

# Condensed Matter Seminar

## Title: Probing plasma membrane heterogeneity using super-resolution microscopy

Speaker: **Dr. Sarah Veatch**

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DATE: 10 / 26 / 2012, Friday

Time: 2:00pm ~ 3:00pm

Place: **Room 245**, Physics Building

### Abstract:

The thermodynamic properties of plasma membrane lipids play a vital role in many functions that initiate at the mammalian cell surface. Some functions are thought to occur, at least in part, because plasma membrane lipids have a tendency to separate into two distinct liquid phases, called liquid-ordered and liquid-disordered. We find that isolated cell plasma membranes are poised near a miscibility critical point separating these two liquid phases, and postulate that critical composition fluctuations provide the physical basis of functional membrane heterogeneity in intact cells frequently referred to as 'lipid rafts'. In this talk I will describe several possible mechanisms through which dynamic fluctuations can be stabilized in super-critical membranes. I will also discuss our recent efforts to probe the organization and dynamics of plasma membrane components in intact cells using quantitative super-resolution fluorescence localization imaging.

