

FOR IMMEDIATE RELEASE

University of Victoria researcher earns health research funding award

Vancouver, BC | August 26, 2014

A Victoria-based researcher is one of this year's recipients of a Michael Smith Foundation for Health Research (MSFHR) Scholar award. Dr. Leigh Anne Swayne, a neuroscientist and assistant professor with the Division of Medical Sciences at the University of Victoria, is one of 32 BC health researchers selected for funding in MSFHR's 2014 scholar competition, and the sole recipient from Victoria. These awards, presented to promising new investigators to help them launch independent research careers and build strong research programs, are worth up to \$90,000 per year over a maximum term of five years.

Dr. Swayne's research is focused on two main areas. The first is the roles that complex proteins called ion channels play in brain development, injury and repair. These ion channels form tiny pores in the membranes of brain cells that are essential for the transmission of signals between brain cells and, as such, play a huge role in how our brains are "wired". Research to date has shown that several types of ion channels can contribute to damage to brain cells during trauma, but in certain instances they can also play a role in repairing the brain following an injury. The second area is looking at how these same ion channels transmit the electrical signals that underlie the beating of the heart and how mutations in the proteins in the ion channel can lead to certain heart conditions.

"I am really interested in a newly-discovered type of ion channel called Pannexin 1 which is prevalent in the brain right around birth, at a time when the brain is forming millions of new neural connections," said Dr. Swayne, "Increasing our understanding of the roles of ion channels in the developing brain might give us further insights into neuro-developmental diseases such as schizophrenia and autism."

Her lab discovered the presence of Pannexin 1 in the brain's main source of new cells, called neural stem cells. This aspect of her research caught the attention of the BC Schizophrenia Society Foundation who partnered with MSFHR to co-fund Dr. Swayne's award.

Dr. Swayne has also forged a new collaboration with Dr. Laura Arbour of the UBC Island Medical Program, a previous MSFHR award recipient, to understand the biology of mutations in ion channels that affect cardiac function in Northern BC First Nations communities. The conditions recognized in these communities can lead to sudden cardiac death. Dr. Swayne will explore, as a priority, a certain protein (ANK2) that anchors ion channels to heart cell membranes for proper functioning.

By increasing our understanding of the role ion channel proteins play in our brains and hearts, Dr. Swayne and her team hope to inform treatments for diseases such as inherited arrhythmias, schizophrenia, autism and stroke, as well as acquired brain injury.

MSFHR is funded primarily by the BC government, with a mandate to strengthen BC's health research enterprise. MSFHR's award competitions have funded more than 1,500 awards since 2001 — from trainees through well-established investigators — who are working to resolve health and health system challenges. The Foundation also funds research teams, supports research projects, and brings together BC's universities, health authorities, non-profit organizations and government for health research planning and action.

A complete list of the 2014 scholars and their research projects may be viewed at <http://www.msfhr.org/funding/2014-msfhr-scholar-awards>

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About the Michael Smith Foundation for Health Research:

The Michael Smith Foundation for Health Research empowers British Columbia's (BC) best and brightest health researchers to pursue world-class innovation and stretch the bounds of what health research can achieve. The Foundation helps BC's health research community discover solutions to our greatest health challenges; connect knowledge and action; and engage partners to address provincial priorities. MSFHR is dedicated to the memory of Nobel Prize recipient Dr. Michael Smith, a pre-eminent BC scientist with a long-standing commitment to supporting researchers throughout their careers. Learn more at www.msfhr.org

Media contact:

Lori Last
Director, Communications
Michael Smith Foundation for Health Research



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Phone: 604.714.2788 After hours: 604.773.4911

Email: llast@msfhr.org

