Département de pharmacologie
et physiologie
Faculté de médecine
Université de Montréal

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# Kiss and Tell: How Metabolic Signals Shape Fertility Circuits

Reproductive function and metabolic state are tightly intertwined, yet the neural mechanisms coordinating these processes remain poorly understood. In this talk, I will present recent work investigating the bidirectional interactions between reproduction and metabolism at the level of hypothalamic neural circuits. First, I will discuss how metabolic signals regulate female reproductive function through direct actions on hypothalamic Kiss1 neurons, central regulators of gonadotropin-releasing hormone (GnRH) secretion. Using genetic and circuit-level approaches, we identify melanocortin signaling, via the melanocortin-4-receptor, as a key modulator of distinct Kiss1 neuronal subpopulations to coordinate pulsatile GnRH release and the preovulatory luteinizing hormone surge. I will then shift focus to how reproductive circuits feed back onto metabolic control, presenting evidence that arcuate Kiss1 neurons regulate energy expenditure and thermogenesis through glutamatergic projections to downstream hypothalamic pathways. Together, these findings position Kiss1 neurons as integrative hub linking reproductive and metabolic physiology, highlighting neural mechanisms that coordinate these two fundamental biological functions.

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Invitée de : **Pf. Najmanovich**

- **Date : Jeudi 30 avril 2026 à 9h**
- **Endroit : Pavillon Paul-G.-Desmarais, local 1120.**

Les membres du personnel enseignant qui aimeraient rencontrer la conférencière après la séance sont priés de contacter : Pf. Badhwar ; Pf. Najmanovich ; Pf. Raynal

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