Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Investigation on mineralization behaviour of Type I collagen and noncollageneous extracellular matrix protein immobilized on polymer thin film XIAOLAN BA, Stony Brook University, ARIELLA KRISTAL, Solomon Shechter Highschool, ELAINE DIMISI, Brookhaven National Laborary, MIRIAM RAFAILOVICH, Stony Brook University — The effects of the components of extracellular matrix on the bone formation and the kinetics of crystal growth of calcium phosphate have remained unknown. Here we reported a method to investigate the role of Type I collagen and the interactions with other ECM proteins such as fibronectin and elastin during biomineralization process. The early stage of mineralization was characterized by atomic force microscopy (AFM) and shear modulation force microscopy (SMFM). The late stage of mineralization was investigated by scanning electron microscopy (SEM), grazing incident x-ray diffraction (GIXD). The results showed the calcium phosphate biomineralization only occurred when the collagen interacted with fibronectin or elastin.

Xiaolan Ba
Stony Brook University

Date submitted: 21 Nov 2008 Electronic form version 1.4