated Molecular Brain Imaging, Copenhagen University Hospital, Copenhagen, Denmark, <sup>3</sup>Center for Human Development, University of California, San Diego, La Jolla, CA
- 972 WTh Early Maternal Support Predicts Larger Amygdala Volumes at School Age**  
*Natasha Marrus<sup>1</sup>, Huong Trinh<sup>2</sup>, Joan Luby<sup>1</sup>, Rebecca Tillman<sup>1</sup>, Timothy Brown<sup>2</sup>, Tomoyuki Nishino<sup>1</sup>, Andy Belden<sup>1</sup>, Hideo Suzuki<sup>1</sup>, Deanna Barch<sup>1</sup>, Tilak Ratnanather<sup>2</sup>, Michael Miller<sup>2</sup>, Kelly Botteron<sup>1</sup>*  
<sup>1</sup>Washington University School of Medicine, St. Louis, MO, <sup>2</sup>Center for Imaging Science, Johns Hopkins University, Baltimore, MD
- 973 WTh An fMRI Study of Eyeblink Classical Conditioning in Children and Adults**  
*Ernesta Meintjes<sup>1</sup>, Dominic Cheng<sup>2</sup>, Mark Stanton<sup>3</sup>, John Desmond<sup>4</sup>, Mariska Pienaar<sup>6</sup>, Neil Dodge<sup>6</sup>, John Power<sup>7</sup>, Christopher Molteno<sup>8</sup>, John Disterhoff<sup>9</sup>, Joseph Jacobson<sup>10</sup>, Sandra Jacobson<sup>10</sup>*  
<sup>1</sup>University of Cape Town Faculty of Health Sciences; MRC/UCT Medical Imaging Research Unit, Cape Town, South Africa, <sup>2</sup>Johns Hopkins University School of Medicine, Baltimore, United States, <sup>3</sup>University of Delaware, Newark, DE, <sup>4</sup>Johns Hopkins University School of Medicine, Baltimore, MD, <sup>5</sup>MRC/UCT Medical Imaging Research Unit, Cape Town, South Africa, <sup>6</sup>Wayne State University, Detroit, United States, <sup>7</sup>University of Queensland, Brisbane, Australia, <sup>8</sup>University of Cape Town Faculty of Health Sciences, Cape Town, South Africa, <sup>9</sup>Northwestern University School of Medicine, Chicago, IL, <sup>10</sup>Wayne State University School of Medicine, Detroit, MI
- 974 WTh Cognitive and Executive Capacities Correlate with Corpus Callosum Area in Healthy Children**  
*Beatriz Moreno<sup>1</sup>, Luis Concha<sup>1</sup>, Leopoldo González-Santos<sup>1</sup>, Juan Ortiz<sup>1</sup>, Fernando Barrios<sup>1</sup>*  
<sup>1</sup>Instituto de Neurobiología, Universidad Nacional Autónoma de México, Querétaro, Mexico

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## LIFESPAN DEVELOPMENT

### Normal Brain Development: Fetus to Adolescence, continued

- 975 WTh Combined effects of testosterone and dehydroepiandrosterone on cortical thickness**  
*Tuong-Vi Nguyen<sup>1</sup>, James McCracken<sup>2</sup>, Simon Ducharme<sup>3</sup>, Kelly Botteron<sup>4</sup>, Alan Evans<sup>5</sup>, Sherif Karama<sup>6</sup>*  
<sup>1</sup>McGill University, N/A, <sup>2</sup>University of California in Los Angeles, Los Angeles, CA, <sup>3</sup>McGill University, Canada, <sup>4</sup>Washington University, St-Louis, MO, <sup>5</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, <sup>6</sup>Montreal Neurological Institute, Montreal, Quebec
- 976 WTh Longitudinal development of cortical thickness correlation network in the first two years of life**  
*Jingxin Nie<sup>1</sup>, Gang Li<sup>1</sup>, Li Wang<sup>1</sup>, Feng Shi<sup>1</sup>, Weili Lin<sup>1</sup>, John Gilmore<sup>1</sup>, Dinggang Shen<sup>1</sup>*  
<sup>1</sup>UNC-Chapel Hill, Chapel Hill, NC
- 977 WTh Who becomes impulsive: A longitudinal fMRI-Study of Inter-temporal Decision Making**  
*Stephan Ripke<sup>1</sup>, Eva Mennigen<sup>1</sup>, Kathrin Müller<sup>1</sup>, Michael Smolka<sup>1</sup>*  
<sup>1</sup>Technische Universität Dresden, Dresden, Germany
- 978 WTh Radial and Tangential Migrational Pathways Revealed by Diffusion Tractography**  
*Emi Takahashi<sup>1</sup>, Rebecca Folkerth<sup>2</sup>, P Ellen Grant<sup>1</sup>*  
<sup>1</sup>Children's Hospital Boston, Boston, United States, <sup>2</sup>Brigham and Women's Hospital, Boston, United States
- 979 WTh Is she appalled or appealing? Adolescent neural development of affective theory of mind**  
*Nora Vetter<sup>1</sup>, Sarah Weigelt<sup>2</sup>, Michael Smolka<sup>1</sup>, Matthias Kliegel<sup>3</sup>*  
<sup>1</sup>Technische Universität Dresden, Dresden, Germany, <sup>2</sup>MIT, Cambridge, MA, USA, <sup>3</sup>University of Geneva, Geneva, Switzerland
- 980 WTh Maturation of reactive and proactive inhibitory control**  
*Matthijs Vink<sup>1</sup>, Janna Marie Hoogendam<sup>1</sup>, Mariët van Buuren<sup>1</sup>, Manon Hillegers<sup>1</sup>, Bram Zandbelt<sup>2</sup>, René Kahn<sup>1</sup>*  
<sup>1</sup>Rudolf Magnus Institute of Neuroscience, University Medical Center Utrecht, Department of Psychiatry, Utrecht, Netherlands, <sup>2</sup>Center for Integrative & Cognitive Neuroscience, Vanderbilt University, Nashville, TN, USA
- 981 WTh Age-related effects of 5-HTTLPR genetic variants on cortico-limbic function in adolescence**  
*Jillian Wiggins<sup>1</sup>, Jirair Bedoyan<sup>1</sup>, Melisa Carrasco<sup>1</sup>, Johnna Swartz<sup>1</sup>, Donna Martin<sup>1</sup>, Christopher Monk<sup>1</sup>*  
<sup>1</sup>University of Michigan, Ann Arbor, MI

- 982 WTh Developing Brain Model of Superficial White Matter in Children and Adolescents**  
*Minjie Wu<sup>1</sup>, Lisa Lu<sup>1,2</sup>, Allison Lowes<sup>1</sup>, Alessandra Passarotti<sup>1</sup>, Joe Zhou<sup>1</sup>, Mani Pavuluri<sup>1</sup>*  
<sup>1</sup>University of Illinois at Chicago, Chicago, IL, <sup>2</sup>Roosevelt University, Chicago, IL
- 983 WTh Extensive Longitudinal Cortical Thinning in Adolescents Relative to Children and Young Adults**  
*Dongming Zhou<sup>1</sup>, Catherine Lebel<sup>1</sup>, Alan Evans<sup>2</sup>, Christian Beaulieu<sup>1</sup>*  
<sup>1</sup>Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada, <sup>2</sup>McConnell Brain Imaging Centre, Montreal Neurological Institute, McGill University, Montreal, Quebec, Canada

## PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

### Cerebral Metabolism and Hemodynamics

- 984 WTh Multiparametric hemodynamic characterization of the normal brain**  
*Moran Artzi<sup>1,2</sup>, Oran Aizenstein<sup>1</sup>, Rinat Abramovitch<sup>3</sup>, Dafna Ben Bashat<sup>1</sup>*  
<sup>1</sup>Functional Brain Center, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel, <sup>2</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel, <sup>3</sup>The Goldyne Savad Institute for Gene Therapy, Hadassah Hebrew University Medical Center, Jerusalem, Tel-Aviv, Israel
- 985 WTh Therapeutic Hypothermia Reduces Oxygen Consumption in Neonates Suffering from Acute Encephalopathy**  
*Mathieu Dehaes<sup>1</sup>, Alpna Aggarwal<sup>1</sup>, Pei-Yi Lin<sup>2</sup>, Janet Souf<sup>3</sup>, Maria Angela Franceschini<sup>2</sup>, P. Grant<sup>1</sup>*  
<sup>1</sup>Department of Newborn Medicine, Children's Hospital Boston & Harvard Medical School, Boston, MA, <sup>2</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, <sup>3</sup>Department of Neurology, Children's Hospital Boston and Harvard Medical School, Boston, MA
- \*986 WTh Energetic Basis of Spontaneous Fluctuations in Neuronal Activity and Neuroimaging Signals (O-W4)**  
*Peter Herman<sup>1</sup>, Basavaraju Sanganahalli<sup>1</sup>, Daniel Coman<sup>1</sup>, Lihong Jiang<sup>1</sup>, Robert Sachdev<sup>1</sup>, David McCormick<sup>1</sup>, Hal Blumenfeld<sup>1</sup>, Kevin Behar<sup>1</sup>, Douglas Rothman<sup>1</sup>, Fahmeed Hyder<sup>1</sup>*  
<sup>1</sup>Yale University, New Haven, CT

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- 987 WTh In vivo Estimation of the Transverse Relaxation Time Dependence of Blood on Oxygenation at 7 Tesla**  
*Dimo Ivanov<sup>1</sup>, Andreas Schaefer<sup>1</sup>, Andreas Deistung<sup>2</sup>, Markus Streicher<sup>1</sup>, Stefan Kabisch<sup>1,3</sup>, Ilona Henseler<sup>1</sup>, Elisabeth Roggenhofer<sup>1</sup>, Thies Jochimsen<sup>4</sup>, Jürgen Reichenbach<sup>2</sup>, Kamil Uluda<sup>5</sup>, Robert Turner<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Medical Physics Group, Institute of Diagnostic and Interventional Radiology 1, Jena University, Jena, Germany, <sup>3</sup>Department of Medicine, University Hospital Leipzig, Leipzig, Germany, <sup>4</sup>Department of Nuclear Medicine, University of Leipzig, Leipzig, Germany, <sup>5</sup>Maastricht Brain Imaging Centre, Faculty of Psychology & Neuroscience, Maastricht University, Maastricht, Netherlands
- 988 WTh Investigation of the metabolism of the rat barrel cortex during sustained BOLD fMRI**  
*Nathalie Just<sup>1</sup>, Rolf Gruetter<sup>2</sup>*  
<sup>1</sup>EPFL, Lausanne, Switzerland, <sup>2</sup>EPFL, UNIL and HUG, Lausanne, Switzerland
- 989 WTh Cerebral Asymmetries of Hemodynamic and Oxygen Metabolism in Newborns**  
*Pei-Yi Lin<sup>1</sup>, Mathieu Dehaes<sup>2</sup>, Nadege Roche-Labarbe<sup>1</sup>, Angela Fenoglio<sup>3</sup>, P. Grant<sup>2</sup>, Maria Angela Franceschini<sup>1</sup>*  
<sup>1</sup>Athinoula A. Martinos Center for Biomedical Imaging, Massachusetts General Hospital, Charlestown, MA, <sup>2</sup>Children's Hospital Boston, Harvard Medical School, Boston, MA, <sup>3</sup>Children's Hospital Boston, Boston, MA
- \*990 WTh Spatiotemporal characteristics of cortical column-specific and -nonspecific BOLD and CBV fMRI signal (O-W4)**  
*Chan Hong Moon<sup>1</sup>, Mitsuhiro Fukuda<sup>2</sup>, Seong-Gi Kim<sup>2</sup>*  
<sup>1</sup>Department of Radiology, University of Pittsburgh, Pittsburgh, PA, <sup>2</sup>Neuroimaging Laboratory, Department of Radiology, University of Pittsburgh, Pittsburgh, PA
- 991 WTh Modeling neuro-type dependent differences of BOLD fMRI**  
*Sun Mi Park<sup>1</sup>, Hyuk Kang<sup>2</sup>, Dae-Shik Kim<sup>3</sup>*  
<sup>1</sup>Korea Advanced Institute of Science & Technology, Daejeon, Korea, Republic of, <sup>2</sup>National Institute for Mathematical Sciences, Daejeon, Korea, Republic of, <sup>3</sup>Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of
- 992 WTh Coupling of unit activity and metabolic/hemodynamic responses in an animal model of epilepsy**  
*Sandrine Sallet<sup>1</sup>, Pascale Quilichini<sup>1</sup>, Antoine Ghestem<sup>1</sup>, Ivo Vanzetta<sup>2</sup>, Jan Warnking<sup>3</sup>, Olivier David<sup>3</sup>, Anton Ivanov<sup>1</sup>, Christian G Bénar<sup>1</sup>*  
<sup>1</sup>Institut de Neurosciences des Systèmes, INSERM U1106, Université Aix-Marseille, Marseille, France, <sup>2</sup>Institut de Neurosciences de la Timone, CNRS, Université Aix-Marseille, Marseille, France, <sup>3</sup>Institut des Neurosciences de Grenoble, INSERM U836, Université Joseph Fourier, Grenoble, France
- 993 WTh Short-term meditation induces the frontal asymmetry**  
*Yi-Yuan Tang<sup>1,2</sup>, Qili Lu<sup>1</sup>, Hongbo Feng<sup>1</sup>, Michael Posner<sup>3</sup>*  
<sup>1</sup>Dalian University of Technology, Dalian, China, <sup>2</sup>Texas Tech University, Lubbock, TX, <sup>3</sup>University of Oregon, Eugene, United States
- \*994 WTh Acute and Chronic Effects of Glucose on Brain Metabolism (O-W4)**  
*Feng Xu<sup>1</sup>, Peiyong Liu<sup>1</sup>, Juan Pascual<sup>1</sup>, Xuchen Zhang<sup>1</sup>, Hanzhang Lu<sup>1</sup>*  
<sup>1</sup>University of Texas Southwestern Medical Center, Dallas, TX
- 995 WTh Mapping the diurnal alterations of oxygen extraction fraction in basal ganglia and thalami**  
*Lijuan Zhang<sup>1</sup>, Chunxiang Jiang<sup>1</sup>, Weiqi Liao<sup>1</sup>, Xiaojing Long<sup>1</sup>, Mengyue He<sup>1</sup>*  
<sup>1</sup>Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, China
- 996 WTh Direct and Quantitative Imaging of Energy Expenditure in Human Brain using <sup>31</sup>P MR Method**  
*Xiao-Hong Zhu<sup>1</sup>, Hongyan Qiao<sup>1</sup>, Fei Du<sup>2</sup>, Qiang Xiong<sup>1</sup>, Xiao Liu<sup>1</sup>, Xiaoliang Zhang<sup>3</sup>, Kamil Ugurbil<sup>1</sup>, Wei Chen<sup>1</sup>*  
<sup>1</sup>University of Minnesota, Minneapolis, MN, <sup>2</sup>Harvard University, Belmont, MA, <sup>3</sup>University of California at San Francisco Medical School, San Francisco, CA
- 997 WTh Load Dependent Metabolic Activity in Parametric N-Back Working Memory Tasks**  
*Qihong Zou<sup>1,2</sup>, Hong Gu<sup>2</sup>, Jiongjiong Wang<sup>3</sup>, Jia-Hong Gao<sup>1,4</sup>, Yihong Yang<sup>2</sup>*  
<sup>1</sup>Peking University, Beijing, China, <sup>2</sup>NIDA/NIH, Baltimore, MD, <sup>3</sup>University of California Los Angeles, Los Angeles, CA, <sup>4</sup>University of Chicago, Chicago, IL

## PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

### Neurophysiology of Imaging Signals

- 998 WTh Baseline GABA Concentration Predicts Functional Connectivity Strength**  
*Hong Gu*<sup>\*1</sup>, *Xi Chen*<sup>\*1</sup>, *Yihong Yang*<sup>1</sup>  
<sup>1</sup>NIDA/NIH, Baltimore, MD
- 999 WTh Cotinine level in smokers predicts nicotine pharmacological effect on subtle changes in white matter**  
*Peter Kochunov*<sup>1</sup>, *Michael Du*<sup>2</sup>, *Lauren Moran*<sup>2</sup>, *Elliot Hong*<sup>3</sup>  
<sup>1</sup>Maryland Psychiatric Research Center, Baltimore, United States, <sup>2</sup>Maryland Psychiatric Research Center, Baltimore, MD, <sup>3</sup>Maryland Psychiatric Research Center, Baltimore, United States
- 1000 WTh Cortical-layer- and frequency-band specific neuronal mechanisms of functional connectivity at rest**  
*Shmuel Naaman*<sup>1</sup>, *Aleksandra Bortel*<sup>1</sup>, *Victor Mocuianu*<sup>1</sup>, *Amir Shmuel*<sup>1</sup>  
<sup>1</sup>MNI, McGill University, Montreal, Canada
- \*1001 WTh Low frequency oscillations measured in the periphery are strongly correlated with cerebral signals (O-W4)**  
*Yunjie Tong*<sup>1</sup>, *Lia Hocke*<sup>2,3</sup>, *Stephanie Licata*<sup>2</sup>, *Blaise Frederick*<sup>2</sup>  
<sup>1</sup>McLean Hospital, Harvard University, Belmont, MA, <sup>2</sup>McLean Hospital, Harvard University, Belmont, MA, <sup>3</sup>Tufts University, Medford, MA
- 1002 WTh Blood volume fraction dependent BOLD response in ER-fMRI**  
*Xiaopeng Zong*<sup>1</sup>, *Jie Huang*<sup>1</sup>  
<sup>1</sup>Michigan State University, East Lansing, MI

## PHYSIOLOGY, METABOLISM AND NEUROTRANSMISSION

### Pharmacology and Neurotransmission

- 1003 WTh Donepezil Impairs Memory in Healthy Elderly: Behavioural, EEG and Simultaneous EEG/fMRI Biomarkers**  
*Joshua Balsters*<sup>1</sup>, *Redmond O'Connell*<sup>1</sup>, *Mary Martin*<sup>2</sup>, *Alessandra Galli*<sup>1</sup>, *Sarah Cassidy*<sup>1</sup>, *Sophia Kilcullen*<sup>1</sup>, *Sonja Delmonte*<sup>1</sup>, *Sabina Brennan*<sup>1</sup>, *Jim Meaney*<sup>3</sup>, *Andrew Fagan*<sup>3</sup>, *Arun Bokde*<sup>1</sup>, *Neil Upton*<sup>4</sup>, *Robert Lai*<sup>4</sup>, *Marc Laruelle*<sup>4</sup>, *Brian Lawlor*<sup>2</sup>, *Ian Robertson*<sup>1</sup>  
<sup>1</sup>Trinity College Dublin, Dublin, Ireland, <sup>2</sup>Mercer's Institute for Research on Ageing, Dublin, Ireland, <sup>3</sup>Centre for Advanced Medical Imaging (CAMI), Dublin, Ireland, <sup>4</sup>Neurosciences Centre of Excellence for Drug Discovery, Harlow, United Kingdom
- 1004 WTh Linear and nonlinear effects of dopamine neuromodulation on resting-state network connectivity**  
*David Cole*<sup>1</sup>, *Christian Beckmann*<sup>2</sup>, *Nicole Oe*<sup>3</sup>, *Roelof Soeter*<sup>4</sup>, *Stephanie Both*<sup>3</sup>, *Joop van Gerven*<sup>5</sup>, *Serge Rombouts*<sup>4</sup>  
<sup>1</sup>Imperial College London, London, United Kingdom, <sup>2</sup>University of Twente, Enschede, Netherlands, <sup>3</sup>Leiden University Medical Center, Leiden, Netherlands, <sup>4</sup>Leiden Institute for Brain and Cognition, Leiden, Netherlands, <sup>5</sup>Center for Human Drug Research, Leiden, Netherlands
- 1005 WTh S-ketamine-induced perturbation of bottom-up effective connectivity predicts cognitive impairment**  
*Andreea Oliviana Diaconescu*<sup>1</sup>, *André Schmidt*<sup>2</sup>, *Klaas Enno Stephan*<sup>1</sup>, *Franz Vollenweider*<sup>2</sup>  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zurich, Switzerland, <sup>2</sup>Neuropsychopharmacology and Brain Imaging, University Hospital of Psychiatry, University of Zürich, Zurich, Switzerland
- 1006 WTh At the basis of a new experimental vaccin: an fMRI-study on neural effects of nicotine**  
*Anne Havermans*<sup>1</sup>, *Eric Vuurman*<sup>1</sup>, *Onno van Schayck*<sup>2</sup>  
<sup>1</sup>Maastricht University, Maastricht, Netherlands, <sup>2</sup>CAPHRI, Maastricht, Netherlands

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### Pharmacology and Neurotransmission, continued

- 1007 WTh Sympathetic stress reactions alters fMRI data**  
*Markus Muehlhan*<sup>1,2</sup>, *Clemens Kirschbaum*<sup>3</sup>, *Ulrike Lueken*<sup>4</sup>,  
*Hans-Ulrich Wittchen*<sup>5</sup>, *Michael Smolka*<sup>6</sup>  
<sup>1</sup>Department of Psychology, Technische Universität Dresden,  
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<sup>5</sup>Department of Psychology, University of Technology Dresden,  
Dresden, Germany, <sup>6</sup>Technische Universität Dresden,  
Dresden, Germany
- 1008 WTh The effects of Methylphenidate on intrinsic functional connectivity in healthy adult subjects**  
*Sophia Mueller*<sup>1</sup>, *Anna Costa*<sup>2</sup>, *Daniel Keeser*<sup>1</sup>, *Albert Berman*<sup>1</sup>,  
*Ute Coates*<sup>1</sup>, *Maximilian Reiser*<sup>1</sup>, *Michael Riedel*<sup>2</sup>, *Hans Möller*<sup>2</sup>,  
*Ulrich Ettinger*<sup>2</sup>, *Thomas Meindl*<sup>1</sup>  
<sup>1</sup>Ludwig Maximilians University Munich, Institute of Clinical  
Radiology, Munich, Germany, <sup>2</sup>Ludwig Maximilians University  
Munich, Department of Psychiatry and Psychotherapy,  
Munich, Germany
- 1009 WTh Cholinergic enhancement modulates regional functional connectivity during a selective attention task**  
*Emiliano Ricciardi*<sup>1</sup>, *Giacomo Handjaras*<sup>1</sup>, *Giulio Bernardi*<sup>1</sup>,  
*Pietro Pietrini*<sup>1</sup>, *Maura Furey*<sup>2</sup>  
<sup>1</sup>Laboratory of Clinical Biochemistry and Molecular Biology,  
University of Pisa Medical School, Pisa, Italy, <sup>2</sup>Experimental  
Therapeutics and Pathophysiology Branch, NIH/NIMH,  
Bethesda, MD
- 1010 WTh Arterial Spin Labelling based pHMRI in healthy subjects following an IV challenge with d-amphetamine**  
*Marieke Schouw*<sup>1</sup>, *A. Kaag*<sup>1</sup>, *Matthan Caan*<sup>1</sup>, *A. Nederveen*<sup>1</sup>,  
*J. Booi*<sup>1</sup>, *L. Reneman*<sup>1</sup>  
<sup>1</sup>Academic Medical Center, Amsterdam, Netherlands
- 1011 WTh ECoG default mode network: Markedly enhancement of spectral field powers in propofol anesthesia**  
*Guo Guang ZHAO*<sup>1</sup>, *JinXiu LIU*<sup>2</sup>, *Andrew CHEN*<sup>\*3</sup>  
<sup>1</sup>XuanWu Hospital, Capital Medical University, Beijing, China,  
<sup>2</sup>Center for Higher Brain Functions, Capital Medical Unvers,  
Beijing, China, <sup>3</sup>Center for Higher Brain Functions, Capital Medical  
University, Beijing, China

## SOCIAL NEUROSCIENCE

### Self Processes

- 1012 WTh Negative self-image causes conflict over correct responses**  
*Sara Bengtsson*<sup>1,2</sup>, *Raymond Dolan*<sup>2</sup>, *Richard Passingham*<sup>3,2</sup>,  
*William Penny*<sup>2</sup>  
<sup>1</sup>Karolinska Institutet, Stockholm, Sweden, <sup>2</sup>University College  
London, London, United Kingdom, <sup>3</sup>University of Oxford, Oxford,  
United Kingdom
- 1013 WTh Does medial prefrontal cortex engage equally for representation of self and mother in Chinese?**  
*Pin-Hao Chen*<sup>1</sup>, *William Kelley*<sup>1</sup>, *Todd heatherton*<sup>1</sup>  
<sup>1</sup>Department of Psychological and Brain Sciences, Dartmouth  
College, Hanover, NH, United States
- 1014 WTh Brain correlates of the negative self-schema of depressed individuals**  
*Xi He*<sup>1</sup>, *Rui Shang*<sup>1</sup>, *Gaowa Wuyun*<sup>1</sup>  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China
- \*\*1015 WTh Facing the voice: Neural correlates of explicit social judgments on vocal stimuli**  
*Lukas Hensel*<sup>1</sup>, *Danilo Bzdok*<sup>1,2</sup>, *Karl Zilles*<sup>1,2,3</sup>, *Simon Eickhoff*<sup>1,4</sup>  
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Jülich, Germany, <sup>2</sup>JARA-BRAIN, Jülich-Aachen Research Alliance,  
Jülich, Germany, <sup>3</sup>C. & O. Vogt Institute for Brain Research,  
Heinrich Heine University, Düsseldorf, Germany, <sup>4</sup>Institute of Clinical  
Neuroscience and Medical Psychology, Heinrich Heine University,  
Düsseldorf, Germany
- 1016 WTh A striatal network and dopaminergic regulation affect how we get along with others**  
*Toru Ishii*<sup>1</sup>, *Nobukatsu Sawamoto*<sup>1</sup>, *Hayato Tabu*<sup>1</sup>, *Tomohisa Okada*<sup>2</sup>,  
*Kaori Togashi*<sup>2</sup>, *Hidenao Fukuyama*<sup>1</sup>  
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Kyoto University, Kyoto, Japan, <sup>2</sup>Diagnostic Imaging and Nuclear  
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Kyoto, Japan

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## SOCIAL NEUROSCIENCE

### Self Processes, continued

- 1017 WTh Typifying emotional reappraisal by network graph causal organization**  
*Yael Jacob*<sup>1,2,3</sup>, *Gal Raz*<sup>4,5</sup>, *Asaf Mad*<sup>6</sup>, *Gadi Gilam*<sup>1</sup>, *Tamar Lin*<sup>7</sup>, *Eshel Ben-Jacob*<sup>6,8</sup>, *Talma Hendler*<sup>7,9,10</sup>  
<sup>1</sup>Tel Aviv University, Tel Aviv, Israel, <sup>2</sup>School of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel, <sup>3</sup>Wohl Institute for Advanced Imaging, Sourasky Medical Center, Tel Aviv, Israel, <sup>4</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel, <sup>5</sup>Functional Brain Imaging Unit, Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel, <sup>6</sup>School of Physics and Astronomy, Tel Aviv University, Tel Aviv, Israel, <sup>7</sup>Wohl Institute for Advanced Imaging, Sourasky Medical Center, Tel Aviv, Israel, <sup>8</sup>Center for Theoretical and Biological Physics, University of California San Diego, La Jolla, CA, <sup>9</sup>Department of Psychology, Tel Aviv University, Tel Aviv, Israel, <sup>10</sup>Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel
- 1018 WTh Suppressive Interaction in S1 during Real and Observed Touch – a 7 Tesla fMRI study**  
*Esther Kuehn*<sup>1</sup>, *Karsten Mueller*<sup>2</sup>, *Robert Turner*<sup>3</sup>, *Simone Schütz-Bosbach*<sup>2</sup>  
<sup>1</sup>MPI for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>3</sup>Max-Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
- 1019 WTh Oxytocin Inhibits Neural Responses to Self-referential Processing**  
*Yi Liu*<sup>1</sup>, *Feng Sheng*<sup>1</sup>, *Shihui Han*<sup>1</sup>  
<sup>1</sup>Peking University, Beijing, China
- 1020 WTh Temporal dissociation of physical property and identity during self-face recognition**  
*Yina Ma*<sup>1</sup>, *Shihui Han*<sup>2</sup>  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China, <sup>2</sup>Peking University, Beijing, China
- 1021 WTh Difference and the Self. Individualism and Collectivism in Cultural Neuroscience**  
*Marina Martínez Mateo*<sup>1</sup>, *Maurice Cabanis*<sup>2</sup>, *Soeren Krach*<sup>3</sup>  
<sup>1</sup>Department of Philosophy, Frankfurt, Germany, <sup>2</sup>Philipps-University Marburg, N/A, <sup>3</sup>Philipps-University, Marburg, Germany
- 1022 WTh Neural Oscillations Associated with Self-related Attentional Orienting and Trait Evaluating**  
*Yan Mu*<sup>1</sup>, *Shihui Han*<sup>1</sup>  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China
- 1023 WTh The Self Represented in the Dorsomedial Prefrontal Cortex: An fMRI Study**  
*Naoyuki Osaka*<sup>1</sup>, *Ken Yaoi*<sup>1</sup>, *Mariko Osaka*<sup>2</sup>  
<sup>1</sup>Kyoto University, Kyoto, Japan, <sup>2</sup>Osaka University, Mino, Japan
- 1024 WTh Reminding Physical Pain and Mortality Influences Neural Activity Underlying Self-Related Processing**  
*Zhenhao Shi*<sup>1</sup>, *Shihui Han*<sup>1</sup>  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China
- 1025 WTh Self-referential processing influences functional activation during cognitive control**  
*Gerd Wagner*<sup>1</sup>, *Kathrin Koch*<sup>1</sup>, *Gregor Peikert*<sup>1</sup>, *Claudia Schachtzabel*<sup>1</sup>, *Ralf Schlösser*<sup>1</sup>, *Christoph Schultz*<sup>1</sup>  
<sup>1</sup>Jena University Hospital, Jena, Germany
- 1026 WTh Common and Distinct Brain Response to Self Resemblance Faces in Patriarchal and Matriarchal Group**  
*Haiyan Wu*<sup>1</sup>, *Chao Liu*<sup>1</sup>, *Li Luo*<sup>2</sup>, *Suyong Yang*<sup>1</sup>, *Shiyue Sun*<sup>1</sup>, *Hongchang Zhai*<sup>2</sup>, *Yuejia Luo*<sup>1</sup>  
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## SOCIAL NEUROSCIENCE

### Social Cognition

- 1027 WTh Social context and fairness perceptions: The role of status**  
*Konstanze Albrecht<sup>1</sup>, Armin Falk<sup>1</sup>, Klaus Fliessbach<sup>2</sup>, Eva Ranehill<sup>3</sup>, Emma von Essen<sup>4</sup>*  
<sup>1</sup>University of Bonn, Bonn, Germany, <sup>2</sup>Clinic of Epileptology Bonn, Bonn, Germany, <sup>3</sup>University of Zurich, Zurich, Switzerland, <sup>4</sup>Stockholm University, Stockholm, Sweden
- 1028 WTh Functional and structural impairment of the left amygdala in violent non psychopath men**  
*Maria Antonieta Bobes<sup>1</sup>, Feggy Ostrosky<sup>2</sup>, karla Diaz<sup>2</sup>, Cesar Romero<sup>2</sup>, karina borjak<sup>2</sup>, Yusniel Santos<sup>1</sup>, Ana Calzada<sup>1</sup>*  
<sup>1</sup>Cuban Neuroscience Center, Ciudad Habana, Cuba, <sup>2</sup>Universidad Nacional Autónoma de México, Mexico DF, Mexico
- 1029 WTh Timing of neural responses to disliked persons**  
*Julie Brefczynski-Lewis<sup>1</sup>, Stephanie Donley<sup>2</sup>, Aina Puce<sup>3</sup>*  
<sup>1</sup>West Virginia University, MORGANTOWN, WV, <sup>2</sup>West Virginia University, Morgantown, WV, <sup>3</sup>Indiana University, Bloomington, IN
- 1030 WTh Structural, Connectional and Functional Segregation in the Human Amygdala**  
*Danilo Bzdok<sup>1</sup>, Angela Laird<sup>2</sup>, Karl Zilles<sup>3</sup>, Peter Fox<sup>4</sup>, Simon Eickhoff<sup>3</sup>*  
<sup>1</sup>N/A, Germany, <sup>2</sup>Research Imaging Institute, San Antonio, United States, <sup>3</sup>Research Center Jülich, Jülich, Germany, <sup>4</sup>Research Imaging Institute, San Antonio, TX
- 1031 WTh Decomposing neural networks of morality: ALE meta-analysis on morality, theory of mind, and empathy**  
*Danilo Bzdok<sup>1</sup>, Leonhard Schilbach<sup>2</sup>, Kai Vogeley<sup>3</sup>, Angela Laird<sup>4</sup>, Robert Langner<sup>5</sup>, Simon Eickhoff<sup>6</sup>*  
<sup>1</sup>Institute of Neuroscience and Medicine, Research Center Jülich, Germany, <sup>2</sup>Department of Psychiatry, University of Cologne, Cologne, Germany, <sup>3</sup>Department of Psychiatry, University Hospital Cologne, Cologne, Germany, <sup>4</sup>University of Texas Health Science Center San Antonio, San Antonio, United States, <sup>5</sup>RWTH Aachen University, Aachen, Germany, <sup>6</sup>Research Center Jülich, Jülich, Germany
- \*1032 WTh Functional and Structural Correlates of Social Influence in the Human Brain (O-W2)**  
*Daniel Campbell-Meiklejohn<sup>1,2</sup>, Dominik Bach<sup>3</sup>, Ryota Kana<sup>3</sup>, Bahador Bahrami<sup>3</sup>, Andreas Roepstorff<sup>1</sup>, Raymond Dolan<sup>3</sup>, Chris Frith<sup>3</sup>*  
<sup>1</sup>Aarhus University, Aarhus, Denmark, <sup>2</sup>New York University, New York, NY, <sup>3</sup>University College London, London, United Kingdom
- 1033 WTh Hierarchical clustering of fMRI data probes the conceptual structure of morality**  
*Aleksandr Chakroff<sup>1</sup>, Joshua Greene<sup>2</sup>*  
<sup>1</sup>Harvard University, cambridge, United States, <sup>2</sup>Harvard University, cambridge, MA
- 1034 WTh Moved to Poster #1112 MT**
- 1035 WTh How does responsibility influence empathy for other's pain?**  
*Fang Cui<sup>1,2</sup>, Valeria Gazzola<sup>2,1</sup>, Christian Keysers<sup>1,2</sup>*  
<sup>1</sup>Netherlands Institute for Neuroscience, Amsterdam, Netherlands, <sup>2</sup>Department of Neuroscience, University Medical Center Groningen, University of Groningen, Groningen, Netherlands
- 1036 WTh Individual Differences in Anthropomorphic Judgements and Human Brain Structure**  
*Harriet Cullen<sup>1</sup>, Ryota Kana<sup>2</sup>, Bahador Bahrami<sup>1</sup>, Geraint Rees<sup>3</sup>*  
<sup>1</sup>UCL Institute of Cognitive Neuroscience, London, United Kingdom, <sup>2</sup>University College London, London, United Kingdom, <sup>3</sup>Institute of Cognitive Neuroscience, University College London, London, United Kingdom
- 1037 WTh Effects of Intranasal Oxytocin on Face Processing in Asperger Syndrome**  
*Gregor Domes<sup>1</sup>, Ekkehardt Kumbier<sup>2</sup>, Markus Heinrichs<sup>1</sup>, Sabine Herpertz<sup>3</sup>*  
<sup>1</sup>University of Freiburg, Freiburg, Germany, <sup>2</sup>University of Rostock, Rostock, Germany, <sup>3</sup>University of Heidelberg, Heidelberg, Germany
- 1038 WTh Understanding the conflicted mental state: a fMRI study**  
*Jianqiao Ge<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Peking University, Beijing, China
- 1039 WTh Would I be shy in a desert? A rest-fMRI study on the neurobiology of the social anxiety dimension**  
*Claudio Gentili<sup>1</sup>, Nicola Vanello<sup>2</sup>, Emiliano Ricciardi<sup>3</sup>, Ioana Cristea<sup>4</sup>, Daniel David<sup>5</sup>, Mario Guazzelli<sup>6</sup>, Pietro Pietrini<sup>7</sup>*  
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- 1040 WTh Neural Correlates of the Perception of Nonverbal Behavior Patterns in Communicative Interactions**  
*Alexandra Georgescu<sup>1</sup>, Gary Bente<sup>2</sup>, Marc Tittgemeyer<sup>3</sup>, Kai Vogeley<sup>4</sup>*  
<sup>1</sup>Dept. of Psychiatry, University Hospital of Cologne, Cologne, Germany, <sup>2</sup>Dept. of Social Psychology, University of Cologne, Cologne, Germany, <sup>3</sup>Max Planck Institute for Neurological Research, Cologne, Germany, <sup>4</sup>Dept. of Psychiatry, University Hospital Cologne, Cologne, Germany
- 1041 WTh Neural Mechanisms of Social Influence in Young Adult Drug Use**  
*Jodi Gilman<sup>1</sup>, Sang Lee<sup>2</sup>, Byoung Woo Kim<sup>2</sup>, Myoung Joo Lee<sup>2</sup>, John Kuster<sup>2</sup>, Anne Blood<sup>2</sup>, Hans Breiter<sup>2</sup>*  
<sup>1</sup>Massachusetts General Hospital, Boston, United States, <sup>2</sup>Massachusetts General Hospital, Boston, MA
- 1042 WTh Trait Empathy as Predictor of Responsiveness to Social Reward**  
*Anna Gossen<sup>1</sup>, Lina Winkler<sup>1</sup>, Sarah Groppe<sup>1</sup>, John Herrington<sup>2</sup>, Gregor Kohls<sup>2</sup>, Robert Schultz<sup>2</sup>, Gerhard Gruender<sup>1</sup>, Katja Spreckelmeyer<sup>1</sup>*  
<sup>1</sup>RWTH Aachen University, Department of Psychiatry, Psychotherapy and Psychosomatics, Aachen, Germany, <sup>2</sup>Center for Autism Research, Children's Hospital of Philadelphia, Philadelphia, PA
- 1043 WTh The neural basis of using implementation intentions for emotion regulation**  
*Glyn Hallam<sup>1</sup>, Thomas Webb<sup>2</sup>, Paschal Sheeran<sup>2</sup>, Eleanor Miles<sup>2</sup>, Iain Wilkinson<sup>3</sup>, Peter Totterdell<sup>2</sup>, Peter Woodruff<sup>1</sup>, Michael Hunter<sup>1</sup>, Tom Farrow<sup>1</sup>*  
<sup>1</sup>SCANlab, Academic Clinical Psychiatry, The University of Sheffield, Sheffield, United Kingdom, <sup>2</sup>Department of Psychology, The University of Sheffield, Sheffield, United Kingdom, <sup>3</sup>Academic Unit of Radiology, The University of Sheffield, Sheffield, United Kingdom
- 1044 WTh Brain activity in fairness consideration during asset distribution: Does the ownership play a role?**  
*Jie Hu<sup>1</sup>, Yin Wu<sup>1,2</sup>, Marijke Leliveld<sup>3</sup>, Eric van Dijk<sup>4</sup>, Xiaolin Zhou<sup>1,5</sup>*  
<sup>1</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China, <sup>2</sup>Key Laboratory of Child Development and Learning Science (Ministry of Education), Southeast University, Nanjing, China, <sup>3</sup>Department of Marketing, University of Groningen, Groningen, Netherlands, <sup>4</sup>Department of Social and Organizational Psychology, Leiden University, Leiden, Netherlands, <sup>5</sup>Key Laboratory of Machine Perception (Ministry of Education), Peking University, Beijing, China
- 1045 WTh Intranasal oxytocin induces a subsequent memory bias towards negative emotional stimuli**  
*Rene Hurlmann<sup>1</sup>, Benjamin Becker<sup>1</sup>, Keith Kendrick<sup>2</sup>, Yoan Mihov<sup>1</sup>, Lea Schaefer<sup>1</sup>, Juergen Reu<sup>3</sup>, Wolfgang Maier<sup>1</sup>, Nadine Striepens<sup>1</sup>*  
<sup>1</sup>University of Bonn, Bonn, Germany, <sup>2</sup>University of Electronic Science and Technology of China, Chengdu, China, <sup>3</sup>Beta Clinic, Bonn, Germany
- 1046 WTh Self-construal priming modulates neural responses to perceived pain in others**  
*Chao JIANG<sup>1</sup>, Youyang Hou<sup>2</sup>, Chenbo Wang<sup>3</sup>, Siyang Luo<sup>4</sup>, Shihui Han<sup>3</sup>*  
<sup>1</sup>Department of Psychology, Peking University, BEIJING, China, <sup>2</sup>Michigan State University, Michigan, United States, <sup>3</sup>Peking University, Beijing, China, <sup>4</sup>Peking university, Beijing, China
- 1047 WTh Early neural activation during angry emotional face processing in adolescents and adults**  
*Rachel Leung<sup>1,2</sup>, Hamzah Qureshi<sup>1</sup>, Elizabeth Pang<sup>1,2</sup>, Mary Lou Smith<sup>1,2</sup>, Margot Taylor<sup>1,2</sup>*  
<sup>1</sup>The Hospital for Sick Children, Toronto, Ontario, Canada, <sup>2</sup>University of Toronto, Toronto, Ontario, Canada
- 1048 WTh Perception of Fairness in the Context of Organizational Justice: an ERP Study**  
*Jia Li<sup>1,2</sup>, Lu Lu<sup>3</sup>, Yin Wu<sup>1,2</sup>, Xiaolin Zhou<sup>4,5</sup>*  
<sup>1</sup>Key Laboratory of Child Development and Learning Science (Ministry of Education), Southeast Univ., Nanjing, China, <sup>2</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China, <sup>3</sup>Department of Municipal Engineering, Anhui Water Conservancy Technical College, Hefei, China, <sup>4</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China, <sup>5</sup>Key Laboratory of Machine Perception (Ministry of Education), Peking University, Beijing, China
- 1049 WTh Observing actions performed by a congenital amputee activates one's own sensorimotor regions**  
*Sook-Lei Liew<sup>1</sup>, Lisa Aziz-Zadeh<sup>2</sup>, Tong Sheng<sup>2</sup>*  
<sup>1</sup>University of Southern California, Los Angeles, United States, <sup>2</sup>University of Southern California, Los Angeles, CA
- 1050 WTh Race modulates functional connectivity during imitation**  
*Elizabeth Losin<sup>1</sup>, Marco Iacoboni<sup>1</sup>, Mirella Dapretto<sup>1</sup>*  
<sup>1</sup>University of California, Los Angeles, United States
- 1051 WTh Reminder of death modulates anterior cingulate responses to the suffering of others**  
*Siyang Luo<sup>1</sup>, Zhenhao Shi<sup>1</sup>, Xiangyu Zuo<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China

SOCIAL NEUROSCIENCE  
Social Cognition, continued

- 1052 WTh Sad about you: Mood effects on empathy**  
*Jasminka Majdandžić<sup>1</sup>, Mikhail Votinov<sup>1</sup>, Jean Decety<sup>2</sup>, Claus Lamm<sup>1</sup>*  
<sup>1</sup>SCAN-Unit, Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>Departments of Psychology and Psychiatry, University of Chicago, Chicago, United States
- \*1053 WTh Connectivity-based parcellation of the human right 'temporoparietal junction area' (TPJ) (O-M2)**  
*Rogier Mars<sup>1</sup>, Jerome Sallet<sup>1</sup>, Urs Schuffelgen<sup>1</sup>, Saad Jbabdi<sup>2</sup>, Ivan Toni<sup>3</sup>, Matthew Rushworth<sup>1</sup>*  
<sup>1</sup>University of Oxford, Oxford, United Kingdom, <sup>2</sup>FMRIB Centre, Oxford, United Kingdom, <sup>3</sup>Donders Institute, Nijmegen, Netherlands
- 1054 WTh Responses to irrational actions in mirror and mentalising regions of the human brain**  
*Lauren Marsh<sup>1</sup>, Antonia Hamilton<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom
- 1055 WTh A data driven method of seed selection for tracking information flow from one brain to another**  
*Lawrie McKay<sup>1</sup>, Fabrizio Esposito<sup>2</sup>, Filippo Migliorati<sup>1</sup>, Rainer Goebel<sup>3</sup>, Marleen Schippers<sup>4</sup>, Christian Keysers<sup>1</sup>*  
<sup>1</sup>Netherlands Institute for Neuroscience, Royal Netherlands Academy for Arts and Sciences, Amsterdam, Netherlands, <sup>2</sup>University of Naples, Naples, Italy, <sup>3</sup>Maastricht University, Maastricht, Netherlands, <sup>4</sup>University Medical Center Groningen, Netherlands
- 1056 WTh The Neuroscience of Group Membership**  
*Pascal Molenberghs<sup>1</sup>, Samantha Morrison<sup>2</sup>*  
<sup>1</sup>University of Queensland, Brisbane, Australia, <sup>2</sup>The University of Queensland, Brisbane, Australia
- \*\*1057 WTh Social closeness modulates vicarious embarrassment related neural activation**  
*Laura Müller-Pinzler<sup>1</sup>, Frieder Paulus<sup>1</sup>, Jens Sommer<sup>1</sup>, Tilo Kircher<sup>1</sup>, Andreas Jansen<sup>1</sup>, Soeren Krach<sup>1,2</sup>*  
<sup>1</sup>Department of Psychiatry, Philipps-University Marburg, Marburg, Germany, <sup>2</sup>Department of Neurology, Philipps-University Marburg, Marburg, Germany
- 1058 WTh The role of conceptual knowledge in understanding goal-directed action**  
*Sasha Ondobaka<sup>1</sup>, Floris de Lange<sup>1</sup>, Marco Wittmann<sup>1</sup>, Chris Frith<sup>2</sup>, Harold Bekkering<sup>1</sup>*  
<sup>1</sup>Donders Institute, Radboud University Nijmegen, Nijmegen, Netherlands, <sup>2</sup>University College London, London, United Kingdom
- 1059 WTh Neural correlates of alterations in aesthetic judgment of artworks with judgments of others**  
*Seongmin Park<sup>1</sup>, Yongjin Jin<sup>2</sup>, Chongwook Chung<sup>2</sup>, Jaeseung Jeong<sup>2</sup>*  
<sup>1</sup>KAIST, Daejeon, Korea, Republic of, <sup>2</sup>KAIST, Daejeon, Korea, Republic of
- 1060 WTh Abnormal social pain processing in children with early separation experiences – an fMRI study**  
*Vanessa Puetz<sup>1</sup>, Nils Kohn<sup>2,3</sup>, Beate Herpertz-Dahlmann<sup>4,3</sup>, Kerstin Konrad<sup>1,3,5,4</sup>*  
<sup>1</sup>Child Neuropsychology Section, Department of Child and Adolescent Psychiatry, UK Aachen, Aachen, Germany, <sup>2</sup>Department of Psychiatry, Psychotherapy and Psychosomatics, University Hospital Aachen, Aachen, Germany, <sup>3</sup>JARA Translational Brain Medicine, Aachen-Juelich, Germany, <sup>4</sup>Department of Child and Adolescent Psychiatry, Psychotherapy and Psychosomatics, UK Aachen, Aachen, Germany, <sup>5</sup>Cognitive Neurology, Section Institute of Neuroscience and Medicine (INM-3), Research Centre Juelich, Juelich, Germany
- 1061 WTh Moved to Poster #1113 MT**
- 1062 WTh Cry for them or cry with them: dissociating two empathy-related networks during cinematic experience**  
*Gal Raz<sup>1</sup>, Yonatan Winetraub<sup>2</sup>, Tal Gonen<sup>3</sup>, Yael Jacob<sup>2</sup>, Gadi Gilam<sup>2</sup>, Talma Hendler<sup>4</sup>*  
<sup>1</sup>Tel Aviv University, N/A, <sup>2</sup>Tel Aviv University, Tel Aviv, Israel, <sup>3</sup>Tel Aviv University, Israel, N/A, <sup>4</sup>The Wohl Institute for Advanced Imaging, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel
- 1063 WTh Neural responses to changes in social attention depicted by biological motion stimuli**  
*Alejandra Rossi<sup>1</sup>, Francisco Parada<sup>1</sup>, Aina Puce<sup>1</sup>*  
<sup>1</sup>Indiana University, Bloomington, IN
- 1064 WTh The neural bases of perspective differences in theory of mind tasks: A meta-analysis**  
*Matthias Schurz<sup>1</sup>, Markus Aichhorn<sup>2</sup>, Josef Perner<sup>2</sup>*  
<sup>1</sup>University of Salzburg, Salzburg, Austria, <sup>2</sup>University of Salzburg, Salzburg, Salzburg
- 1065 WTh Oxytocin Increases Neural Responses to The Suffering of Racial In-group but not Out-group Members**  
*Feng Sheng<sup>1</sup>, Yi Liu<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China

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SOCIAL NEUROSCIENCE  
Social Cognition, continued

- 1066 WTh Maternal Brain Responses to Baby-Stimuli are Modulated by Mood Disorders**  
*James Swain<sup>1,2</sup>, Shaun Ho<sup>1</sup>, Katherine Rosenblum<sup>1</sup>, Eric Finegood<sup>1</sup>, Patricia Richardson<sup>1</sup>, Carolyn Dayton<sup>1</sup>, Leyla Akce<sup>1</sup>, Sheila Marcus<sup>1</sup>, Luan Phan<sup>1</sup>, Maria Muzik<sup>1</sup>*  
<sup>1</sup>University of Michigan, Ann Arbor, MI, USA, <sup>2</sup>Yale Child Study Center, New Haven, CT, USA
- 1067 WTh Physical Cleanliness Evokes the Embodied Metaphor of Moral Purity: Evidence from resting-state fNIRS**  
*Honghong Tang<sup>1</sup>, Wanqing Li<sup>1</sup>, Xu Xu<sup>1</sup>, Chao Liu<sup>1</sup>*  
<sup>1</sup>State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, Beijing, China
- 1068 WTh An Exploration of Empathic Concern, Power, and Neural Responses to Others' Suffering**  
*Michael Varnum<sup>1</sup>, Zhenhao Shi<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Department of Psychology, Peking University, Beijing, China
- \*\*1069 WTh Culture shapes inter-brain synchronization during human goal decoding**  
*Luca Vizioli<sup>1,2</sup>, Junpeng Lao<sup>1</sup>, Helen Rodger<sup>2</sup>, Roberto Caldara<sup>2</sup>*  
<sup>1</sup>University of Glasgow, Centre for Cognitive Neuroimaging, Institute of Neuroscience & Psychology, Glasgow, United Kingdom, <sup>2</sup>University of Fribourg, Department of Psychology, Fribourg, Switzerland
- \*\*1070 WTh The culturally situated brain: Self-construal priming modulates the default mode activity**  
*Chenbo Wang<sup>1</sup>, Daphna Oyserman<sup>2</sup>, Qiang Liu<sup>3</sup>, Hong Li<sup>3</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Peking University, Beijing, China, <sup>2</sup>University of Michigan, Ann Arbor, MI, <sup>3</sup>Key Laboratory of Cognition and Personality (SWU), Ministry of Education, Chongqing, China
- 1071 WTh Empathy Related Brain Spontaneously Activities in Healthy Chinese people**  
*Yi Wang<sup>1</sup>, Chao Yan<sup>2</sup>, Mingxia Fan<sup>3</sup>, Dazhi Yin<sup>4</sup>, Raymond Chan<sup>1</sup>*  
<sup>1</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing, China, <sup>2</sup>Institution of Psychology, Beijing, China, <sup>3</sup>Shanghai Key Laboratory of MRI, East China Normal University, Shanghai, China, <sup>4</sup>Key Laboratory of Brain Functional Genomics, Shanghai Key Laboratory of Magnetic Resonance, ECNU, Shanghai, China
- 1072 WTh The neural mechanism of Machiavellian control of mimicry in social contexts**  
*Yin Wang<sup>1</sup>, Antonia Hamilton<sup>1</sup>*  
<sup>1</sup>University of Nottingham, Nottingham, United Kingdom
- 1073 WTh Evaluating self-owned vs. other-owned objects: the modulatory role of oxytocin**  
*Yin Wu<sup>1</sup>, Xiaolin Zhou<sup>2</sup>*  
<sup>1</sup>Research Center for Learning Science, Southeast University, Nanjing, China, <sup>2</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Beijing, China
- 1074 WTh Gender differences in neural mechanisms underlying moral judgment of disgust: A functional MRI study**  
*Juan Yang<sup>1</sup>, Qinglin Zhang<sup>2</sup>*  
<sup>1</sup>Southwest University, China, Chongqing, China, <sup>2</sup>Southwest University, Chongqing, China
- 1075 WTh Abnormal temporal lobe activity of female conduct disorder adolescents to emotional visual stimuli**  
*Hyo Woon Yoon<sup>1</sup>*  
<sup>1</sup>Daegu University, Daegu, Korea, Republic of
- 1076 WTh Oxytocin and Neural Processing of Pictorial Cues of Death**  
*Dian Yu<sup>1</sup>, Shihui Han<sup>1</sup>*  
<sup>1</sup>Peking University, Beijing, China
- 1077 WTh Neural response and Physiological activity to emotional images are affected by Cognitive Reappraisal**  
*Lin Yuan<sup>1</sup>, Shun Wang<sup>1</sup>, Chang Liu<sup>1</sup>, Renlai Zhou<sup>1</sup>*  
<sup>1</sup>School of Psychology, Beijing Normal University, Beijing, China
- 1078 WTh Neural correlates of traffic educational campaign content evaluation**  
*Jana Zelinkova<sup>1</sup>, Michal Mikl<sup>1</sup>, Lenka Peterkova<sup>2</sup>, Tomas Urbanek<sup>3</sup>, Radek Marek<sup>4</sup>, Milan Brázdiš<sup>5</sup>*  
<sup>1</sup>Behavioral and Social Neuroscience Research Group, CEITEC - Central European Institute of Technology, Brno, Czech Republic, <sup>2</sup>Traffic Psychology Department, v. v. i., Transport Research Centre, Brno, Czech Republic, <sup>3</sup>Institute of Psychology, Academy of Sciences of the Czech Republic, Brno, Czech Republic, <sup>4</sup>Behavioral and Social Neuroscience Research Group, CEITEC, Masaryk University, Brno, Czech Republic, <sup>5</sup>Behavioral and Social Neuroscience Research Group, CEITEC-Central European Institute of Technology, Brno, Czech Republic
- 1079 WTh Rapid potentiation of neuronal response to unattractive faces when expecting beauty**  
*Yuan Zhang<sup>1</sup>, Lin Zhou<sup>1</sup>, Akaysha Tang<sup>2</sup>*  
<sup>1</sup>Peking University, Beijing, China, <sup>2</sup>University of New Mexico, Albuquerque, NM

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## SOCIAL NEUROSCIENCE

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- 1080 WTh The neural basis of gratitude**  
*Qiang Cai<sup>1</sup>, Hongbo Yu<sup>1</sup>, Xiaolin Zhou<sup>1</sup>*  
<sup>1</sup>Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing, China
- 1081 WTh Variation in Amygdala Size Predicts Prosocial Behavior in Women**  
*Xu Chen<sup>1</sup>, Ashley DeMarco<sup>1,2</sup>, Alleyne Ross<sup>1</sup>, Ebrahim Haroon<sup>3</sup>, James Rilling<sup>1,3,4,5</sup>*  
<sup>1</sup>Department of Anthropology, Emory University, Atlanta, GA, USA, <sup>2</sup>Department of Psychology, University of Kansas, Lawrence, KS, USA, <sup>3</sup>Department of Psychiatry and Behavioral Sciences, Emory University, Atlanta, GA, USA, <sup>4</sup>Center for Behavioral Neuroscience, Emory University, Atlanta, GA, USA, <sup>5</sup>Center for Translational Social Neuroscience, Emory University, Atlanta, GA, USA
- 1082 WTh Amygdala and striatal responses mirror preferences over social or non-social uncertainty**  
*George Christopoulos<sup>1,2</sup>, Nina Lauharatanahirun<sup>3,4,5</sup>, BROOKS KING-CASAS<sup>3,6,5</sup>*  
<sup>1</sup>Nanyang Technological University, Singapore, Singapore, <sup>2</sup>Culture Science Institute, Singapore, Singapore, <sup>3</sup>Virginia Tech Carilion Research Institute, ROANOKE, VA, <sup>4</sup>Department of Psychology, Virginia Tech, VA, <sup>5</sup>Salem Veteran Affairs Medical Center, Salem, VA, <sup>6</sup>Department of Psychology, Blacksburg, VA
- 1083 WTh Culture modulates brain activity during empathy with anger**  
*Moritz de Greck<sup>1</sup>, Zhenhao Shi<sup>2</sup>, Gang Wang<sup>3</sup>, Xuedong Yang<sup>4</sup>, Xiangyu Zuo<sup>3</sup>, Xiaoying Wang<sup>4</sup>, Georg Northoff<sup>6</sup>, Shihui Han<sup>3</sup>*  
<sup>1</sup>University of Leipzig, Leipzig, Germany, <sup>2</sup>Department of Psychology, Peking University, Beijing, China, <sup>3</sup>Peking University, Beijing, China, <sup>4</sup>Peking University First Hospital, Beijing, China, <sup>5</sup>Institute of Mental Health Research, Ottawa, Canada
- 1084 WTh Inferring on the intentions of others: Models of reciprocal learning during an interactive game**  
*Andreea Oliviana Diaconescu<sup>1</sup>, Christoph Mathys<sup>1</sup>, Lilian Weber<sup>1</sup>, Jean Daunizeau<sup>2</sup>, Klaas Enno Stephan<sup>1</sup>*  
<sup>1</sup>Translational Neuromodeling Unit (TNU), University & ETH Zurich, Zürich, Switzerland, <sup>2</sup>Institut du Cerveau et de la Moelle épinière (ICM), Hôpital Pitié Salpêtrière, Paris, France
- 1085 WTh Leaders and followers: an fMRI study of dynamic cooperation with an adaptive virtual partner**  
*Merle Fairhurst<sup>1</sup>, Petr Janata<sup>2</sup>, Peter Keller<sup>1</sup>*  
<sup>1</sup>Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, <sup>2</sup>Center for Mind and Brain, University of California, Davis, Davis, CA
- 1086 WTh Probing the cerebral bases of a putative “language familiarity effect” in speaker identification**  
*David Fleming<sup>1</sup>, Phil McAleer<sup>1</sup>, Frances Crabbe<sup>1</sup>, Roberto Caldara<sup>2,1</sup>, Pascal Belin<sup>1,3</sup>*  
<sup>1</sup>Institute of Neuroscience and Psychology, University of Glasgow, Glasgow, United Kingdom, <sup>2</sup>Department of Psychology, University of Fribourg, Fribourg, Switzerland, <sup>3</sup>Laboratory for Brain, Music and Sound (BRAMS), Université de Montréal and McGill University, Quebec, Canada
- \*\*1087 WTh Regulation benefits: fMRI of negative emotions induced by repeated interactive ultimatum bargaining**  
*Gadi Gilam<sup>1,2</sup>, Gal Raz<sup>3,2,4</sup>, Tamar Lin<sup>5,2</sup>, Rakefet Sela-Sheffy<sup>6</sup>, Talma Hendler<sup>6,2,3</sup>*  
<sup>1</sup>Department of Psychology, Tel-Aviv University, Tel Aviv, Israel, <sup>2</sup>Functional Brain Center, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel, <sup>3</sup>Department of Physiology and Pharmacology, Tel-Aviv University, Tel-Aviv, Israel, <sup>4</sup>Department of Film & Television, Tel-Aviv University, Tel-Aviv, Israel, <sup>5</sup>Department of Psychology, Tel-Aviv University, Tel-Aviv, Israel, <sup>6</sup>Unit of Culture Research, Tel-Aviv University, Tel-Aviv, Israel
- 1088 WTh Functional Networks in a Competitive Tetris game through a Group Independent Component Analysis**  
*Yun-An Huang<sup>1</sup>, Tai-Li Chou<sup>2</sup>, Jyh-Horng Chen<sup>3</sup>*  
<sup>1</sup>National Taiwan University, Taipei, <sup>2</sup>Dept. of Psychology, National Taiwan University, Taipei, <sup>3</sup>Interdisciplinary MRI/MRS Lab, Department of Electrical Engineering, National Taiwan University, Taipei
- 1089 WTh NeuroAN: The Application for Hyperscanned Real-Time fMRI**  
*Changwon Jang<sup>1</sup>, Dongha Lee<sup>2</sup>, Bumhee Park<sup>3</sup>, Joongil Kim<sup>3</sup>, Hae-Jeong Park<sup>4</sup>*  
<sup>1</sup>Yonsei University, Seoul, Korea, Republic of, <sup>2</sup>Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>3</sup>Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea, Republic of, <sup>4</sup>Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Seoul, Korea, Republic of

- 1090 WTh The neural correlates of doctor-patient interaction – fMRI of physicians during admin. of pain relief**  
*Karin Jensen<sup>1</sup>, Jian Kong<sup>1</sup>, Predrag Petrovic<sup>2</sup>, Catherine Kerr<sup>3</sup>, Irving Kirsch<sup>4</sup>, Jacqueline Raicek<sup>1</sup>, Alexandra Cheetham<sup>1</sup>, Rosa Spaeth<sup>1</sup>, Amanda Cook<sup>1</sup>, Randy Gollub<sup>1</sup>, Ted Kaptchuk<sup>5</sup>*  
<sup>1</sup>Dept. of Psychiatry, Massachusetts General Hospital, A.A. Martinos Center for Biomedical Imaging, Charlestown, MA, <sup>2</sup>Department of Clinical Neuroscience Karolinska Institutet, Stockholm, Sweden, <sup>3</sup>Brown University, Providence, RI, <sup>4</sup>Hull University / Beth Israel Deaconess Medical Center / Harvard Medical School, Hull / Boston, United Kingdom, <sup>5</sup>Beth Israel Deaconess Medical Center / Harvard Medical School, Boston, United States
- 1091 WTh Dual-EEG of social interaction: a machine learning approach to the two-brain problem**  
*Ivana Konvalinka<sup>1,2</sup>, Carsten Stahlhut<sup>2</sup>, Markus Bauer<sup>3</sup>, Lars Hansen<sup>2</sup>, Andreas Roepstorff<sup>1</sup>, Chris Frith<sup>3</sup>*  
<sup>1</sup>Aarhus University, Aarhus, Denmark, <sup>2</sup>DTU Informatics, Lyngby, Denmark, <sup>3</sup>University College London, London, United Kingdom
- 1092 WTh Social feedback processing in East Asian and Western culture**  
*Christoph Korn<sup>1,2</sup>, Yan Fan<sup>3,4</sup>, Kai Zhang<sup>3,4</sup>, Chenbo Wang<sup>5</sup>, Shihui Han<sup>5</sup>, Hauke Heekeren<sup>1,2,3</sup>*  
<sup>1</sup>Department of Education and Psychology, Freie Universitaet Berlin, Berlin, Germany, <sup>2</sup>Berlin School of Mind and Brain, Humboldt Universitaet zu Berlin, Berlin, Germany, <sup>3</sup>Cluster Languages of Emotion, Freie Universitaet Berlin, Berlin, Germany, <sup>4</sup>Department of Psychiatry, Charité, CBF, Berlin, Germany, <sup>5</sup>Department of Psychology, Peking University, Beijing, China
- 1093 WTh The coupled and decoupled brain states in a visually interactive dyadic fMRI study**  
*Ray Lee<sup>1</sup>*  
<sup>1</sup>Princeton University, Princeton, United States
- 1094 WTh Mu-Rhythm Modulation And Source-Clusters In Natural Action Observation and Execution for Toddlers**  
*Yu Liao<sup>1</sup>, Gedeon Deak<sup>1</sup>, Scott Makeig<sup>2</sup>, Zeynep Akalin Acar<sup>2</sup>*  
<sup>1</sup>University of California, San Diego, San Diego, United States, <sup>2</sup>Swartz Center for Computational Neuroscience, UCSD, San Diego, United States
- 1095 WTh The Neural Basis of Ideal Free Input-Matching in Humans**  
*dean Mobbs<sup>1</sup>, Demis Hassabis<sup>2</sup>, Rongjun Yu<sup>3</sup>, Chia-Yueh Carlton Chu<sup>4</sup>, Tim Dalgleish<sup>1</sup>*  
<sup>1</sup>MRC-CBU, cambridge, United Kingdom, <sup>2</sup>UCL, London, United Kingdom, <sup>3</sup>South China Normal University, Guangzhou, China, <sup>4</sup>Section of Functional Imaging Methods, LBC, NIMH, NIH, Washington, DC
- 1096 WTh Neural correlates of deficient response inhibition as a function of trait impulsiveness**  
*Christina Pawliczek<sup>1</sup>, Ruben Gur<sup>2</sup>, Birgit Dernt<sup>3</sup>, Thilo Kellermann<sup>4</sup>, Ute Habel<sup>5</sup>*  
<sup>1</sup>N/A, Aachen, Germany, <sup>2</sup>University of Pennsylvania, Philadelphia, PA, <sup>3</sup>RWTH Aachen University, Aachen, Germany, <sup>4</sup>RWTH-Aachen, Aachen, Germany, <sup>5</sup>University of Aachen, Aachen, Germany
- 1097 WTh Morphometric gray matter alterations influence the social Simon effect**  
*Patrick Rager<sup>1</sup>, Roman Liepelt<sup>2</sup>, Wolfgang Prinz<sup>1</sup>, Arno Villringer<sup>1</sup>, Thomas Dolk<sup>1</sup>*  
<sup>1</sup>MPI Leipzig, Leipzig, Germany, <sup>2</sup>Universität Münster, Münster, Germany
- 1098 WTh Setup and Apparatus for Two-Person fMRI**  
*Ville Renvall<sup>1</sup>, Sanna Malinen<sup>1</sup>*  
<sup>1</sup>Brain Research Unit, O.V. Lounasmaa Laboratory, Aalto University, ESPOO, Finland
- 1099 WTh Resting State Connectivity Links Community Socioeconomic Status to Preclinical Atherosclerosis**  
*Lei Sheu<sup>1</sup>, Minjie Wu<sup>2</sup>, Israel Christie<sup>3</sup>, Timothy Verstynen<sup>3</sup>, Pete Gianaros<sup>3</sup>*  
<sup>1</sup>University of Pittsburgh, Pittsburgh, PA United States, <sup>2</sup>University of Illinois, Chicago, IL, <sup>3</sup>University of Pittsburgh, Pittsburgh, PA
- \*1100 WTh Neural mechanisms of human communicative innovations (O-W2)**  
*Arjen Stolk<sup>1</sup>, Lennart Verhagen<sup>1</sup>, Jan-Mathijs Schoffelen<sup>1</sup>, Robert Oostenveld<sup>1</sup>, Mark Blokpoel<sup>1</sup>, Peter Hagoort<sup>1</sup>, Iris van Rooij<sup>1</sup>, Ivan Toni<sup>1</sup>*  
<sup>1</sup>Donders Institute, Radboud University Nijmegen, Nijmegen, Netherlands

- 1101 WTh Neural correlates of receiving an apology and active forgiveness**  
*Sabrina Strang<sup>1</sup>, Urs Fischbacher<sup>2</sup>, Verena Utikal<sup>3</sup>, Armin Falk<sup>1</sup>, Bernd Weber<sup>1</sup>*  
<sup>1</sup>Center for Economics and Neuroscience, University of Bonn, Bonn, Germany, <sup>2</sup>Universität Konstanz, Konstanz, Germany, <sup>3</sup>Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany
- 1102 WTh A Causal Role for LPFC in Social Norm Compliance**  
*Giuseppe Ugazio<sup>1</sup>, Ernst Fehr<sup>1</sup>, Christian Ruff<sup>1</sup>*  
<sup>1</sup>University of Zurich, Zurich, Switzerland
- 1103 WTh An fMRI study of self-other comparison during competition.**  
*Mikhail Votinov<sup>1</sup>, Juergen Prippl<sup>1</sup>, Eva Maria Link<sup>1</sup>, Patrick Markey<sup>1</sup>, Ewald Moser<sup>2</sup>, Christian Windischberger<sup>2</sup>, Claus Lamm<sup>1</sup>, Uta Sailer<sup>1,3</sup>*  
<sup>1</sup>SCAN-Unit, Faculty of Psychology, University of Vienna, Vienna, Austria, <sup>2</sup>MR Center of Excellence, Medical University of Vienna, Vienna, Austria, <sup>3</sup>Dept. of Psychology, University of Gothenburg, Gothenburg, Sweden
- 1104 WTh Content matters: an fMRI study of the efficacy of the anti-tobacco public service announcements**  
*AN-LI WANG<sup>1</sup>, James Loughead<sup>2</sup>, Kosha Ruparel<sup>2</sup>, Dan Romer<sup>1</sup>, Daniel Langleben<sup>2,1</sup>*  
<sup>1</sup>Annenberg Public Policy Center, University of Pennsylvania, Philadelphia, USA, <sup>2</sup>Department of Psychiatry, University of Pennsylvania, Philadelphia, USA
- \*\*1105 WTh Intense vicarious social pain is linked to higher-order somatosensory cortex activation**  
*Stefan Westermann<sup>1</sup>, Frieder Paulus<sup>2</sup>, Laura Müller-Pinzler<sup>1</sup>, Jens Sommer<sup>1</sup>, Tilo Kircher<sup>1</sup>, Andreas Jansen<sup>3</sup>, Soeren Krach<sup>3,3</sup>*  
<sup>1</sup>Department of Psychiatry, Philipps-University Marburg, Marburg, Germany, <sup>2</sup>Department of Psychiatry, Philipps University Marburg, Marburg, Germany, <sup>3</sup>Department of Neurology, Philipps-University Marburg, Marburg, Germany
- 1106 WTh Interpersonal context modulates neural responses to emotional stimuli**  
*Kate Woodcock<sup>1</sup>, Dian Yu<sup>2</sup>, Yi Liu<sup>2</sup>, Shihui Han<sup>2</sup>*  
<sup>1</sup>Peking University, China & University of Birmingham, UK, Beijing, China, <sup>2</sup>Peking University, Beijing, China
- 1107 WTh Neural Activity of Understanding Polite Utterance in Conversation**  
*Shin-ae Yoon<sup>1</sup>, Suh-kyung Kim<sup>2</sup>, Ji-Won Chun<sup>3</sup>, Joohan Kim<sup>4</sup>, Eun-joo Kim<sup>5</sup>, Hae-Jeong Park<sup>6</sup>*  
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