



MECHANICAL ENGINEERING NEWS

February 8, 2006

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

Contact john_mckelliget@uml.edu with any items you would like to see included in the newsletter

Calendar

Feb 14	♥
Feb 16	Study abroad information session
Feb 20	University closed
Feb 21	Monday schedule
Feb 20-25	Engineer's week
Feb 22	Order of the Engineer Induction
Feb 28	Dine & Dress for Success
Mar 1	Deadline to sign up for FE exam
Apr 16	FE Exam

Announcements

- Students intending to graduate in June 2006 must have their advisor fill out and submit a DIG form immediately.
- There will be a study abroad information session, Thursday February 16, 2006, 11:00 am to 12:30 pm, McGauvran Student Center, Room 334.
- The date of the Order of the Engineer ceremony has been changed. See calendar above.
- Interested in joining the UML student section of the Society for the Advancement of Material and Process Engineering (SAMPE)? contact michael_alabran@student.uml.edu and visit www.sampe.org
- Interested in being a student tour guide for the admissions department? Contact Christine_Bryan@uml.edu. The position would pay \$10 an hour. The time commitment would be approximately an hour and a half a week.
- Dine & Dress for Success. Career Services event. Tue. February 28, 5.30 p.m. Sign up by contacting career_services@uml.edu (978) 934-2355
- Engineer's Week is Feb 20-25. The Dean is looking for suggestions for interesting events. Last year ASME organized a volleyball tournament!



Linda Barrington (right) in Huamba clinic, Ancash, Peru

Just Can't Stay Away, Eh?

As the new SLICE program coordinator I hear that a lot. Yes, I am a proud UML ME '04 grad and I'm delighted to be back! Truth is, I never thought I would want to work in a university. College was a chance to get away from the suburbs and to get the piece of paper that would afford me a good job assuring financial independence. So how did I get here?

Growing up in the '60s and '70s as a well-socialized girl who liked science and math, no one suggested engineering. I started out as pre-med, quickly became overwhelmed by the competitive atmosphere, and nearly flunked freshman chemistry. Sophomore year I rebelled by taking anatomy and physiology, considered too lowly to count as pre-med, and stumbled into a class of nursing students, finding a niche. Ironically, I actually completed the pre-med major, Natural Science & Mathematics, graduating with my class, adding a Psychology major and going to Nursing School. A year later, I finished nurses training, passed the RN exam, and at last - own apt., new job, new city - out of school!

However, a year and a half of hospital nursing, with no power to effect change, drove me to BU's MBA with a health care specialty, and 16 years as a human service administrator. I have run nursing homes, coordinated a 9-county AIDS program in upstate New York, and managed an inner-city battered women's shelter. I never thought much of my inclination to fix things myself in the buildings I was in charge of, nor improvising in-home



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solutions for people too poor to afford expensive equipment. I just enjoyed the challenge.

Then it happened. On a college tour with my son, we passed a display showing projects the different branches of engineering students had done. That's what mechanical engineers get to do? I was hooked! Two years later, we moved to the Lowell area where I could indulge the left side of my brain at UML without burdening the family budget. I thought I'd take a course or two. John McKelliget assured me I could do the work and Jackie Paradise helped me figure out parking and solved my disappearing transcript dilemmas. Gene Mellican let me into his over-enrolled Engineering Ethics course and Carol Barry encouraged my involvement with SWE. Before you know it I was in for the whole degree!

Soon I discovered the UML Village Empowerment Peru project while sitting in the EB321 computer lab, searching how to combine engineering with international service. The office of Professor John Duffy who runs the project is right across the hall, yet it took me months to summon up the courage to introduce myself. In January of 2002 I leaped at a chance to go to Peru, helped out with general tasks and did medical needs assessment. That spring, I consulted with seniors who were designing and building items to help solve some of the medical needs. Afterwards, I did a Directed Study to research a device I could redesign for Peru and made connections between the UML Village Empowerment Peru project and the School of Health and Environment, giving presentations to Community Health Education and Nursing students. For Senior Capstone we designed an oxygen conservation mask to help address the many respiratory crises prevalent on that dusty side of the Andes.

Throughout my years as a student, projects involving applications of the concepts we were learning always helped me to understand the ideas better, and to discover where the real world is messier than the theory. My job as SLICE Coordinator now puts me in charge of finding Community groups, local and international, to match with the engineering concepts professors want to model. The best part is that the projects now go to help people instead of just being thrown away as an exercise. If you want to know more about SLICE, stop by EB 318 and say "Hi!"

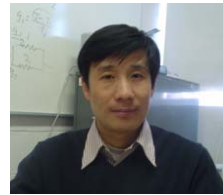
- Linda Barrington

New Research

Prof. Hongwei Sun of the ME department was recently awarded a \$100,000 grant from Northeastern University to study "*Droplet-based Processing of Quasicrystalline*

Magnesium Alloys for the Production of High Performance Particulate, Bulk and Coating Materials".

Prof. Sun is collaborating with Prof. Charalabos Doumanidis of the ME department at Northeastern.



The primary scope of this project is to investigate the process-structure-property relationship during solidification and consolidation of powders in the Uniform Droplet Spray (UDS) process. UML will utilize a combination of experimental and numerical techniques to simulate the cooling process of in-flight droplet in UDS to achieve active control of the droplet's thermal state.

Prof. Shina Speaks



Prof. Sammy Shina was the keynote speaker for the Pan-Pacific Conference sponsored by the Surface Mount Technology Association (SMTA) in Kona Hawaii on January 15-17, 2006. The title of his paper was "*Summary of Visual and Reliability Testing Results of Surface Mounted Lead Free Soldering Materials and Processes*"



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