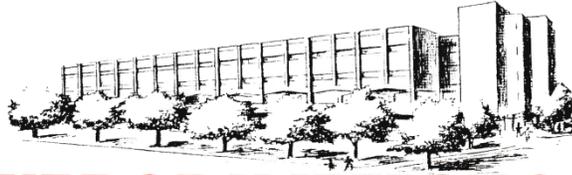


UNIVERSITY OF CONNECTICUT



INSTITUTE OF MATERIALS SCIENCE

POLYMER PROGRAM SEMINAR

“Polymer Approaches to Basic Questions in Biology”

**Prof. Dennis E. Discher
University of Pennsylvania**

**Friday, January 31, 2014
1:30 PM, IMS Room 20**

From viruses to tissue matrices, biology is filled with remarkable polymeric structures that motivate mimicry with goals of both clarifying and exploiting biological principles. Filamentous viruses have inspired our development and computations of worm-like, flexible polymer micelles – ‘filomicelles’ – that reveal non-spherical nano-therapeutics can persist in the circulation and deliver even better than spheres. Brain tumors have been among our latest targets, with results comparing delivery of anti-cancer drug to brain tumors versus other sites. Proteomic profiling provides insight into delivery mechanisms/obstacles and also provides important hints of cell responses to soft/stiff Microenvironments as well as the limitations of traditional cell culture. Indeed, ‘Adhesive recognition’ of cells in Microenvironments will be demonstrated through the potent effects of tissue-matrix elasticity on stem cell differentiation. Molecular mechanisms are being revealed by further engineering of polymeric microenvironments with attention to the polymer physics.

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

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