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# PAULO RODRIGUES

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CV

PARTICIPANT AT:

## CONNECTING THE GROWING BRAIN UNDERSTANDING NEUROPAEDIATRIC DISEASES THROUGH SYNAPTIC COMMUNICATION

**November, 26<sup>th</sup>-27<sup>th</sup>, 2015, Barcelona****Paulo Rodrigues**, CEO and co-founder of Mint Labs, Barcelona, Spain

Paulo graduated in Computer Science Engineering at the University of Minho (Portugal) and obtained a PhD at the Eindhoven University of Technology (Netherlands). His research focused on developing novel tools for the virtual dissection of the human brain white matter structures. He published several papers where image analysis techniques were explored to improve the analysis and visualization of diffusion weighted MRI. After the PhD work, he held a software engineering position, for 1 year, in a successful Dutch IT company, leader in advanced planning and scheduling solutions, based on an inspiring general solution. He held a research associate position at the Department of Personality, Faculty of Psychology, Universitat Barcelona, Spain, where he exploited neuroimaging techniques, especially diffusion imaging, to explore the neurobiological mechanisms in cognitive functions and disorders. Since 2013, he is the CEO and co-founder of Mint Labs, a award winning cloud based platform for the processing and management of neuroimaging data, and has been awarded the MIT Technology Review Innovative Entrepreneur under 35.

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ABSTRACT

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### **Connectomics in Neuropaediatric Disorders**

The study of the brain connectivity and the connectome has opened new experimental and theoretical avenues in many areas of neuroscience such as neuroanatomy, functional brain imaging or neurodevelopment. Pathological perturbations of the brain are rarely confined to a single locus; instead, they often spread via axonal pathways to influence other regions. Patterns of such disease propagation are constrained by the extraordinarily complex, yet highly organized, topology of the underlying neural architecture; the so-called connectome. For instance, patients affected by Rett Syndrome experience numerous symptoms, across multiple circuits, including movement and language problems, autism-like features, and often epilepsy. Here, we consider how network views of the brain can help understand these complex pathologies. The talk we give an overview on the connectomics methodologies and introduce new applications in neuropaediatrics.

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