



## College of Engineering

### Awards and Honors



**Dr. Hank Dietz**, electrical engineering, was honored with the Computerworld Honors Medallion as a "2001 Computerworld Honors Laureate" for the achievements of his research group in furthering science through the new technologies they developed and demonstrated in with their "KLAT2 Supercomputer." The award was presented on April 8, 2001 in San Francisco, California.

**Monica Mehanna**, engineering communications, was initiated into Omicron Delta Kappa (ODK), National Leadership Honor Society at a ceremony held April 4, 2001. ODK is the premiere leadership honor society in the world. She was nominated by Dr. Issam Harik.

**Sue Scheff**, WIE, has received the WEPAN Founder's Award, honoring a WEPAN member who exemplifies the spirit of the WEPAN founders through her/his

extraordinary service to the organization. She was nominated by Dr. Bruce Walcott. The award was presented at the 2001 WEPAN/NAMEPA National Conference, Alexandria, Virginia, April 21-24, 2001.



**Sharlene Wang, COE in Paducah, is the recipient of a Chancellor's Award for Outstanding Staff in the Professional/Administrative category for 2001. Sharlene is the engineering laboratory manager responsible for the installation and setup if new laboratory equipment, equipment preparation for lab exercises, oversight of student workers, and management of computer and shop facilities. Sharlene previously received a College of Engineering Outstanding Staff Award in December 2000.**

**Sharlene continues the College of Engineering's tradition of employees who have received the Chancellor's Award for Outstanding Staff. Current and former employees who have received this honor include:**

1991 Cindy Iten  
1992 Ed Thompson  
1993 Monica Mehanna  
1994 Bill DeVore  
1995 Dorothy Rapp (Honorable Mention)  
1998 Jane Spanyer  
1999 Bonita Lykins  
2000 Paul Linton  
2001 Sharlene Wang

**Dr. Greg Wasilkowski**, computer science, received the "Information-Based Complexity Award for 2001" from researchers in the field associated with the *Journal of Complexity* for his research contributions to complexity theory.

## **Presentations**

**Dr. Alan T. Male**, CRMS, presented the paper, "Influence of Material Physical Properties in Plasma-Jet Forming of Sheet Metals" At SheMet 2001 in Leuven, Belgium, April 2- 4, 2001. Dr. Male also attended the Research and Development in Net Shape Manufacturing Conference, Birmingham, England, April 9-11 and presented two papers, "Rapid Prototyping of Sheet Metal Components by Plasma-Jet Forming" and "Weld Deposition Based Rapid Prototyping: A Preliminary Study."



**Dr. Keith W. Whites**, electrical engineering, presented the paper, "Electromagnetic Force and Torque Calculations for Fibrous Ultra-Lightweight Sails," (with T. R. Knowles) at the *AIAA Gossamer Spacecraft Forum*, AIAA Paper No. 2001-1615, Seattle, WA, Apr. 16-19, 2001.

## **Research Funding**

**Dr. Greg Wasilkowski**, computer science, has received funding for his proposal "Information-Based Complexity of Multivariate Problems" from the National Science Foundation. The project is funded for three years for more than \$250,000.

**Dr. Jun Zhang**, computer science, has received an NSF CAREER award for his proposal "Develop Robust Scalable Linear System Solvers with Scientific, Engineering and Industrial Applications." The project is funded by the Directorate for Computer & Information Science & Engineering Division of Computer-

Communications Research in the amount: \$325,000. It will run from 2/15/2001 - 2/14/2006.

## **Professional Activities**



**Dr. Issam Harik, civil engineering, has again been selected as the faculty advisor for Omicron Delta Kappa (OKD), National Leadership Honor Society for 2001-2002. Dr. Harik has been a member of the organization since 1993 and has served as the group's faculty advisor since 1996. Dean Tom Lester, Dr. Donn Hancher, Dr. Alan Male and Dr. Bruce Walcott are also members. Incoming UK President Dr. Lee Todd is a past faculty advisor to ODK.**

**Laura Whayne, Kentucky Transportation Center, has been invited to serve on the Transportation Research Board (TRB) Information Services Committee. The Information Services Committee was established as part of TRB's overall effort to enhance their ability to provide timely, high-quality information services to the**

transportation research community. Laura's term of the appointment is February 1, 2001 to January 31, 2004.

## **Outreach**



**Dr. Eric Grulke, chemical engineering, and Dr. Janet Lumpp, electrical engineering, led local high school students through hands-on experiments during a live radio broadcast March 27th on WUKY-FM. The students, from the Pre-engineering program at Lafayette High School, explored some of the curious features of carbon nanotubes. The broadcast is part of an on-going outreach effort by the NSF MRSEC Advanced Carbon Materials Center at UK to create learning partnerships with local and regional schools.**



**Dr. Janet Lumpp and Dr. Zhi Chen, electrical engineering, and other UK faculty, staff, and students affiliated with MRSEC (including Dr. Mark Meier, chemistry, Stacey Wilson, MRSEC, and Rodney Andrews, CAER), recently participated in the Deep Springs Elementary School Earth Festival. The Festival included a day of exciting activities and presentations in the areas life sciences, nutrition, nature, and conservation. The MRSEC demonstration focused on static electricity, atoms and molecules - particularly carbon nanotubes and Bucky balls. Students were treated to a hands-on demonstration with magnets where magnetic domains could be felt. In all, seven classes of 3rd, 4th, and 5th graders attended this educational and more importantly, fun event.**

## **Student News and Activities**

### **Coleman Receives NSF Graduate Fellowship**

**Nick Coleman**, biosystems and agricultural engineering, is the recipient of a Graduate Fellowship from the National Science Foundation. Nick is one of only 253 engineering students in the nation so honored.

Working with Dr. Sue Nokes, Nick will investigate the effects of preprocessing (fermentation, downstream processing, and immobilization conditions) on the performance of whole cell biocatalysis in nonaqueous solvents using moderate pressure. A model synthesis (  $\alpha$ -keto esterification catalyzed by *Saccharomyces cerevisiae* ) with proven activity in organic solvents will be examined. Further, he will explore the differences in cellular biocatalytic yields and stereoselectivity in incompressible organic solvents.

The Department of Biosystems and Agricultural Engineering has an unprecedented four current students so honored by NSF with these prestigious graduate fellowships. Other fellows include Mari Chinn, Erin Wilkerson and Grace Danao.

### **Wood Named Goldwater Scholar**

**Kris Wood**, chemical engineering junior, is one of only four students from Kentucky colleges and universities, and one of only 302 students from across the nation selected as a Goldwater Scholar for 2001



from the Barry M. Goldwater Scholarship and Excellence in Education Foundation.

A 1998 graduate of Scott County High School, Kris has been conducting research in the area of functionalized materials with Dr. Dibakar Bhattacharyya for the past year. Stanford, MIT, Princeton, Minnesota, and Delaware all accepted him in to summer research programs at their respective universities. Kris has MIT's offer and will spend his summer there conducting materials research.

The Scholarship Program honoring former Arizona Senator Barry M. Goldwater, was designed to foster and encourage outstanding students to pursue careers in the fields of mathematics, the natural sciences, and engineering. The Goldwater Scholarship is the premier undergraduate award of its type in these fields.

### **AIAA Chartered at Paducah**

A student chapter of the American Institute of Aeronautics and Astronautics (AIAA) has been organized at the College of Engineering at Paducah. The organization was officially chartered at the AIAA Region 3 Student Conference in Madison, Wisconsin, April 20-21, 2001. The charter was presented to Michael McWaters, chapter president, and Dr. Vince Capece, chapter advisor, by Christopher Pestak, AIAA Region 3 Director.

In addition, Jamie Belt and Michael McWaters, mechanical engineering students, presented their

paper, "Prediction of Low-Velocity Impact Forces in Orbiting Satellites Using On-Board Accelerometer Data", as part of the conference's student paper competition. Other COE at Paducah students who attended included: Alicia Crainshaw, mechanical engineering, Tim Mehta mechanical engineering, and Link Shumaker, chemical engineering. Dr. Vince Capece and Dr. Jack Leifer, assistant professors of mechanical engineering, accompanied the students.

### **ASCE Concrete Canoe Team Paddles to Second Place**

The American Society of Civil Engineers (ASCE) 2001 Concrete Canoe Team just completed a very successful year. The team competed in the ASCE Ohio Valley Regional Competition held at Western Kentucky University on April 14<sup>th</sup>. In just three short years, the team has started from ground zero to placing an impressive 2nd place from among the six teams competing. The team was lead by Holly Chang and Dan Durrett both of whom paddled in thealso paddled the canoe in the races. Jonathan Nieman and Megan Sudduth also paddled for the team. Tracy Smith and Steven Maggard assisted the team and attended the competition. I believe I have given you information about the ASCE Concrete Canoe team before, but if you have any questions just email or call 7-8552.

## **IEEE Gathers in the Hardware at Southeastcon 2001**

Members of the UK IEEE Student Branch proved a formidable force at IEEE Southeastcon 2001 held in Nashville. The group competed in various competitions along with students from colleges and universities from across the Southeast. Among those taking home honors are:

Galen Rasche - 2nd place in the Student Paper Contest  
Chris Riegel's Team - 3rd place in the Hardware Contest  
Jason Cheatham's Team - 3rd place in the Software Competition

## **Miscellaneous**

### **Name Change Approved for Electrical Engineering**

At its April 3, 2001 meeting, the UK Board of Trustees approved a name change for the Department of Electrical Engineering, to the Department of Electrical and Computer Engineering.

According to Dr. Vijay Singh, chair, "the new name is a more accurate description of the ongoing teaching and research activities in our department and will be of help as we position ourselves to meet the future needs of our students, industry and the engineering community at large."

## **Robert E. Shaver Engineering Library Receives New Microfiche/film Reader/Printer**

The College of Engineering has purchased a new Canon MP90 Microfiche/film Reader/Printer for the Engineering Library. This new machine replaces the ancient machines that had rested in Shaver for several years in a gradual state of decline. The MP90 will allow reading and copying of both microfilm and microfiche in both positive and negative formats. There will be no charge for copies. It is hoped this resource will be of great benefit to the faculty, staff and students of the College. The Shaver Engineering Library would like to extend its thanks to the College for its wonderful generosity.

## **Engineering Library Summer Hours**

The Shaver Engineering Library will be open the following hours from Saturday May 5 through Tuesday August 21:

**Monday-Friday: 8am-8pm**

**Saturdays: Closed**

**Sundays: Noon-5pm**

**Exceptions: Closed Sunday, May 27, and Monday, May 28, in observance of Memorial Day. Closed Wednesday, July 4, in observance of Independence Day.**

## **Hamrin's Garden Railroad Part of Home and Garden Tour**

**The Garden Railroad of Dr. Charles Hamrin, chemical engineering, and his wife, Ruth, will be featured in this year's Lexington Council of Federated Garden Clubs Home and Garden Tour, June 2 and 3. The couple created their garden railroad three years ago. It features a G-scale train, handmade bridges, including a replica of High Bridge, a village overlooking the tracks complete with cabins, stores and a train depot, as well as a variety of plants.**