

# HOPE COLLEGE CHEMISTRY SEMINAR

## *"Characterization of Electrodeposited Magnetic Thin Films"*

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**Friday, January 23, 2009**  
**4:00 pm, Schaap 1000**

### *Abstract*

The 2007 Nobel Prize in Physics was awarded to two European physicists who discovered in 1988 that multilayered materials with alternating magnetic and nonmagnetic layers exhibit a large change in electrical resistance with the application of an external magnetic field. They named the effect Giant Magnetoresistance (GMR), and today it is the technology being used in almost every computer hard drive. In this talk, I will describe GMR and how it has been influential in the ever-increasing amount of data you can store on your computer. Electrodeposition is one attractive method for fabricating GMR-type materials. This talk focuses on two groups of materials, cobalt-copper multilayers and iron-nickel alloy thin films. I will present data on the chemical, structural, and magnetic characterization of these materials.

### *Biography*

*Jennifer Hampton moved to Hope College in the fall of 2007 after two years teaching physics at Washington & Jefferson College. She is a product of being around the liberal arts environment for her entire life; her parents retired in May after 36 years teaching at the College of Wooster. She is a graduate of Oberlin College, where she majored in physics, and The University of Cambridge, where she spent one year after college on a Winston Churchill Foundation Scholarship. Jennifer received her Ph.D. from Cornell University and did postdoctoral work at the Pennsylvania State University before moving back to the liberal arts environment, first at W&J and now at Hope. Her research interests span the boundaries between physics, chemistry, and materials engineering, particularly nanoscale science, electrochemistry, and surface science.*