



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Cellular and Physiological Sciences



Leonardo Almeida-Souza, Ph.D

Candidate for CPS Faculty Position

MRC Laboratory of Molecular Biology

****CPS SPECIAL SEMINAR TIME****

2:30 PM Wednesday, Jan. 9, 2019

Location: LSC3

Hosted by Dr. Robert Nabi

How to Build an Actin Network at Clathrin-Coated Pits

Clathrin mediated endocytosis (CME) is a process by which cells internalise receptors, nutrients, lipids and pathogens. A complex protein machinery works alongside clathrin for initiation, growth and scission of the clathrin-coated pits (CCP). The functional connection between the actin cytoskeleton and mammalian CME has been a matter of controversy for years, as its importance seems to be context or cell dependent. Nonetheless, a growing body of evidence, including the large number of CME proteins showing actin-related activities, supports the idea that actin is an intrinsic component of mammalian CME. In which conditions each of these actin-related proteins are required, what is their relative contribution and how they are organized to optimise the mechanical action of the actin cytoskeleton during CME remains unclear. In my talk, I will present my recent results showing that the protein FCHSD2 is a major player activating actin during CME. Using a combination of cell biology, biochemistry and structural biology I could unravel many aspects of the biology of this protein including its unique position at the base of CCPs. Finally, I will discuss my plans on how to further understand the biology of actin during endocytosis and on the biology of FCHSD2 in health and disease.

Refreshments will be available outside LSC3!!!