

Adrien Peyrache, Ph. D.

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One ring to rule them all: origin and function of attractor dynamics in the head-direction system

Vendredi 10 février 2023

12 h à 13 h

En présentiel

Pavillon Paul-G.-Desmarais | 2960, chemin de la Tour, **local 1120**

En ligne

<https://umontreal.zoom.us/j/88066173443?pwd=ajlvdzA0a09FSGIFc3NuRUdFNVhNdz09>

Biography

Our thoughts, sensation, desires, emotions or even the ability to plan our lives in the long run emerge from the collective activity of billions of neurons in the brain. Understanding the organization of neuronal activity in relation to behavior is the central questions in neuroscience as even slight modifications in the brain networks can lead to debilitating brain disorders. To address these questions, one needs a model. Adrien Peyrache is studying the cognitive processes that humans use to navigate in their environment. His lab focuses on the neuronal basis of the brain's GPS in rodents as these animals are truly amazing at exploring their environments, avoiding dangerous spots and returning to their nest as quickly as needed.

Unraveling the relationship between cognitive processes and neuronal dynamics will take us one step further toward understanding the neural basis of cognitive impairments observed in disorders such as epilepsy and depression. In practice, the tools and expertise developed to answer the fundamental questions asked in the lab are used in collaborations with other teams to investigate how neuronal networks in the brain are affected in these diseases.

Entrée libre

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