

Distinguished Lecture Series in Physiology

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“Form and function in excitable cells: investigating crosstalk between the cytoskeleton and channel proteins in brain and heart health and disease”

Both neurons and cardiomyocytes undergo a complex process of structural and functional transformation during their development into mature cell types. In our lab we are focused on the roles of channel-forming proteins and their interacting proteins in these processes. In particular, we study the “channel-independent” roles of channel proteins and their crosstalk with the cytoskeleton in regulating morphological changes associated with cellular differentiation and maturation. In this talk I will focus primarily on our discoveries related to the pannexin 1 channel protein and signaling scaffold in neuron development and will also briefly outline our work with the ankyrin-B scaffold for ion channels and transporters in cardiomyocyte development. In addition to the developmental aspects of these stories, I will also discuss how our work relates to specific brain and heart conditions, with implications for diagnosis and development of therapeutic interventions.

Thursday, May 4, 2023
GBSF and Zoom
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May
4



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