

Talk title: “Lipid switches in cell physiology: From nutrient signals to disease”

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Description:

Phosphoinositides (PIs) form a minor class of phospholipids with crucial functions in cell physiology, ranging from cell signalling and motility to a role as signposts of compartmental membrane identity and dynamics. In my talk I will discuss the localization, regulation, and molecular mechanism of action of PI kinases and phosphatases and their roles in endocytosis and within the endolysosomal system. Moreover, I will cover our recent advances in the analysis of the metabolic pathways that regulate the cellular synthesis and turnover of distinct PI phosphates at endosomes or lysosomes in response to altering nutrient conditions, discuss the mechanisms by which these lipids regulate endolysosomal membrane dynamics and metabolism, and provide examples of how dysregulation of these pathways may cause human disease.

Keywords:

Phosphoinositides; endosomes; lysosomes; metabolism; membrane dynamics