



## ~~Special Polymer Physics Seminar ~~

### **Professor Robert Mathers**

Department of Chemistry,  
Penn State University, New Kensington

**10:00 AM Tuesday**  
**October 19<sup>th</sup>, 2010**  
**301 Steidle Bldg.**

### **Controlling the Architecture and Functionality of Polymerization Systems with Renewable Resources**

Integrating renewable resources with catalytic polymerization processes has potential to control architecture, molecular weight, chemical functionality, and degradability. Utilizing renewable monoterpenes function as chain transfer agents and polymerization solvents during Zeigler-Natta and ring opening metathesis polymerizations (ROMP) allows molecular weight control and introduction of chemical functionality. For heterogeneous ROMP systems, monoterpenes control the architecture, degradability, and cross linking. Renewable resources also provide alternative polymerization strategies for typical ROMP monomers. The resulting architectures present possibilities for degradable polymers.