

Physics & Space Sciences Department Colloquium

Unraveling Signal Transduction in the Biomedically Important Membrane Protein, Rhodopsin

Presented by:



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G protein-coupled receptors (GPCRs) are a biomedically important class of membrane-bound receptors that are targeted by many small molecule drugs. These proteins act as molecular transducers, passing signals across the cell membrane. Although this modulation of signal is vital to their pertinence as drug targets, the details of the signal transduction mechanism are not well understood. In this work, we leverage physics-based computer simulations to better understand the dynamics of this complex class of biomolecules, with a particular focus on the mammalian dim-light receptor, rhodopsin. We use various methods to probe the kinetics of receptor activation and to better understand fluctuations of this model GPCR system.

Friday, August 22, 2014

4:00-5:00 P.M.

OPS Room 140