Institute of Molecular and Cell Biology
IMCB

IMCB RESEARCH EXCELLENCE together with the BRAIN & BODY SEMINAR SERIES

in partnership with

SfN.SG Society for Neuroscience SINGAPORE CHAPTER

Philippe Mourrain

Associate Professor of Psychiatry and Behavioral Sciences
Stanford University, USA

Host: Caroline Lei Wee (IMCB)

Tuesday, 5 March (Hybrid)
2:00 PM-3:00PM
IMCB Seminar Room 3-46, Level 3, Proteos, Biopolis
Singapore 138673 (or scan QR code for zoom registration)

Whole brain and body understanding of sleep functions in normal health and pathologies

While we sleep a third of our lives it is still unclear why we do so. Slow-wave sleep and rapid eye movement (or paradoxical) sleep were discovered in mammals and birds more than 70 years ago and were dogmatically thought to be specific to these vertebrate branches. Over the past 25 years, a new wave of sleep science leveraging genetic models such as fly, zebrafish and C. elegans has shone a new light on what sleep is and why all animals examined so far do experience such a dangerous off-line state. Using zebrafish, mouse models and human studies, the Mourrain lab has uncovered core cellular correlates defining sleep in vertebrates and vertebrates, as well as conserved molecular neural functions suggesting that sleep has emerged at least 600 million years ago, and not 65 million years ago as originally believed. These findings have challenged a human-centric vision of sleep definition and open the way for an exciting next-generation sleep medicine tackling sleep deficits in fragile X syndrome, autism spectrum disorder, as well as Parkinson's and Alzheimer's diseases.

Philippe Mourrain is an Associate Professor of Psychiatry and Behavioral Sciences, and an Associate Dean for Research at Stanford University, School of Medicine. He leads a program focused on sub-cellular changes occurring during normal sleep and associated neurological pathologies using mouse and fish genetic models. Over the past years, the Mourrain lab has developed new approaches and whole-brain imaging tools to uncover changes and abnormalities in the fish and mammalian brains.