

SÉMINAIRES ET CONFÉRENCES



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“ The ecological mind: making sense of the chemical world with a tiny brain. ”

How do species interactions shape the brain? In this talk, I will present evidence that the yeast *Saccharomyces cerevisiae* and the fruit fly *Drosophila melanogaster* engage in a dispersal mutualism mediated by a single volatile compound, 2-phenylethanol, produced by yeast under conditions of nitrogen depletion and high cell density. Using a combination of behavioral assays, neuroanatomy, and connectome analysis, we show that this chemical signal is decoded by a sexually dimorphic olfactory circuit that is structurally remodeled by mating: in mated females, VA3 projection neurons elaborate dorsal branches in the lateral horn that connect to the oviposition circuit, biasing behavioral output away from foraging and toward egg laying at yeast-rich sites. This mating-dependent circuit remodeling drives yeast dispersal between resource patches, establishing a direct link between the physiological state of a microbe, the neuronal architecture of an insect, and the ecological outcome of their interaction. This work opens a new line of inquiry into how ecological relationships leave their mark on the architecture of the brain.



Faculté de médecine
Département de biochimie
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Université 
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Le jeudi 21 mai, 12h30

Pavillon Joseph-Armand-Bombardier, Salle : 1035

et

[Zoom](#)

Invitée de Vincent Archambault
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