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## COLLOQUIUM

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- **SPEAKER**

Dr. Jean K. Chung (UC Berkeley)

- **TITLE**

Signaling reactions on reconstituted membrane surfaces

- **ABSTRACT**

The carefully coordinated control of signaling molecules' spatiotemporal organization on the cellular membrane is an important aspect of the cell's decision-making in response to environmental cues. Yet, the behavior of proteins localized to the membrane—such as clustering, phase separation, and network formation—is still only vaguely understood. In the in vitro reconstitution approach, purified signaling components are introduced to synthetic lipid bilayers, and the reaction network of the minimal set of key components are reconstructed. Quantitative studies using this system for different types of protein-membrane interactions in cellular signal transduction will be discussed: (1) lipid anchor-modified small GTPase, (2) nonreceptor tyrosine kinase that localizes to the plasma membrane via the lipid-targeting domain, and (3) the global phase separation behavior of the membrane upon the formation of macroscopic protein assemblies through multivalent protein-protein interactions.

- **DATE AND VENUE**

Apr. 29, 2016 (1:00–2:00 p.m.)  
Seminar room 116, R&D Center