



The New Hampshire Board of Licensure of Professional Engineers and the New Hampshire Society of Professional Engineers are Pleased to Welcome and Honor New Hampshire's Newly Licensed Professional Engineers to our Annual

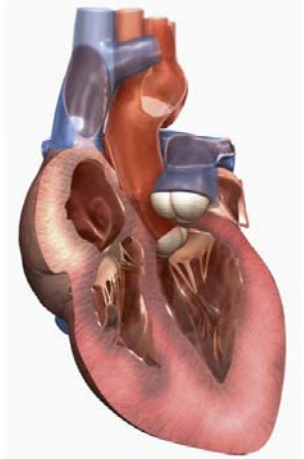
NEW PE DINNER

Monday, May 22, 2017

Structural Modeling of Textile-Reinforced, Tissue-Engineered Heart Valves *(1 PDH will be granted for this event)*

**Presented by Assistant Professor Scott Stapleton, PhD
University of Massachusetts, Lowell**

Heart valve defects or diseases can be very serious, often requiring valve replacement. Traditional synthetic heart valves can calcify or wear over time and the surgeries required can carry high risk and be very invasive. To address these drawbacks, researchers are developing tissue-engineered heart valves which can be inserted orthoscopically. These tissue-engineered heart valves have the potential to make compatible and effective replacements, but they are currently not strong enough to survive the high pressures found on the aortic side of the heart. To strengthen the valves, the tissue is grown around a textile reinforcement: too little reinforcement and the valve tears, too much and it does not function correctly. This presentation will summarize efforts to computationally model the hierarchical heart valve structure, with the intent of designing and optimizing textile reinforcement to strengthen the valve while maintaining its proper function.



Professor Scott Stapleton, PhD

Scott Stapleton is an Assistant Professor of Mechanical Engineering at the University of Massachusetts Lowell. He earned a BS and MS at the University of Utah, researching energy absorption of composite sandwich panels during car crash impacts. He earned an MS and PhD in Aerospace at the University of Michigan, funded by NASA to create an FE tool to predict the behavior of adhesive joints. He then worked at RWTH Aachen University in Germany: 2 years at the Institute of Textile Technology as the head of the Simulation of Composites research group and 1 year at the Institute of Applied Mechanics focusing on modeling textile-reinforced heart valves.

Monday– May 22, 2017
Fratello’s Restaurant
155 Dow Street, Manchester, NH

Program Schedule:

5:30-6:30 Registration/Social Hour
6:30-7:15 Dinner
7:15-7:30 Recognition of New Professional Engineers
7:30-8:30 Program

Meal Selections:

- Baked Stuffed Haddock** - *En casserole with seafood stuffing, topped with mornay sauce*
- Chicken Fratello** - *Boneless breast stuffed with sundried tomatoes and goat cheese, creamy roasted red pepper sauce (Gluten Free)*
- Other Special Dietary Needs**

Cost:

NHSPE Members \$40 pp
Non-Members \$50 pp
Full-Time Student \$30 pp

Individual Sponsorship:

New PE Sponsor \$25 (Please consider buying dinner for a New PE)

Newly licensed NH PEs and their guests must register through Donna Lobdell, NH Joint Board at (603) 271-2219

On-line Registration and Directions: <http://www.nhspe.org/events/>

Make Checks Payable To: “NHSPE” Reference May Meeting in the memo section if paying at the door.

Contact For Questions: info@nhspe.org

Registration Deadline: Friday, May 19, 2017. Cancellations after that date will not be refunded.

PDH’s: There is one (1) PDH for attendance at this event.

Directions:

Route 293/Exit 5 (Granite St.) – East on Granite Street, North on Commercial Street and east on Dow Street