

Wednesday, April 16th, 2014
LSC 3 - Life Sciences Centre
2350 Health Sciences Mall
12-1pm



Dr. Carlo Brugnara

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“Ion channels and transporters of the erythrocyte: from hemoglobinopathies to membrane diseases”

This presentation will discuss the regulation of ion transport and cell volume in human erythrocytes of patients with hemoglobinopathies like homozygous Hb C and homozygous Hb S (sickle cell anemia) disease. Three ion transport pathways will be discussed in detail as they related to the pathophysiology of sickle cell disease and therapeutic targeting for the disease:

- 1) Ca-gated K channel (Gardos or KCNN4)
- 2) K-Cl cotransport
- 3) P-sickle

The talk will also review recent developments in xereditary xerocytosis, a rare disorder of the mechanisms controlling erythrocyte cell volume, and the identification of causative mutations in Piezo 1, a mechanosensitive ion channel of the red cell membrane.

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