



MECHANICAL ENGINEERING NEWS

October 1, 2003

A newsletter for the UML Mechanical Engineering community (also available online at <http://m-5.eng.uml.edu>)

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

Please email them to: peter_avitabile@uml.edu or leave them with Jackie Paradise in the Mech Eng office.

Mechanical Engineering Seminar Series - Speakers for Fall 2003

Oct 8 John Duffy, UMASS Lowell
Oct 15 Tim Kostar, UMASS Lowell
Oct 22 David Desault, Aerodyne
Oct 29 Ken Woodard, Kollsman Industries
Nov 5 Joe Whitney, Sycamore Net
Nov 12 Jason Allaire, Lawrence Pump
Nov 19 Ray Champagne, Venture Technologies
Dec 3 (open)

ME Seminar Series

Come have some pizza and soda at the first seminar of the semester on Oct 8th. John Duffy will describe some of the ongoing research activities in the Solar Energy Program. Come listen – 11:30 – KI – 303.

Lowell SUN story on Peruvian Trip - Duffy's Team makes a difference

<http://www.lowellsun.com/>

UMASS Lowell engineering majors hook up Peru village with clean, potable water

REBECCA PIRO, Sun Staff
Thursday, September 04, 2003 - LOWELL
Uncomfortable. Unpleasant. Dirty.

They are words that many might use to describe a two-and-a-half-week experience that involves living in mud houses, sleeping on the floor and showering infrequently all while working incredibly hard.

Then there's Stacy Bletsis, who calls it the best thing she has ever done. "Before, these people had to go down to the river and grab the water themselves," said Bletsis, a recent University of Massachusetts

Lowell graduate, referring to residents of a small, poor community called Huayash, outside Lima, Peru. "Now, we have water running to the school, and it's filtered, too."

Bletsis, 24, a mechanical engineering major, is part of a crew of UMass Lowell students, graduates and faculty that spent two and a half weeks in 12 such communities. It is a trip that professor John Duffy has led 11 times. Every trip, the experience is different, but the mission is the same.

Duffy takes mechanical engineering students, graduates and working professionals into the jungles and deserts of Peru, into the communities of the poorest individuals, to improve their quality of life. Students raise funds to pay their way, supplemented by the university. Once there, they use technology to convert solar energy and moving water into electricity in communities with little running water and no domestic source of electricity.

During the last school year, Bletsis helped design a water-purification system that the group constructed on their last trip from July 14 through July 31. Installing it was a lesson in engineering and the real world.

"Here, if you forget something, you just go to Home Depot and get what you need," she said. "There, you have to plan everything out. Either you have it or you don't. You improvise or you just leave it for the next trip."

Duffy, the coordinator of a graduate program in solar engineering, started leading trips six years ago. He agreed to make the initial trek after a group of UMass Lowell students traveled with a local chaplain to Peru, looking to expand the university's international service work. The native people asked them for lights, running water and means for communication. The student group returned to the university and approached the Engineering Department for a solution.



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Duffy agreed to lead an expedition, taking students and many donated materials. Six years later, different groups have successfully installed water pipelines, purification systems, laptop computers and solar-to-electricity systems.

"Every time we go, we come back with more requests," Duffy said. "There's no end to the need. It's impressive to see that the students can make such a difference supply them with clean water, help them survive."

This past trip was the second that Duffy brought along nursing students. Renee Michaud, a senior majoring in nursing, took surveys in the Peruvian health clinics, gauged their needs and ways to improve health and nutrition. She brought with her a duffel bag filled with donated medicines. She never expected some would refuse them.

"They didn't want it or believe in it, because they had their own folk remedies," she said, adding that educated doctors would accept the medicines, but it was doubtful whether even the native doctors could convince their patients to use them.

"It's (one thing) to learn that you have to be culturally sensitive to people's beliefs, but it's different to go somewhere and actually experience it," she said.

The days spent installing equipment and devices are a learning experience on both sides. Janice Kurkoski, an electric-vehicle technician who just returned from her fourth trip with Duffy, is still touched by the wide eyes the group attracts.

"The windows and doors of the room we're working in are filled with the faces of children and men and women, just watching," she said. "We try to include them in our rough Spanish of what it is we're doing and what they need to keep an eye on. When they get on the radio and talk to other villages, their faces light up, and it's so neat."

"We can learn from these people," said Stephen Kurkoski, an electrician who just wrapped up his second trip to Peru and married partner Janice this

weekend. "We bring the technology there, but they bring the can-do way of getting things done. They live with it every day, so they have to make it work."

Duffy, who conducts Peru trips twice a year, plans to return in January, picking up where the last group left off. But for those students who will have graduated and gone on to other things, the memory of the experience will stay with them.

"I learned more in my two and a half weeks than I did in all my four years (at UMass Lowell), as far as helping people," Bletsis said.



DEPARTMENT OF
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University of Massachusetts at Lowell