Département de psychiatrie

Centre de Neurosciences Psychiatriques

CNP SEMINAR

ANNOUNCEMENT

Tuesday October 14th 2025, 11:00am to 12:00pm

Mechanisms underlying working memory deficits in genetic risk for schizophrenia

By : **Prof. Joshua GORDON**
Professor and Chair, Department of Psychiatry
Vagelos College of Physicians and Surgeons, Columbia University

Executive Director - New York State Psychiatric Institute

Summary :
Prof. Gordon' laboratory studies mouse models of genetic risk for mental illness from an integrative neuroscience perspective with a focus on understanding how a given disease mutation leads to a behavioral phenotype. To this end, they employ a range of systems neuroscience techniques, including in vivo anesthetized and awake behaving recording, neuroanatomical tracing, and pharmaco- and optogenetics. Current efforts are focused in two main disease areas: schizophrenia and working memory. Their work to date has directly laid the groundwork for the current studies, establishing theimportance of vHPC input to the mPFC in working memory function, that disruption in this circuit contributes to working memory deficits in a genetic model of neurodevelopmental dysfunction, and that interneurons within the mPFC circuit also play an important role. The projects proposed here are part of an ongoing effort to thoroughly dissect the full cortical microcircuit, in order to elucidate the role of each element, including the inputs, interneurons and principal neurons, and eventually ouputs, in working memory in health and disease.

Invited by : Ron.Stoop@unil.ch

Short Bio : Joshua A. Gordon, M.D., Ph.D., is the Chair of the Department of Psychiatry at Columbia University. Dr. Gordon's research employs an integrative systems approach towards understanding the neurobiology underlying working memory and its disruption by genes of relevance to schizophrenia. Prior to his current position, Dr. Gordon was the Director of the National Institute of Mental Health, where he oversaw the U.S. Government investments in mental health research.

Publications :

- Abbas, A. I., M.J.M. Sundiang, B. Henoch, M.P. Morton, S.S. Bolkan, A.J. Park, A.Z. Harris, C. Kellendonk, and **J.A. Gordon** (2018). Somatostatin Interneurons Facilitate Hippocampal-Prefrontal Synchrony and Prefrontal Spatial Encoding. Neuron, 100(4), 926–939.e3. PMCID: PMC6262834.
- Park, A.J., A.Z. Harris, K.M. Martyniuk, C.-Y. Chang, A.I. Abbas, D.C. Lowes, C. Kellendonk, J.A. Gogos, and **J.A. Gordon** (2021). Reset of hippocampal–prefrontal circuitry facilitates learning. Nature, 591(7851), 615–619. PMCID: PMC7990705.
- Tamura, M., J. Mukai, **J.A. Gordon**, and J.A. Gogos (2016). Developmental inhibition of Gsk3 rescues behavioral and neurophysiological deficits in a mouse model of schizophrenia predisposition. Neuron 89:1100-1109. PMCID: PMC4783174.

Salle de séminaire 1er étage - CNP

Here is the link for remote connection : https://unil.zoom.us/j/2471043660?omn=99714157506

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