

MATERIALS SEMINAR

PRESENTED BY

PROF. STEVE MORIN

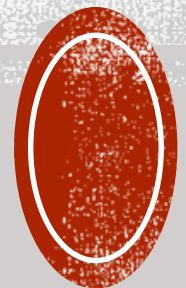
UNIVERSITY OF NEBRASKA-LINCOLN

PH.D. UW MADISON, 2011



Elastomeric Surfaces for the Rational Synthesis, Assembly, and Fabrication of Adaptive, Functional Materials

In this talk I will highlight our recent findings related to the synthesis and application of mechanically tunable surfaces, which include the assembly of solids (e.g., inorganic films with switchable reflectance and microparticles with optical/catalytic activity) and the manipulation of liquids (e.g., picoliter-volume droplets of aqueous solutions and prepolymer droplets). The unique properties of these surfaces and the diverse capabilities they provide will enable new methods and structures for the micro-/nanoscale manipulation, organization, and assembly of liquids/solids, and provide new techniques for the fabrication of hybrid structures applicable to emergent technologies, for example, soft sensors, optics, and electronics, soft actuators for soft machines/robotics, and smart surfaces with adaptive adhesion. Furthermore, the ability of the strategies we demonstrate to operate simultaneously on large numbers of micro-/nanoscale functional components using macroscale processing (e.g., tensile deformations) presents unique advantages in the scalable, advanced manufacturing of functional structures.



Thursday
January 25, 2018
12:15 pm
Room 1315 Chem