

BIOCHEMISTRY SEMINAR

Novel Dimensions of Cell Membrane Phenotypes

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Abstract: The plasma membrane is the physical and functional interface between a cell and the outside world, and as such it is responsible for hosting a myriad of tightly regulated parallel processing tasks. To achieve this functional complexity, mammalian cells produce hundreds of lipid species that are actively distributed throughout cellular membranes to produce spatial and temporal gradients. These lipid profiles give rise to a multitude of biophysical properties which arise from the collective behavior of lipids such as viscosity, packing, and curvature. Additionally, lipids are structurally and functionally organized laterally within the bilayer, giving rise to domains which are implicated in many cellular processes. While the role of membrane domains is becoming increasingly clear, their precise functional role remains elusive. In this presentation, I will present results from several projects ongoing in the Levental lab which explore the roles of lipid membranes and their specific biochemical and biophysical profiles in regulating cellular physiology.



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