Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Protein-Polymer Functionalized Nanopatterned Surfaces HAOYU WANG, PINAR AKCORA, Stevens Inst of Tech — Understanding and controlling the protein interactions with surfaces for biosensors and biomedical implants is a fundamental problem for biocompatible nanomaterial design. Proteins attached in ordered nanopores can exhibit superior biological activities compared to smooth microstructured surfaces. We developed heterogeneous and nanopatterned surfaces decorated with polymer brushes and proteins to control protein fates through elasticity. The heterogeneity of surfaces is controlled with well-defined chemistry, pattern size and geometry, stiffness of polymers and protein types. We will present our recent nanoindentation results on nanopatterned and biofunctionalized flat surfaces and discuss the pattern size effect on protein activity, hence conformation.

Haoyu Wang
Stevens Inst of Tech

Date submitted: 14 Nov 2014 Electronic form version 1.4