

**TUFTS UNIVERSITY**  
**Physics and Astronomy Colloquium**

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**“Bioengineered Fibrous  
Proteins for Biomaterials and  
Regenerative Medicine”**

Fibrous proteins are intriguing polymers for biomaterials-related needs, due to their functional properties and their similarities to synthetic polymers in terms of repetitive sequences. In addition, fibrous proteins provide useful attributes from a materials perspective, such as self-assembly and tailorability in terms of sequence chemistry, chirality and molecular weight. This level of control of protein polymer chain features provides an important starting point toward the design of new polymeric systems for a range of needs in the biomaterials field. Toward this goal, we utilize features from silks, collagens, elastins and resilins to bioengineer new protein polymers, with the goal to understand structure-function relationships and to tailor features to specific biological goals. The approaches utilized toward this goal, as well as some specific examples of these protein systems, will be discussed in the context of protein-based biopolymers.

*3:00 pm*

*Friday, March 9, 2012*

*Robinson 253*

*Medford Campus*

*Refreshments served at 2:30 in The Knipp Library, Room 251*