

Creating a Social Experience in the Scanner: A Taxonomy of Interactive Paradigms

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Rooted in the simple premise that cognition differs when we are interacting with another person instead of a representation of a person, the call has been made to study social neuroscience in interaction. More naturalistic methods promise to advance many fields, especially social and affective neuroscience and investigation of disorders of social cognition. While the benefit of using interactive paradigms is clear, how to develop such paradigms is less clear. Especially challenging is the need to develop appropriate analytical methods.

We present four researchers' responses to this call. Their work spans a range of scientific questions and methodological and analytical techniques. Prochazkova measures pupil mimicry to a virtual agent to address two competing hypotheses about this form of emotional contagion. Stepping up from the virtual agent approach, Harrison demonstrates that neural sensitivity to the actual presence of another person (versus a video of that person) dissociates adults with autism from healthy controls. Complementing Harrison's work, Jasmin also studies interaction differences in autism, but with a focus on conversation, which is highly dynamic and idiosyncratic. As we pursue more naturalistic tasks, designs will become less constrained. Keyzers reviews analysis methods that allow us to gain traction when experimental control is relinquished in exchange for naturalism.

Together, our speakers provide a taxonomy of methods available. This should provide attendees with a clearer picture of what is possible, including the strengths and limitations of each approach, and will hopefully inspire more rapid development of methods in this relatively nascent field.

Pupil Mimicry with a Virtual Agent Predicts Trust Behavior and Activates Mentalizing Rather than Affective Brain Regions

Eliska Prochazkova, Leiden University, Leiden, Netherlands

Using Live Face-to-Face fMRI to Investigate the Social Brain in Autism

Laura Harrison, California Institute of Technology, University of Southern California, United States

fMRI of Two-Person Vocal Interaction

Kyle Jasmin, University College London, United Kingdom / National Institutes of Health, Bethesda, MD, United States

Brain to Brain Analyses as a Route to Explore Complex Social Interactions

Christian Keyzers, Netherlands Institute for Neuroscience, Amsterdam, Netherlands