

SPECIAL LECTURE

BRAIN AWARENESS WEEK



Wednesday, March 14th, 2018
12:00 noon

Theatre C
Basic Medical Sciences Building
Bannatyne Campus

DR. PIERRE MARQUET

CANADA EXCELLENCE RESEARCH CHAIR
IN NEUROPHOTONICS

Neurophotonics to Intercept the Emergence of Major Psychiatric Disorders

Major psychiatric disorders (MPDs) including psychosis and mood disorders affect 4% of the population. MPDs have chronic courses since their diagnoses, solely based on clinical symptoms, are very late and thus better treatments are only palliative. The successful development of early treatment and primary prevention is largely impeded by the lack of reliable risk biomarkers or endophenotypes (B/Es). This is a critical issue since MPDs have a neurodevelopmental origin and early intervention can improve outcomes.

From a developmental standpoint, the identification of B/Es in patients with MPDs and in their offspring at genetic risk will play a pivotal role in the definition of childhood risk syndromes and their corresponding abnormal trajectories. This approach is particularly relevant given that high-risk children carry many of the indicators of brain dysfunctions that adult patients have.

Within this framework, I will present how the development of new multimodal optical imaging techniques in combination with stem cell technologies, including human induced pluripotent stem cells approaches, can contribute to identifying new cellular B/Es relevant both to define childhood risk syndromes and to determine cellular processes likely to be involved in the pathogenesis of these MPDs.