Department of Anatomy & Cell Biology Seminar Series

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Neuronal ribosomes are specialized for physiological stalling to support local translation.

Neurodevelopmental disorders ranging from intellectual disabilities, epileptic encephalopathies, autism and schizophrenia are major health problems. Evidence has coalesced that neuronal local protein synthesis acts as a hub for both causation and treatment of these disorders. In neurons, but not in other types of cells, a large number of ribosomes resist run-off by initiation inhibitors and are thus stalled. This neuronal-specific mechanism represents an important target for possible treatment of disorders of local translation. We will discuss models/evidence for how ribosomes stall, how ribosomes are packaged in neuronal granules for transport, and how these ribosomes are reactivated to mediate forms of synaptic plasticity. Roles for specific RNA binding proteins and specific states of the ribosomes will also be demonstrated.

Wednesday, Apr. 3, 2024
11:30am - 12:30pm

Hosted by: Joaquin Ortega, PhD

Room 1/12 - Strathcona Anatomy and Dentistry Building

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