

IGSN - SYMPOSIUM

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From minibrains to thinking brains: studying cognition across levels of neural system complexity

JORGE ALMEIDA

Proaction Lab, Faculty of Psychology and Educational Sciences, University of Coimbra, Portugal

Contentopic mapping and object dimensionality - a novel understanding on the organization of object knowledge

Our ability to recognize an object amongst many others is one of the most important features of the human mind. However, object recognition requires tremendous computational effort, as we need to solve a complex and recursive environment with ease and proficiency. This challenging feat is dependent on the implementation of an effective organization of knowledge in the brain. Here I put forth a novel understanding of how object knowledge is organized in the brain, by proposing that the organization of object knowledge follows key object-related dimensions, analogously to how sensory information is organized in the brain. Moreover, I will also put forth that this knowledge is topographically laid out in the cortical surface according to these object-related dimensions that code for different types of representational content – I call this contentopic mapping. I will show a combination of fMRI and behavioral data to support these hypotheses and present a principled way to explore the multidimensionality of object processing.

Host:

CHRISTIAN KLAES

Department of Neurotechnology, University hospital Knappschaftskrankenhaus, Ruhr University Bochum

