SPECIAL PHYSICAL CHEMISTRY SEMINAR

Wednesday
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3:00 pm

Room 8335
Chemistry

Peptide-based studies of membrane proteins: energetics of folding and image analysis in cells

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Host: Marty Zanni

Difficulties in measuring the behaviors of membrane proteins in lipid bilayers have limited the quantitative analysis of this class of proteins. The use of de novo designed peptides can simplify experimental systems with easier handling and/or better reliability. In this talk two such examples will be presented; 1) a simple hydrophobic peptide (AALALAA)3, which forms stable transmembrane helices in lipid bilayers, is useful to investigate nonspecific lipid-derived folding forces on helical membrane proteins. 2) A peptide pair (EIAALEK)3 and (KIAALKE)n, which forms a tight heterodimeric coiled-coil, is applied for specific fluorescence labeling of membrane proteins in living cells, enabling quantitative image analysis of internalization and self-association of membrane proteins.