

UNIVERSITY OF CONNECTICUT



INSTITUTE OF MATERIALS SCIENCE

POLYMER PROGRAM SEMINAR

“Dendritic Polymers for Ocular Wound Repair and Treatment of Cancer: From Concept to Clinical Use”

**Prof. Mark W. Grinstaff
Boston University**

**Friday, October 9, 2009
11 AM, IMS Room 20**

Dendritic macromolecules are versatile materials for medical applications since the structure, molecular weight, and chemical composition can be precisely controlled. We have reported the synthesis and characterization of polyester, polyester-ether, and polyamide dendrimers and dendrons composed of biocompatible building blocks for medical applications. These dendritic macromolecules can be subsequently crosslinked to form hydrogels using a photochemical acrylate-based or a chemical ligation strategy. The properties – mechanical, swelling, degradation, etc. – of the hydrogels can be tuned by altering the composition, crosslinking chemistry, wt%, generation number and so forth. These dendrimers and hydrogels have been used successfully in four unique applications: hydrogel adhesives for repairing corneal wounds, hydrogel scaffolds for cartilage tissue engineering, hydrogel reaction chambers for high throughput screening of molecular recognition events, and vehicles for delivering anti-cancer agents. In this lecture, I will focus on the synthesis and characterization of these macromolecules and their use for repairing ocular wounds and for delivering anti-cancer agents.

**Coffee will be served at 10:45AM outside the seminar room.*

**For further information, please contact YH Chudy at 860.486.3582 or yhchudy@ims.uconn.edu*