There are important new people to introduce in the UW-Platteville Department of Mechanical and Industrial Engineering, and in the College of Engineering, Mathematics and Science. Two new mechanical engineering faculty members brought the department faculty to 21, including 17 in mechanical and four in industrial engineering.

Dr. Jessica Meulbroek grew up in Suamico, Wis., and then received her B.S. in mechanical engineering from UW-Platteville in 2003. After graduation, Meulbroek moved to Baltimore, Md., to work at the U.S. Army Research Laboratory. Meulbroek went on to complete her M.S. and Ph.D. in mechanical engineering at Johns Hopkins University, specializing in dynamic failure and fragmentation of metals. She currently teaches Engineering Materials, Failure of Materials, and Introduction to Computational Methods in Mechanical Engineering.

Dr. John Obielodan obtained a Ph.D. from Utah State University in 2010. He joined the UW-Platteville mechanical engineering faculty after working as a visiting assistant professor of mechanical engineering at Ohio Northern University. Prior to all of these, Obielodan worked at the Center for Automotive Design and Development in Nigeria for some years. His research interests are in the area of additive manufacturing, multi-material structures development and tool engineering.

Dr. William Hudson came to UW-Platteville in July of 2011 as the new dean of the College of Engineering, Mathematics and Science. Hudson earned a Ph.D. in electrical engineering with a minor in industrial engineering from New Mexico State University, and came to UW-Platteville from Mankato State University where he was chair of electrical engineering. He previously served on the faculty at Kansas State University and has industry experience with Sprint as well as other companies. Hudson has actively engaged the challenges at the university necessitated by growth and changes in state support.

This newsletter highlights international involvement of department faculty including sabbaticals around the world and international presentations.

We appreciate the opportunities that we have to connect with our alumni and encourage you to find an opportunity to stay in touch.

Cordially,

David N. Kunz, Ph.D.
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This year, Alpha Pi Mu has continued its success as an active industrial engineering honor society. At the beginning of the spring semester, five new initiates were inducted into the society. One of the biggest accomplishments APM had this semester was the organizing of a mentoring program. The program matched up the scholars of APM with students that were new or interested in the IE program. This year four incoming industrial engineering students were matched up with a mentor from APM. This program has been a great success because it equips new students with the knowledge they need to be successful and allows mentors to give back to the industrial engineering program.

Apart from this, APM has been involved in a number of other activities as well. Alpha Pi Mu members were involved in the Relay For Life event in Williams Fieldhouse to help raise funds for cancer research. APM had fun activities as well. A canoeing and kayaking trip and ropes course adventure were planned for APM members to participate in with friends and colleagues. Overall, APM has grown and become more active in providing opportunities for members to have fun and give back to the college and community.

He provided community service and supported industries by supervising three senior design projects in fall 2011. The projects were sponsored by Frito-Lay, Beloit, Wis.; Sauer-Danfoss, Freeport, Ill.; and Bodine Electric Co, Peosta, Iowa. He received PACCE grants to support student travel, printing, data collection equipment and other expenses for the above projects in 2011. He needs support from alumni for sponsored senior design projects each fall from 2013 through 2021. Please call him at 608.342.1718 or send him an e-mail at balachas@uwplatt.edu.

Balachandran continues service on the Wisconsin Optometrist Examination Board. He serves on both the Statutes Committee and the Screening Panel of this Board.

Dr. Swaminat Balachandran gave his three presentations at conferences in India in June and July. At the 2012 Global Information Technology Management Association 12th Annual World Conference, June 17, 18 and 19 in Bangalore, India, he presented a paper on e-learning. He served on the technical and peer review committee for the Annual International Conference on Emerging Research Areas and its international conference on Engineering Education: Innovative Practices and Future Trends. At the AICERA conference, June 18-21, he presented papers on enhancing employability skills and lifelong learning of Indian engineering graduates.

Balachandran is serving as executive vice president of the Executive Council of Alpha Pi Mu at the national level and he was expected to be elected as president by the end of May. He assumed that position at the end of the APM Executive Council Meeting in Orlando, Fla., in May.


Balachandran has established endowed scholarships at the Platteville High School and at UW-Platteville. These endowments continue to fund one $100 scholarship at PHS and four $100 scholarships at UW-Platteville.

Balachandran continues to serve as consultant and expert witness in product liability, industrial hygiene, safety and other cases. He has worked on about 25 cases in the past 15 years. He continues the work on one case in 2012.

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Dr.  Balachandran  Presents  in  India

Honors, Awards and Appointments

Named Coordinator for the Master of Science in Engineering Program
Dr. Jill Clough

Elected President of Industrial Engineering honor society, Alpha Pi Mu
Dr. Swaminat Balachandran

Co-Senior Speakers for the May 2012 Commencement Ceremony
Mechanical engineer majors: Zachary G. Hebl and Alan M. Shermo

New faculty in Mechanical Engineering
Dr. John Obiulodan
Dr. Jessica P. Meulbroek

Awarded NSF Continuing CMN-PEEC Grant
Dr. David Kunz
MECHANICAL ENGINEERING SABBATICAL

Associate Professor David Kraemer spent the spring 2011 semester (January-June) at the Indian Institute of Technology – Kharagpur. The oldest of India’s world-class technical universities, IIT-KGP is on the east side of the country; the closest big city is Kolkata (Calcutta). His main activities included teaching a short course as well as working with students in India and Wisconsin to collaborate on a research project.

He taught a short course to undergraduate and graduate students and faculty members on Renewable Energy: Ocean Wave-Energy Conversion. He worked with two UW-Platteville students in the renewable energy minor program and one IIT-KGP student to collaborate on a project to develop a wave-tank test for an American ocean wave energy conversion device.

Kraemer’s wife and two sons (7 and 3 years old) joined him for the sabbatical stay. His older son enrolled in a local school and learned a bit of the Hindi language. In between research and school, they had the opportunity to travel all over India, mostly using their excellent rail system. Traveling to India with a 3 year old was, frankly, quite challenging, but the experience was incredibly rewarding.

KURT ROLLE

Dr. Kurt Rolle has been writing engineering textbooks since the middle 1960s. He recently signed a contract to revise his textbook, “Heat and Mass Transfer” for a second edition. The book is intended for a one semester undergraduate engineering heat transfer course, as is required in the University of Wisconsin-Platteville mechanical engineering curriculum. The book will be published by Cengage Publications. It is anticipated that it will be available in December 2013.

Before taking a position in mechanical engineering at UW-Platteville, Rolle and his family spent two years in northwestern Alberta, Canada, attempting to establish a sustainable life style. He has written a short memoir describing this adventure. “To the Peace and Back” is currently on the market. It is published by Global Authors Publications.

SOCIETY OF AUTOMOTIVE ENGINEERS

The University of Wisconsin-Platteville Society of Automotive Engineers chapter is continuing to grow and develop through the exciting direction that the group is taking. SAE is a professional automotive engineering organization that emphasizes the application of classwork to prepare students for future careers. UW-Platteville SAE consists of the Mini Baja, Formula, Clean Snowmobile and Aero teams, all of which are becoming more innovative and competitive. The Mini Baja team completed a new car that competed in the beginning of June in the SAE International event in Burlington, Wis. They are also utilizing last season’s car as a development vehicle to test suspension designs for future competition cars. The Formula team modified last season’s chassis to accommodate a different engine in preparation for the SAE international competition at the end of June in Lincoln, Neb. The Clean Snowmobile team recently competed in Houghton, Mich., where they placed third overall.
Dr. Lynn Schlager returned this April from a three-month sojourn in Nicaragua where he spent his sabbatical working on various aspects of solar and renewable energy with Grupo Fenix. Schlager’s primary project was to design and build a prototype lightweight, collapsible solar cooker. In addition to this project, he had many other opportunities: worked on the installation of a residential photo-voltaic system, worked on piping design for water storage/delivery systems, consulted on various technical issues, got a bit of exposure to bio digesters and methane production, helped with a solar water distillation apparatus, made charcoal from corn stalks, helped with the construction of a natural building (made 99 percent with local, sustainable materials) and helped a bit with a re-forestation effort. In addition, Schlager worked on projects with student groups from other universities such as Cornell and MIT and even was able to teach a heat transfer short course (a semester compressed into one hour) to a group of liberal arts students. For information about the group with which Schlager worked in Nicaragua, go to www.grupofenix.org and if you’d like to look at some blog posts from his stay, go to http://lynn-sabbatical.blogspot.com/2012/.

**Picture 1.** This is the finished cooker in the collapsed position. It’s about 20” x 20” x 6” and weighs about 5 lbs. It has only two parts that are not permanently attached to each other.

**Picture 2.** The cooker in the assembled position. The reflector is a silvered Mylar and the glazing is clear Mylar. The aluminum skin is surplus printing laminate and the frame is local pine. The door (front) and back are hinged to fold completely under the base and the two sides fold inward. The reflector and glazing are a separate piece and are attached with hooks/eyes.

**Picture 3.** An array of solar panels used at the Solar Center where Schlager did most of his work. Although high-voltage lines passed directly overhead, the center was off the grid and relied only on these panels plus batteries for storage.

**Picture 4.** A view of the landscape where Schlager was in the north of Nicaragua. This is about 15 km south of the city of Ocotal, which is only about 20 km from the Honduran border. It is about 200 km north of Managua along the Pan American Highway.

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**MOMOT TO TEACH IN SCOTLAND**

Since 1985, the University of Wisconsin System has leased a small palace in Dalkeith, Scotland. Oddly enough, this structure is called Dalkeith Palace. Every semester, 60 to 80 students from the various UW schools converge on Dalkeith to take part in an international experience. The students take semester-long courses emphasizing Scottish heritage and culture from a mix of Wisconsin and Scottish professors. These courses typically count towards their general education credits. An added benefit, though, is that they get to experience the history and heritage about which they are learning. Stories about Graeme Obree (a.k.a. the “the Flying Scotsman”), Eric Liddel (depicted in “Chariots of Fire”), and Rob Roy (a.k.a. the Highland Rogue) come to life in the hills and vales of the area. Castles, churches and palaces dot the surroundings, and each has a history of its own. With Edinburgh just 20 minutes away and Glasgow only an hour away, culture in the form of bookshops, pubs and parks can also be found.

In the spring semester of 2014, the curriculum at Dalkeith Palace will experience something new when the first engineering courses will be taught. Dr. Mike Momot, a professor in the mechanical and industrial engineering department, will be teaching courses in Statics, Thermodynamics, and A History of Engineering and Technology. At first thought, the engineering courses may seem quite a departure from teaching about Scottish heritage, but Momot plans to incorporate some of the marvels of Scottish engineering into his lectures. The Falkirk Wheel, a rotating boat lift, is only 20 minutes away. The Forth Bridge is an excellent example of trusses and has withstood the test of time, having been built in 1890 for rail traffic. Scotland also has a history of famed inventors, such as Kirkpatrick MacMillan (the bicycle), the Rev. Robert Stirling (the Stirling engine) and James Watt (the steam engine). A wealth of innovation and technology has developed in this small region, and it is hoped that this experience will be an inspiration to future engineers.