

*Invited Presentation***SPECIAL BIOMEDICAL ENGINEERING SEMINAR**

**11:00 a.m.-12:00 p.m., Thursday, January 15, 2006**  
**Siebens, Room 02\_03**

**WISE Women in Science and Engineering****Presents:**

**“Electroanalytical Eavesdropping on Cellular Communications”**

**Presenter: Christy L. Haynes, Ph.D.**  
**Assistant Professor, Department of Chemistry, Institute of Technology**  
**University of Minnesota, Minneapolis, MN**

**Christy Haynes is a recipient of the NIH New Innovator Award**

**Abstract:** The human immune system is an elaborate and dynamic network of cells, tissues, and organs responsible for protecting us from disease. Understanding the fundamental cellular interactions *in vivo* during immune response is a daunting task based on the inherent complexity of similar but distinct cell types and the diverse signaling pathways between these cells. While many illuminating studies make use of animal models to correlate changes in protein concentration or gene expression to a measured immune response, these correlations do not explicitly reveal how one cell signaling another cell triggers the measured immune response. The Haynes lab exploits microelectrochemistry techniques to quantitatively characterize chemical messenger secretion from individual immune cells in real time. This work reveals both useful fundamental information about chemical messenger packaging and delivery in immune system cells such as platelets, mast cells, and basophils, and also facilitates studies of nanoparticle cytotoxicity.

◆ See BME web page for list of speakers:

[http://mayoresearch.mayo.edu/mayo/research/physio\\_biophys/2009\\_bme\\_seminars.cfm](http://mayoresearch.mayo.edu/mayo/research/physio_biophys/2009_bme_seminars.cfm)