



Distinguished Seminar

Using Hydrogels for Tissue Engineering



Dr. Timothy Lannin Northeastern University

Tissue engineering is a promising field in which engineers can bring together ideas from chemistry, biology, and mechanics to design replacement tissues and organs, enabling clinicians to treat injuries and disease. Hydrogels are polymers that absorb large amounts of water, often creating a favorable 3D

environment in which cells grow. By carefully controlling the chemistry of hydrogels, engineers can transition the gels from a liquid-like state to a solid-like one while maintaining living cells throughout the transition. Engineers can then use manufacturing techniques such as injection molding or 3D printing to create tissue engineered constructs with complex geometries.

Dr. Lannin completed his PhD at Cornell's Sibley School of Mechanical and Aerospace Engineering under the advisement of Dr. Brian Kirby with the support of an NSF Graduate Research Fellowship. His research included work on automating image analysis of cancer cells, measuring the electrical properties of cancer cells to use electric fields to separate them from blood cells, and measuring the electrical properties of algae cells to optimize their output for biofuels. He taught for a year as a visitor at Lafayette College Mechanical Engineering, and now he has been an Assistant Teaching Professor in Bioengineering at Northeastern since Fall 2017.

**Wednesday
February 20,
2019
333 Curry
Student Center
11:00 am**

Hosted by the
department
BioEngineering

**Events are open
to the public**