

# How visual experience affects (or not) the functional organization of the “visual” cortex

## Organizers:

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How does sensory experience shapes the development of the brain? Since the dawn of neuroscience, the study of the consequences of sensory deprivation has served as one of the most compelling model system to address such fundamental question. Recent researches involving early blind individuals have shed new lights on the old ‘nature versus nurture’ debate regarding brain development: whereas the recruitment of the deprived regions by ectopic inputs highlights how experience shapes brain development (nurture’s influence), the observation of specialized functional units in these deprived regions, sometimes similar to those observed in hearing and seeing people, highlights the intrinsic constraints imposed to such crossmodal plasticity (nature’s influence). However, many debates animate this blossoming field of research. Are the specific functional activations observed in the occipital cortex of the blind reflecting the amodal nature these regions? Alternatively, is a developing brain region versatile enough to switch its preferential sensory tuning or even switch its functional tuning in case of early visual deprivation?

## Symposia Schedule:

8:00-8:15

### **Higher-cognitive functions in the visual cortices of congenitally blind individuals: evidence for a pluripotent cortex**

*Marina Bedny, PhD., Johns Hopkins University, Baltimore, MD, United States*

8:15-8:30

### **How blindness improved our vision on brain function: towards a supramodal morphofunctional organization of the brain**

*Emiliano Ricciardi, MoMiLab, IMT School for Advanced Studies, Lucca, Italy*

8:30-8:45

### **How input modality and visual experience affect the functional response of the “visual” cortex**

*Olivier Collignon, University of Louvain/University of Trento, louvain-la-neuve, Belgium/Trento, Italy*

8:45-9:00

### **An updated view on the origins of cortical selectivity in the Human Brain**

*Amir Amedi, The Hebrew University, Jerusalem, Israel*

9:00-9:15

### **Questions and Answers**