

# CHEMICAL ENGINEERING

SEMINAR SERIES



**ANNE SKAJA ROBINSON**

**Monday, October 16, 2017**

Tulane University, Chair of Chemical and Biomolecular Engineering  
Catherine and Henry Boh Professor of Engineering  
Tulane Brain Institute Faculty Member

## **Adenosine receptor expression and biophysical characterization: Role of the protein-lipid interactions**

**ABSTRACT:** Proteins that reside in the cell membrane are among the most important of all proteins, as they play key roles in almost every cellular process, and represent over a third of all proteins, yet they represent one of the most difficult challenges for expression and isolation, because they are partially hydrophobic, flexible, and unstable in isolation. The adenosine receptor subfamily of G-protein coupled receptors is important in modulating blood pressure, and more recently has been implicated in cancer, neurodegenerative diseases, and diabetes. Our laboratory has had great success expressing the human adenosine A<sub>2a</sub> receptor (A<sub>2a</sub>R) in yeast, and I will describe computational and experimental studies to understand the role of cholesterol on the protein stability and function. In particular, our data support a model of receptor state-dependent binding between cholesterol and a conserved binding motif, which could facilitate both G-protein coupling and downstream signaling of A<sub>2a</sub>R.

**BIOGRAPHY:** Prof. Robinson is the Catherine and Henry Boh Professor in Engineering and Chair of Chemical and Biomolecular Engineering at Tulane University. She has several patents and over 85 publications in the areas of protein (re) folding and aggregation, protein biophysics, and protein expression of therapeutically relevant protein molecules. Prior to joining Tulane in 2012, Dr. Robinson was a Full Professor and Associate Chair at the University of Delaware. Her honors include a DuPont Young Professor Award, and a National Science Foundation Presidential Early Career Award for Science and Engineering (PECASE) Award, and she is a fellow of the American Institute for Medical and Biological Engineering and the American Institute of Chemical Engineers.

**RECEPTION 3:30 • LECTURE 4:00 – 5:00**  
**PHYSICS ASTRONOMY BLDG. PAA A110**



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