

**Within the next 20 years,
neurological conditions will become the leading
cause of death and disability in Canada**

Neuroscience



Research Strengths

Our Mission:

The mission of the Neuroscience Research Group is to understand how the nervous system develops and functions and how it is modified by injury, disease, genetics and environmental factors.

The LSI research group includes investigators that study different levels of neural organization:

- molecular/cellular
- systems/circuit
- behavioral/cognitive

This promotes highly collaborative and multi-faceted approaches to solving significant challenging problems in the neuroscience field.

Together, we train a new generation of neuroscientists in state-of-the-art techniques and technologies, and prepare them for careers in both basic and clinical neuroscience research.

Members of the Neuroscience Research Group are also affiliated with the **Brain Research Centre (BRC)**, a group of over 100 neuroscience investigators from different departments and faculties throughout British Columbia. The BRC provides a wealth of scientific expertise and the opportunity for collaborations.

Specific Processes and Diseases Studies by Members of the Neuroscience and Mental Health Research Group:

- **Neural Development:** Allan, Auld, Bamji, Gordon, Moukhles, Naus, O'Connor, Roskams
- **Neural Control of Behaviour:** Allan, Bamji, Gordon, Weinberg, Viau
- **Cellular and Molecular Mechanisms of Disease** including:
 - Schizophrenia: Allan, Bamji, O'Connor
 - Alzheimer's Disease: Allan, Bamji
 - Stress: Weinberg, Viau
 - Fetal Alcohol Spectrum Disorders: Weinberg
 - Brain tumors: Naus
- **Nervous system homeostasis:** Auld, Moukhles
- **Neuroprotection and Repair of the Nervous System:** Auld, O'Connor, Roskams, Naus

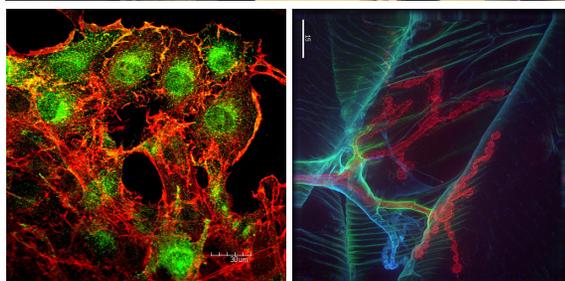
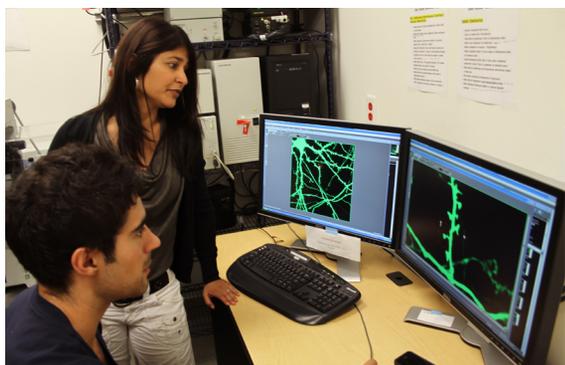
Graduate Programs

Cell & Developmental Biology (MSc, PhD)

Contact: Alan Jay - alanj@mail.ubc.ca

Neuroscience (MSc, PhD)

Contact: Liz Wong - ubc.neuroscience@ubc.ca

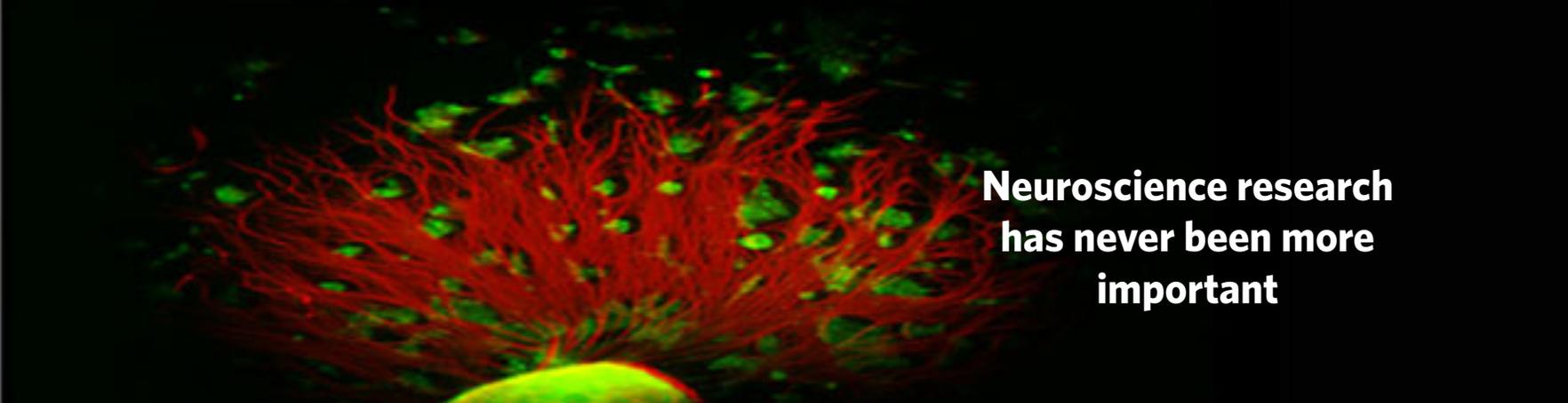


<http://www.neuro.lsi.ubc.ca>



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

Life Sciences Institute
email: lsi.grad@ubc.ca
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Neuroscience research has never been more important

Researchers:

Doug Allan:

Our research aims to investigate the mechanisms by which neurons selectively express the genes that define their unique identities and functions.

Vanessa Auld:

We study the roles that glia play in the development and function of the nervous system.

Shernaz Bamji:

We are interested in how synaptic connections in the brain are formed, remodeled and eliminated in the normal and diseased brain and how this impacts learning and behavior.

Michael Gordon:

Our lab focuses on the organization, function, and development of neural circuits that process taste information and control feeding behaviours.

Hakima Moukhles:

We examine the cellular and molecular mechanisms underlying the enrichment of the water-permeable channel, aquaporin 4, at the blood brain barrier and how this channel regulates water exchange between blood and brain in health and disease.

Christian Naus:

We are exploring the role of gap junctions in neural development and disease, and the development of novel therapeutic strategies based on regulation of these intercellular channels.

Timothy O'Connor:

Our research aims to understand intracellular signaling during neurite outgrowth and sprouting with the ultimate goal to stimulate neuronal growth and regeneration in neurodegenerative disease and injury models.

Jane Roskams:

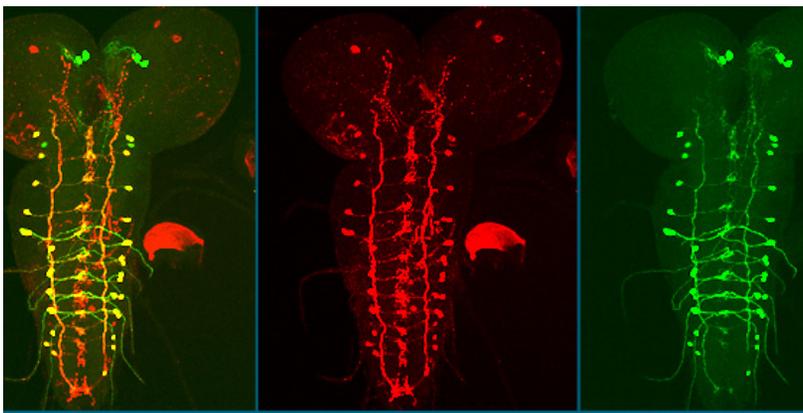
Our lab is interested in the regulation of normal and abnormal nervous system development and determining how these mechanisms may be exploited to stimulate regeneration when cells of the nervous system become injured.

Victor Viau:

Our lab focuses on understanding the pathways in the brain that mediate testosterone's effects on stress.

Joanne Weinberg:

We study how early life experiences impact the development of the brain and alters vulnerability or increase resilience to diseases later in life.



Graduate Studies Admission

UBC Faculty of Graduate Studies establishes common minimum academic requirements (www.grad.ubc.ca). One of the main requirements for LSI graduate programs is securing a research supervisor.

Contact

Graduate Recruitment & Outreach Coordinator
lsi.grad@ubc.ca
website: www.grad.lsi.ubc.ca

Grad School @ UBC

UBC offers over 130 master's and doctoral degree programs in nearly every academic field imaginable.

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The University of British Columbia

UBC is a global centre for research and teaching, consistently ranked among the 40 best universities in the world. Surrounded by the beauty of the Canadian West, UBC embraces bold new ways of thinking that attract exceptional students and faculty. It is a place where innovative ideas are nurtured in a globally connected research community, providing unparalleled opportunities to learn, discover and contribute in one's own way. UBC is a place of mind.