BIOMEDICAL ENGINEERING
Carnegie Mellon University

Tuesday, November 14, 2017
4:30 – 5:30 p.m.
Doherty Hall A302

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Silk biopolymer technologies: From edible electronics to living materials

Abstract: Natural materials offer new opportunities for innovation across fields that bring together the biological and technological worlds. Stringent requirements on material form and function are imposed when operating at the nanoscale or when interfacing such materials with photonics or microelectronic devices. Silk fibroin is a very attractive biopolymer for use as a polymorphic matrix for multiple material formats that are casted, printed, extruded, or molded. This opens opportunities for multi-functional, sustainable devices that leverage both the properties of the material and the biological features that they can encompass. Devices such as silk-based photonic crystals, wireless interfaces, printed conformal sensors and resorbable electronics will be described as some examples of the possibilities that this water-processed, biocompatible material offers.