Guest Speaker:

Dr. John Allingham

Associate Professor and Associate Head,
Undergraduate Education. CRC in Structural Biology.
Department of Biomedical and Molecular Sciences,
Queen's University

(External Examiner for PHD.MCB candidate, Navneet Sidhu, Dec. 9)

Tues. Dec. 10, 2019
In SSC 2315 at 10 a.m

"How similar kinesin motor domains are used for very different functions: motility or microtubule depolymerization"

Kinesins comprise a large and diverse superfamily of mechanoenzymes that play essential roles in transport of organelles and organization of huge microtubule arrays like the mitotic spindle during the cell division. All kinesins contain a highly conserved catalytic domain (the 'motor domain') with ATPase and microtubule-binding activities. In most kinesins, ATP binding and hydrolysis influences the structure of the force-generating elements that drive kinesin movement (directional stepping) along microtubules. In the kinesin-13 family of non-motile kinesins, ATP binding generates force for tubulin bending, leading to microtubule depolymerization. Members of the multitasking kinesin-8 and kinesin-14 families can move on microtubules as well as trigger their disassembly. Our studies provide novel insights on how these two very different kinesin-mediated activities are performed by each family member using very similar catalytic domains. These observations have therapeutic implications for the design of family-specific kinesin inhibitors.

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All welcome to attend.
Coffee, tea and timbits!

For more info, please contact Dr. John Dawson