

167th WPI-IIIS Seminar

How reward and speed shape the spatial neural code

Recent innovations in data recording/analyses has made it possible to investigate how waken and sleep mechanisms shape the neural codes throughout life and experiences. Our team capitalize on these ground-breaking techniques to examine a striking example of complex computation: the cognitive map distributed across specialized hippocampal neurons. In this talk, I will present some of our recent work. We used high-density electrophysiology to record from multiple hippocampal sub-regions, while rodents are freely behaving or sleeping. We investigated how learning goals, as well as consolidation mechanisms occurring during subsequent sleep, may modify the spatial code carried by grid cells. In our most recent study, we demonstrated how self-motion signals are integrated in the hippocampal regions. This led us to hypothesize that derivative algorithms could be essential to shape and update the neural code.



Dr. Charlotte Boccara

Institute of Basic Medical Science,
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Date: **Monday, December 21, 2020**

Time: **16:00 – 17:00**

Venue: **Join us online via Teams**

Register now! (deadline Dec.16)

<https://docs.google.com/forms/d/1Sd4nR7aR1dYQ0MZaGvtRxZ1UHO32AQ1rKVLRSJki3po/>

*** Teams information will be sent
to registered participants**



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