

Monday November 11, 2013

2:00 p.m.

First Biochemistry Faculty Candidate

Room 156, Science Complex

Protein Control of Membrane Trafficking in Autophagy

Lipid membranes organize the eukaryotic cell by providing sealed reaction compartments and transport carriers. Membrane trafficking is directed by a set of conserved proteins that dynamically shape and organize these compartments. One evolutionarily conserved process with unique membrane dynamics is autophagy. This is a transport pathway that moves cargo from the cytoplasm to the vacuole inside carriers called autophagosomes. Autophagy is critical for human health because it is a way to clear unwanted, disease-causing materials out of the cytoplasm, and also because it helps cells to survive starvation. However, we do not have a biochemical understanding of how the autophagosome is formed. Although a number of proteins involved in autophagy have been identified, in many cases we don't really know what they do or how they work together. This talk will discuss some of what is currently known about how proteins control membrane trafficking during the process of autophagy and suggest directions for future research.