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The Protein Lipidation Conference: Enzymology, Signaling, and Therapeutics

Organizer Bio: Paul Jenkins, PhD

Assistant Professor, Pharmacology, University of Michigan, Ann Arbor, USA
Dr. Jenkins is a neuroscientist with expertise in the biology of the formation and organization of plasma membrane subdomains.

A particular interest of Dr. Jenkins's laboratory is the ankyrin family of cytoplasmic scaffolding proteins, which tether many membrane proteins to the underlying actin cytoskeleton. He discovered that a large splice variant of ankyrin-G, a product of the *Ank3* gene, is responsible for the formation of the axon initial segment and nodes of Ranvier, critical sites of clustered voltage-gated sodium channels that are important for normal neuronal signaling (Jenkins, et al. *PNAS* 112(4):957). In addition, this variant was necessary for the formation of a subset of inhibitory connections in the cortex and hippocampus (Tseng, Jenkins et al. *PNAS* 112(4):1214), defects in which are strongly associated with bipolar disorder. Mutations in ankyrin-G have been found to be associated with bipolar disorder and schizophrenia.

His laboratory focuses on the study of the mechanisms by which these mutations can cause diseases, with special attention to the role of ankyrin-G palmitoylation on its N-terminus for its normal function. The recent reports on the important role of palmitoylacyltransferase modification of ankyrin-G in association with mood disorders in large-scale genetic screens suggest that regulation of ankyrin-G lipidation may have implications for this and other human diseases.