



A Silver Anniversary: The role of thalamic circuits in the development of visual and cognitive behaviours

Dr. James Bourne

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Abstract

Dr. Bourne's interest in systems neuroscience led to a fascination with how reliably and capably the brain develops and becomes tightly interconnected to enable the complex behaviours species have evolved to perform. However, development is an area of neuroscience that is often overlooked in terms of defining the substrate and cause of neurological and psychiatric disorders. Therefore, Dr. Bourne's overarching research goal is to probe the neural substrate of certain diseases and conditions through the development lens. A region of the brain that will be part of a significant focus is the pulvinar nuclei of the thalamus, which has expanded in size, complexity, and function throughout mammalian evolution. Therefore, an overarching aim of the Section on Cellular and Cognitive Neurodevelopment is to take a multi-technique approach to explore the development of thalamocortical circuits and their plasticity into adulthood. This approach has the potential to identify the neural underpinnings of disorders, including schizophrenia, autism, and cortical blindness, as well as help us understand how the brain differentially operates at different stages of life.

Bio

Dr. James A. Bourne is the Chief of the Section on Cellular and Cognitive Neurodevelopment. He received his BSc in Biochemistry from Imperial College of Science, Technology and Medicine (London) and his Ph.D. in Neuropharmacology from King's College London. He then spent the next two decades in Australia at the University of Queensland and later at Monash University. In 2003, he was awarded an Australian Research Council (ARC) Fellowship and started to advance an independent area of research exploring the development and maturation of the primate visual system. Through a multidisciplinary cell-to-system approach, his group has influenced views on the developmental organization and plasticity of the primate visual system and how perturbations to specific circuits at a particular period in development can have life-long implications on visually-guided and cognitive behaviours.



EVENT DETAILS

DATE:

October 17th, 2023

TIME:

15.00 – 16.00p.m.

VENUE:

G19, Opposite Cinque Lire
15 Innovation Walk
Monash University
Clayton Campus

HOST:

Prof. Peter Currie



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