



# MECHANICAL ENGINEERING NEWS

April 5, 2005

A newsletter for the UML Mechanical Engineering community (also available online at <http://mechanical.uml.edu>)

Any items you would like to see included in the newsletter or any suggestions/comments?

Please email them to: [Julie\\_Chen@uml.edu](mailto:Julie_Chen@uml.edu) or leave them with Jackie Paradise in the Mech Eng office.

## Mechanical Engineering Seminar Series - Speakers for Spring 2005

**Feb 16** Larissa Gorbatiikh, UMASS Lowell  
**Feb 23** Pete Avitabile, Successful Resumes  
**Mar 2** open  
**Mar 9** Hongwei Sun, UMASS Lowell  
**Mar 11** Paul E. Sojka, Purdue  
**Mar 23** Steve Semuskie, Tyco Electronics  
**Mar 30** Bob Parkin, UMASS Lowell  
**Apr 6** **Wayne Stanley, BE-ST**  
**Apr 13** Todd Gross, UNH  
**Apr 20** open  
**Apr 27** Steven Niemi, Parker Hannifin

## Upcoming Dates to Remember

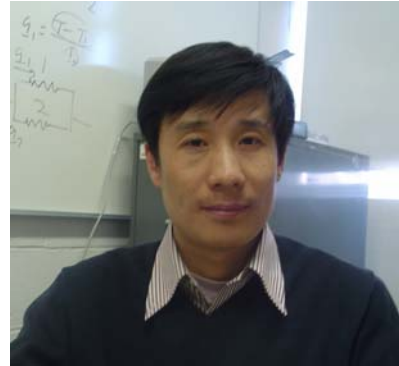
**Apr 11-22** Student Advising  
**Apr 16** Fundamentals of Engineering Exam  
**May 6** Senior/Grad Student Dinner

## DID YOU KNOW:

That you can find information on technical topics from journal papers accessible from the UML Library website:  
**[libweb.uml.edu](http://libweb.uml.edu)**

Compendex (Engineering Index) is a good database for searching for engineering-related articles.

## So Who is that New Faculty Member -



Hongwei Sun

Thermal-Fluids  
Assistant  
Professor

Dr. Hongwei Sun is the newest faculty member of the Department of Mechanical Engineering. Prior to joining UML, he worked as a research scientist at MIT for four years concentrating on the development of a novel type of MicroElectroMechanical Systems (MEMS), power MEMS, including a quarter-sized micro-gas-turbine-engine and rocket engine. Dr. Sun received his Ph.D. from the Chinese Academy of Sciences in 1998 and then became a postdoctoral associate at University of Rhode Island with a research focus on microfluidics. Dr. Sun's recent research interests include microscale thermal engineering and design, MEMS, NanoElectroMechanical Systems (NEMS), and Microfluidics (BioMEMS). His current teaching responsibilities are heat transfer related courses.



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## SPOTLIGHT ON: Alumni Companies



Boston Endo-Surgical Technologies  
(Hampton, NH)  
[www.be-st.com](http://www.be-st.com)

Boston Endo-Surgical Technologies develops and manufactures reusable and disposable medical devices for use in arthroscopic, spinal, sports medicine, and general orthopaedic surgery. BE-ST provides product development, engineering, prototyping, testing, and clinical evaluation necessary for the effective commercialization of surgical product concepts. BE-ST provides the bridge between a good product idea and the commercial success of the developed product. BE-ST collaborates closely with pioneering surgeons who have inventive ideas for unique medical products and procedures which will advance the state-of-the-art and science in MIS, and ultimately improve patient health care.

*(Note: Wayne Stanley (UML ME, 1982) of BE-ST will be this week's seminar speaker)*

**FYI:** Prof Paul Sojka from Purdue University in Indiana left some information on their graduate program in Mechanical Engineering. The information is available in the ME office for any interested students.

## SPOTLIGHT ON: Senior Capstone Projects (“real-life” examples of ongoing projects)

### **Design of a Generic, Low-Cost Prosthetic Leg (Chris Graham, Chris DiNitto)**

The purpose of this capstone design project is to design, analyze, and test a generic prosthetic leg, using knowledge gained in ME courses on stress analysis, materials, and design. The challenges include designing the leg to withstand normal walking forces and a small vertical fall while optimizing weight of the prosthesis, minimizing the number of parts, and utilizing locally available materials and resources. In addition to this, we are working in conjunction with a professional prosthetics company in Braintree to assemble a prosthesis for a young man in Peru using parts that were donated to the University.



Finite Element Analysis of Prosthetic Part



DEPARTMENT OF  
MECHANICAL  
ENGINEERING

University of Massachusetts at Lowell