Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Hybrid Gels from Self-Assembling Peptide Networks SAMEER SATHAYE, Department of Materials Science and Engineering, University of Delaware, NIKHIL SHARMA, Department of Materials Science and Engineering University of Delaware, RADHIKA NAGARKAR, JOEL SCHNEIDER, Department of Chemistry and Biochemistry, University of Delaware, DARRIN POCHAN, Department of Materials Science and Engineering University of Delaware — Hybrid Gels constitute a novel class of polymeric materials developed with an aim of combining and/or enhancing the diverse and complementary properties of their individual constituent networks. Self-assembling peptide hydrogels formed from aqueous solutions of beta-hairpin forming peptides have been extensively reported. These hydrogels are interesting candidates as part components of hybrid gels due to their ability to retain their inherent physical properties in the presence of other hydrogel networks and other added functionality (e.g. an inorganic coating of the gel fibrillar nanostructure). Synergistic interactions of these peptidic networks with other added polymer co-networks with a range of tunable synthetic characteristics and properties have been explored by various characterization techniques such as Dynamic Mechanical Analysis (DMA), Transmission Electron Microscopy (TEM) and Small Angle Neutron Scattering (SANS). The ease of producing co-networks between a wide array of target polymer networks and beta-hairpin peptides as the fundamental, core network will be discussed

Sameer Sathaye
Department of Materials Science and Engineering, University of Delaware

Date submitted: 20 Nov 2009 Electronic form version 1.4