

Weekly Colloquium

Tuesday, 12/12/2017, 12:30pm, Billings Building – Rosedale Conference Room

**“Protein disordered in neurodegeneration and neurotransmission:
alpha-synuclein and complexin”**

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Abstract: Disordered proteins mediate critical functions at neuronal synaptic junctions, including the fusion of synaptic vesicles with the presynaptic plasma membrane. The disordered proteins complexin and synuclein regulate vesicle exocytosis in ways that remain poorly understood, and both proteins are involved in neurodegenerative and neurological disorders. I will present results from our investigations of the structural properties of these proteins and their interactions with lipid membranes in order to shed further light on their functional mechanisms in regulating neurotransmission, as well as on the role of membrane interactions in the aggregation of alpha-synuclein in Parkinson's disease.

Publications:

Front Mol Neurosci. 2017 May 24;10:154. doi:
10.3389/fnmol.2017.00154.

Unique Structural Features of Membrane-Bound C-Terminal
Domain Motifs Modulate Complexin Inhibitory Function.

ACS Chem Biol. 2016 Sep 16;11(9):2428-37. doi:
10.1021/acscchembio.6b00539.

Semisynthetic and in Vitro Phosphorylation of Alpha-Synuclein
at Y39 Promotes Functional Partly Helical Membrane-Bound
States Resembling Those Induced by PD Mutations.

Exp Neurobiol. 2014 Dec;23(4):292-313. doi:
10.5607/en.2014.23.4.292.

Alpha-synuclein function and dysfunction on cellular
membranes.

