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Stimuli-Responsive Nanostructured Materials: Design and Applications

Tuesday October 18th, 2011 1:00pm
Otto Maass room 10

Response to external stimuli is one of the major processes by which living systems interact with their environment. Advances in nanotechnology provide a plethora of tools for designing "smart" responsive materials that mimic processes found in living systems. These artificial biomimetic nanostructures are engineered to assemble dynamically into reconfigurable materials suitable for a variety of applications in medicine, biotechnology, coatings, cosmetics and personal care, and miniaturized devices.

The first part of the seminar will be an overview of recent results from our laboratory on the design, synthesis, characterization, and applications of nanostructured polymeric and colloidal systems used for the fabrication of smart responsive surfaces, membranes, micro/nano-actuators, colloidal particles, fibers, and capsules. The second part will focus on the synthesis, characterization and applications of tethered functional polymeric chains (polymer brushes), thin hydrogel films and capsules. We will discuss various architectures of polymer brushes and polymer gels developed in our laboratory and their use for the fabrication of functional nanostructured thin films, colloidal particles, and membranes.

EVERYONE IS WELCOME!

