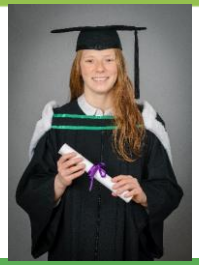
Séminaire

Département des sciences de l'imagerie médicale et des radiations

INVESTIGATING ALCOHOL'S CONCENTRATION-DEPENDENT EFFECTS ON TRANSCRANIAL MAGNETIC STIMULATION MEASURES OF GABA-B-MEDIATED NEUROTRANSMISSION TO EXPLAIN ALCOHOL'S BEHAVIOURAL BIPHASIC EFFECTS



Ann-Jessica Fréchette

Étudiante à la maîtrise au programme de sciences des radiations et imagerie biomédicale

Premier séminaire de recherche pour l'étudiante sous la direction de Pr Jean-François Lepage

Évaluation Étudiante: Zöe Gandey

LUNDI
9 février
2026
12 h

X4-6435

Alcohol induces subjective biphasic effects presenting as an initial phase of stimulation followed by a prolonged phase of sedation. However, the neurophysiological mechanisms underlying these subjective effects remain unclear in humans. Preclinical studies show the time course of stimulant and sedative effects corresponds to the time course of changes in gamma aminobutyric acid (GABA)-A-mediated inhibition, but we still do not know what could explain the delayed onset of alcohol's sedative effects in humans. A recent study conducted in our lab suggests the underlying mechanisms may be linked to GABA-B-mediated activity.

The current study uses transcranial magnetic stimulation – a non-invasive neuromodulation technique – to explore alcohol's effects on interhemispheric inhibition, a process largely dependent on GABA-B-mediated activity. Furthermore, the study delves deeper into alcohol's concentration-dependent effects on both neurophysiological and subjective behavioural measures to uncover how the former predicts the latter. A 3 (alcohol conditions) x 6 (time points per visit) repeated-measures design is employed.