

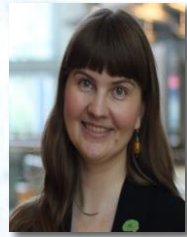


# Conférence

Centre de recherche du CHU de Québec-Université Laval



Centre de recherche



## Dre Anastassia Voronova

University of Alberta, Faculty of Medicine,  
Department of Medical Genetics

Invitée par : Dr Manu Rangachari

**Date :** Vendredi 9 août 2019

**Heure :** 10h00

**Lieu :** Amphithéâtre Fisher, Local T-054, Site CHUL



## «Cell-to-cell communication between neurons, glia and neural stem cells during brain development and regeneration»

In the developing brain, neural precursor cells must form neurons and glial cells such as oligodendrocytes at the correct time and numbers. In the first part of my talk, I will focus on communication between neural precursors and inhibitory interneurons in the developing cortex. When interneurons were genetically ablated in vivo, this caused a deficit in cortical oligodendrogenesis. Modeling of the interneuron-precursor paracrine interaction identified the cytokine fractalkine as responsible for the pro-oligodendrocyte effect in culture. This paracrine interaction was important in vivo, since knockdown of the fractalkine receptor CX3CR1 in embryonic cortical precursors decreased numbers of oligodendrocyte progenitor cells (OPCs) and oligodendrocytes in the postnatal cortex. Thus, in addition to their role in regulating neuronal excitability, interneurons act in a paracrine fashion to promote the developmental genesis of oligodendrocytes.

Adult mammalian brain contains neural and oligodendrocyte precursor cells, which use similar cellular pathways as their counterparts in the developing brain. In the second part of my talk I will focus on our unpublished data, which demonstrate fractalkine may increase remyelination in a demyelination mouse model via i) direct effect on oligodendrocyte precursor cells; and ii) indirect effect by modulating microglia-oligodendrocyte precursor cell interaction.

Note :

Prière d'aviser vos étudiants gradués et stagiaires postdoctoraux afin d'avoir la participation de tous.

Visioconférence

Non disponible