

MIZZOU ENGINEERING NEWS

ENGINEERING FOR THE ADVANCEMENT OF HUMANITY

Missouri Honor Awards

The Missouri Honor Awards for Distinguished Service in Engineering were presented on Friday, March 11, at the Missouri Honor Awards Banquet. The awards are presented for exceptional effort by an individual or organization to foster the professional development of young engineering college graduates; exceptional ability in the planning and direction of significant and important projects in technical engineering; and exceptional contribution by an individual to technical engineering knowledge.

Robert N. Healy, PhD



Robert is a retired research adviser for Exxon Production Research Company, where he managed research and engineering studies on reservoir properties for major Exxon petroleum

reservoirs throughout the world. He earned a bachelor's degree in 1964 and a doctorate in 1968 in chemical engineering from the University of Missouri-Columbia.

Robert is a supporter of the College and a dedicated volunteer. He is a member of the College's Campaign Leadership Team and the Dean's Engineering Advisory Council. A lifetime member of the MU Alumni Association, a Jefferson Club Distinguished Fellow, and a St. Patrick Society Distinguished Fellow, Robert financed the renovation of a chemical engineering laboratory that he requested named in honor of his thesis adviser, College of Engineering Professor Emeritus Truman Storvick.

Ted A. Smith



Ted is board chairman and chief executive officer of both South Barnes Development Company and DeWitt and Associates, Inc., a well-respected construction firm based in Springfield, Missouri. He received a bachelor's degree in civil engineering from the University of Missouri-Columbia in 1959, and a master's degree in business from Drury College in Springfield, Missouri in 1970.

Ted has been a notable leader in the construction industry. He joined DeWitt in 1967 and rose to lead the company, increasing its annual volume from \$15 to \$60 million.

An active supporter of the College, Ted serves on the Engineering Alumni Board of Directors and the Missouri System Alumni Alliance, the Dean's Public Policy Advisory Council, and the Dean's Engineering Advisory Council. He is a past chairman of the Jefferson Club Trustees and a member of the steering committee in the For All We Call Mizzou campaign. He has been selected as a member of the MU Civil Engineering Academy of Distinguished Alumni, and has served as president of the MU Greene County Alumni Board.

Frank George Weis



Frank is a senior engineering consultant for Smith & Loveless Inc., a global water and wastewater pumping and treatment company based in Kansas. He earned a bachelor's degree in mechanical engineering from the University of Missouri-Columbia in 1942.

Frank is an expert and innovator in the wastewater treatment and pumping industry, and the holder of 52 patents. His innovations to the PISTA* Grit Chamber, including the complementary PISTA* Turbo Grit Pump, have made Smith & Loveless the market leader for grit removal systems.

In 1999, Frank received the Henry R. Worthington Medal from the American Society of Mechanical Engineers (ASME) for his considerable achievements in the field of pumping technology.

Rex M. Whitton Jr.



Rex is a retired general manager for Southwestern Bell Telephone Company, where he worked for 25 years in various leadership positions before starting his own property, trust and investment management business. Rex received a bachelor's degree in civil engineering from the University of Missouri-Columbia in 1953.

While Rex's career at Southwestern Bell is a chronicle of engineering and management accomplishments, his long-standing commitment to community service is no less impressive.

Rex is also dedicated in his support of the College of Engineering. He is a member of the St. Patrick Society and the MU Civil Engineering Academy of Distinguished Alumni, and he and his wife are life members of the MU Alumni Association as well as Jefferson Club members. The Whittons also have established a scholarship fund for MU engineering students in memory of Rex's father, Rex M. Whitton Sr., who received the Missouri Honor Award in 1954.

Citation of Merit



James E. Monsees, PhD

Jim is senior vice president, technical director for underground construction, principal professional associate and senior project manager for Parsons Brinckerhoff Inc., a leading transportation engineering firm based in New York. An expert in the design and construction of underground structures and in soil and rock mechanics, Jim has nearly 45 years of experience and has worked on more than 200 underground projects throughout the world—including such high-profile efforts as the Superconducting Super Collider, the Port of Miami Tunnel and the Los Angeles Metro Red Line.

Jim earned his bachelor's and master's degrees in civil engineering at MU, which he received in 1960 and 1961, respectively. He received his doctorate in civil engineering from the University of Illinois in 1970. During the 1960-1961 academic year, Jim served as an instructor of strength of materials courses at MU.

He was elected to the National Academy of Engineering in 1991 to help advise the federal government on engineering and scientific matters. He has served on committees for the Underground Technology Research Council and the National Academy of Sciences' National Committee on Rock Mechanics and Committee to Develop Advanced Drilling Techniques for the 21st Century. Currently he is a member of the review panel for the National Science Foundation project for the U.S. Deep Underground Science and Engineering Laboratory.

Jim is a Fellow of the American Society of Civil Engineers and a founding board member of the American Rock

Mechanics Association. He is also a seminal and board member of the MU Civil Engineering Academy of Distinguished Alumni and a recipient of the 1992 University of Missouri Honor Award for Distinguished Service in Engineering.

Special Recognition

SBC Communications Inc.

In honor of its strong partnership with the University of Missouri-Columbia and the MU College of Engineering, SBC Communications Inc. is presented a Special Recognition Award for service to education and professional skills development.

SBC, a Fortune 50 company with a major presence in Missouri, donated \$1 million last year to the College of Engineering to finance the creation of a new information technology (IT) program in the MU Computer Science Department. The IT program targets engineering students interested in digital media and the business of computer systems administration, maintenance and security—aspects of computer science that had been independently taught by several MU departments. New courses included in the IT curriculum focus on computer modeling, animation, fundamental network technology and film special effects and computer security. SBC's five-year commitment will offset the cost of additional computers and faculty.

SBC's recent contribution to MU's new computer science program exemplifies the company's broad-based support for technological education.

Giving News

Elston Portrait Dedicated

The photographic portrait of engineering alumnus **Marvin Elston** has been formally dedicated in Thomas and Nell Lafferre Hall, joining those of other major contributors to the college's historic fundraising effort.

Marvin, who earned a bachelor's degree in electrical engineering in

1959, has made a significant gift to the college to establish an engineering student scholarship. A veteran of the aerospace and oceanographic industries, Marvin cited his own experience as a GI Bill education beneficiary while discussing his donation during the unveiling of his portrait on April 29.

Three other portraits, featuring the likenesses of college contributors Thomas and Nell Lafferre, M. Denis Overholser, and Randolph and Sandra Rolf, were unveiled in March. Additional dedication ceremonies are slated for later this year in honor of other key contributors to the college's fundraising campaign.

MAPA Matches Gift

A matching gift from the Missouri Asphalt Pavement Association (MAPA) is helping pave the way toward a new research and education focus in the college.

MAPA is contributing \$550,000 toward the establishment of a "flexible pavement" technology chair, teaming up with alumnus **Glen Barton**, BS CE '61, to finance the hiring of the faculty member. Recruitment for the position will take place in 2007.

"The introduction of new courses and related research will result in MU graduate engineers that are much more informed in this area," said Civil and Environmental Engineering Chair Sam Kiger.

That is MAPA's goal, said David Yates, the asphalt organization's executive director. David said association officials believe the best and quickest way to ensure engineers have the knowledge and capabilities required to design projects using asphalt is to help provide training in college.

3M Supports MITE

The 3M Company Columbia plant has donated \$25,000 to support the college's Minority Introduction to Engineering (MITE) program. The program, a free week-long institute that introduces minority high school students to engineering, is in its second year. It is directed by Alisa Warren and was held July 10 through 16.

3M's support reflects its commitment to math and science education, said Patrick J. Somers, the Columbia plant's human resources manager. "We are pleased to support MITE's continued efforts to encourage more students to pursue engineering careers," said Somers.

CoE Development

Ellen McLain has been promoted to senior director of development in the college effective immediately. Ellen continues to be instrumental in shaping and developing the college's fundraising efforts during MU's capital campaign. She has worked in MU Development since 1996 and has been in the college since 2001. She serves on the board of the St. Thomas More Newman Center Foundation and is president of the Mid-Missouri Chapter of the Truman State Alumni Association.

Al Eberhard joined the college's development team on July 1. Previously, he was senior director for the MU College of Business. Al is a former MU varsity basketball player and played professional basketball for the Detroit Pistons. He has been with MU's development staff for 13 years. He received his BS in education in 1976 and his MEd in 1989, both from Mizzou. Previously, he worked in private industry in Austin, Texas and has served as executive director of the Governor's Council on Physical Fitness and Health for the state of Missouri from 1988-92.

Tim Hausman joined the college on May 2 as a development officer replacing Dan Fowler. Tim holds a BS in business administration from the University of Texas-Dallas and a JD from MU. He is a PhD candidate in higher education from MU. Tim comes to the college from MU's School of Health Professions where he was responsible for the startup, management, and oversight of the school's development program. He is a former law clerk for Judge Ann K. Covington of the Missouri Supreme Court. Tim is a member of the board of directors of Wonderland Camp at Lake of the Ozarks. He recently served on the Governance and Compliance

Committee as part of the athletic department's NCAA reaccreditation.

Alumni in the News

William Thompson, BS CE '68, and his wife Nancy, donated an \$8.5 million gift to fund the Thompson Family Center for Autism and Neurodevelopmental Disorders at MU.

Milbank Manufacturing Company of Kansas City, Missouri, appointed **Lavon R. Winkler**, BS CE '78, as chief operating officer for the company. He previously had a 22-year career at Butler Manufacturing in Kansas City. (Press Release)

Alumni Notes

The MU Naval ROTC Unit held a commissioning ceremony in May 2005 at which nine officers received commissions including Second Lieutenant **Mark C. Gelina**, U.S. Marine Corps., from Moberly, Missouri. He earned a bachelor of science in industrial engineering. His first assignment is to the Basic School in Quantico, Virginia.

Chris Yates, BS CHE '97, and **Becca Brader**, BS CHE '99, announced the birth of their second child, Owen James Yates, born May 7, 2004.

Steve Powell, BS CE '95, BS EE '95, of Columbia, Missouri, is president and new owner of Delta Systems Group, Inc., in Columbia. He was named one of the "40 Under 40 Leaders of Columbia," by the *Columbia Business Times*.

Mike Luecker, BS CE '94, of Phoenix, Arizona, received a master's degree in civil engineering from Arizona State University. He is the state hydraulic engineer for the U.S. Department of Agriculture, Natural Resources Conservation Service. He is also a segment steward for the Arizona Trail Association on behalf of the AzSCE, Phoenix Branch.

David C. Schanbacher, P.E., BS ChE '78, MS EE '97 University of Texas Austin, was named chief engineer of the Texas Commission of Environmental Quality (TCEQ).

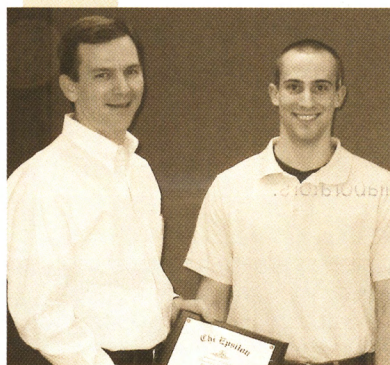
David Day, BS CE '69, retired from the U.S. Army Corps of Engineers after 36 years of service. He was deputy district engineer for project management of the Nashville district.

LeRoy Day donated these editions of *The Missouri Shamrock* for use in the Heritage Room: October 1951; October, November, and December 1954 issues (3); and January 1955. Thank you, LeRoy!

In Memoriam

Connie J. Hiskey, died Sunday, January 30, at age 62, in St. Petersburg, Florida at St. Anthony's Hospital. She served as director of continuing education at the College of Engineering from 1985-1993.

Faculty



Erik Loehr, professor of civil and environmental engineering, received the 2005 Central District Chi Epsilon Award for Teaching Excellence. **Andrew Zak Boeckmann**, CEE senior and president of Chi Epsilon, presents the award at the CEE faculty meeting on April 13.

Excellence in Education Awards

On April 26, the MU Office of Student Affairs hosted the ninth annual Excellence in Education Awards ceremony which honored staff and faculty members who have demonstrated a strong commitment to student learning and personal development.

Cathy Scroggs, Vice Chancellor for Student Affairs, presented the awards to 10 recipients including Civil and

Environmental Engineering Assistant Professor **Carlos Sun** and Director of Engineering Administrative Services **Marty Walker**.

The awards program acknowledges the many contributions professors and staff members make outside the classroom that often go unnoticed.

NSF Award

Satish Nair, professor of mechanical and aerospace engineering, was awarded a \$1.6 million grant from the National Science Foundation which will be distributed over three years. He is the primary investigator on this interdisciplinary project in which eight engineering graduate fellows will work with K-12 schools. The team consists of Becky Litherland (Columbia Public Schools), MU faculty **Meera Chandrasekhar** (physics), **Vijay Chellaboina** (MAE), **Shubhra Gangopadhyay** (ECE), **Sheila Grant** (BE), **John Lannin** (College of Education), **Rose Marra** (College of Education) and **Marge Skubic** (ECE), eight middle schools and three external collaborators.

The grant focuses on the use of engineering design to stimulate and sustain interest in mathematics and science, with particular focus at the middle and elementary levels. It will also support the development of a science, technology, engineering and math (STEM) pipeline into engineering, via development of plans for a future engineering design academy for K-12 in mid-Missouri.

Engineering FIGs Graduate Students

By *Shannon Burke*

A new study has shown a positive connection between participation in MU's Freshman Interest Groups (FIGs) and engineering student graduation and retention rates. A FIG is a small group of no more than 20 first-year students with a similar academic interest who live in the same residence hall and are coenrolled in three courses. The program is designed to acclimate first-year students to university life and

give them the support necessary to succeed at MU. Since the inception of the FIGs program in 1995, 1,000 engineering students have participated in one of the nine engineering FIGs. In 2004, 35 percent of first-year engineering students participated in a FIG. For fall 2005, the program will offer 12 engineering FIGs for about 220 students.

The study found a substantial difference in first-year engineering student retention rates between FIG and non-FIG participants. About 90 percent of FIG students were enrolled as engineering students for their sophomore year, while 78 percent of the non-FIG students were enrolled.

The entering class of 1998 was used to measure the difference in six-year graduation rates between FIG and non-FIG participants. The study showed that 55.8 percent of the 1998 entering engineering class who participated in a FIG graduated with an engineering degree, whereas 41.2 percent of non-FIG participants earned the same degree. Overall, 76 percent of FIG students from the entire entering class of 1998 graduated, while only 64 percent of non-participants graduated.

Andrew Beckett, coordinator of the FIGs program and coauthor of the study, attributes the success of engineering students who participated in FIGs to the structure of the program.

"By living together and taking courses together, engineering students not only help one another survive the academic challenges associated with science, math and engineering courses, but they can share their emotional and personal issues with one another as well," Beckett said. "Simply put, when FIG students receive their first C or D on a calculus exam, they have a peer support group to share their frustrations and disappointment."

That sort of support is necessary to succeed as an engineering student, said **Tom Marrero**, professor of chemical engineering and coauthor of the study. Marrero said that the FIG program not only helps first-year students feel welcome in a large university, but gives them respect for the institution and a sense of the

expectations they will need to meet throughout their college careers. He said the program allows students to graduate in less than the average number of years it usually takes these students, which saves them money on student expenses and places them in their industry earlier.

Marrero presented the study's findings at the June 2005 American Society for Engineering Education's Annual Conference and Exposition in Portland, Oregon.

NSF Wireless Award

Professor of Electrical and Computer Engineering **Chengshan Xiao** was awarded a \$162,670 grant to study signal processing for wireless communicating over triply selective fading channels. He is the principal investigator.

Students

ACI Winners

Congratulations to civil engineering students **Sarah Craig** and **Cody Dailey** for winning first place in the Missouri ACI Student Seminar on Cement and Concrete Research. Sarah's paper "Fatigue Testing of Steel-Reinforced Bridge Deck Slab" included a four-page written contribution in addition to the presentation. She won in the undergraduate student category. Cody's paper "Instrumentation and Performance Evaluation of an Innovative Precast Pavement System" also included a four-page written paper and presentation. He was the winner of the graduate student category.

In addition to a \$300 cash award, a certificate, and a year's complimentary membership in ACI International as well as *MO-ACI*, both students will be recognized at an awards ceremony of the Missouri Chapter of American Concrete Institute to be held at Rolla.

continued on next page

E-Week in Review



2005 Engineer's Week Stunt: the seventh column (photo by Les Palmer)

Egg Catapult Results

Easter Mayhem team won the 2005 Egg Catapult contest. Team members include **Dan Bembower**, industrial engineering; **Kyle Collier**, mechanical engineering; and **Mark Hill**, mechanical engineering.

Runners up included **Joe Allyn** and **Jeremy Billheimer**, both electrical/computer engineering; **Elijah Kerry**, computer engineering; and **Dustin Sullivan**, electrical engineering; members of "The JV Squad" who took second place; and **James Doughty**, history (formerly computer science), and **Jon Starzinger**, industrial engineering, members of "Two Guys and a Trebuchet" who placed third.

Engineers' Week Royalty

Engineers' Week Queen candidates were easily recognizable in their sashes and included **Sarah Beckman**, civil engineering; **Ashley Stiefferman**, industrial engineering; **Ashlynn Holman**, chemical engineering; **LeAnne Menne**, biological engineering; and **Carol Shumate**, industrial engineering. And who could miss the King candidates as they toted their bent and gnarled shillelaghs never letting them out of sight. Candidates included **Justin Moll**, mechanical engineering; **Mike Hetzel**, electrical engineering; **Andrew Stillwell**, electrical engineering; **Phil VanDeusen**, electrical engineering; and **Ryan Zupon**, chemical engineering.

On the final day and at the final event of Engineers' Week (the Engineers' Banquet and Ball), the 2005 Queen and King honors went to **Carol Shumate** and **Mike Hetzel**. Congratulations to everyone who participated. Erin go Bragh!

Chancellor's Awards

On April 26, **Peter Petty Dempsey**, computer science, received the Chancellor's Award for Physical Sciences and Engineering for his bio-analyzer research. His faculty mentor is Professor Dong Xu, computer science. Fellow engineering students **Emily Fotovich**, biological engineering, and **Aaron Sengstacken**, mechanical engineering, received honorable mentions respectively for their research, "Diffusional studies for gold cross-linked collagen coated membranes for intravascular biosensors" (Professor Sheila Grant, biological engineering, is Emily's faculty mentor) and "Robust future interplanetary mission planning." (Professor Craig Kluever, mechanical and aerospace engineering, is Aaron's faculty mentor). The forum showcased the creative and scholarly activities of MU undergraduate students who are doing research.

Andrew Boeckmann, civil engineering graduate student, received the 2005 Dwight David Eisenhower Transportation Fellowship, a government sponsored grant designed to attract and retain the nation's brightest minds in the field of transportation. He plans to continue his research of slender members to reinforce earth slopes. He will conduct his graduate work under the guidance of Professor Erik Loehr.

Michael Cole, chemical engineering student, member of the MU baseball team, was named National Player of the Week by the *Collegiate Baseball Newspaper*. He and his pitching partner Max Scherzner, threw a no-hitter game against Texas Tech giving the Tigers a 25-0 victory on April 1.

SunTiger VI team placed 8th out of 18 cars in the North American Solar Challenge, which took place July 17-27. The team traversed a new route from Austin, Texas, to Alberta, Canada, a total of 2,500 miles.

NSBE Tutors Community

National Society of Black Engineers celebrated their role in the Columbia community by holding a tutoring event and banquet on Saturday, May 7.



vol. 6 no. 2 august 2005

Editor: Patricia G. Lobenstein

Contributing Writer: Vicki Hodder, Senior Information Specialist

Graphic Design: Liz Priddy, Academic Support Center

Mizzou Engineering News is produced and distributed by the MU College of Engineering Development Office, W1006 Thomas and Nell Lafferre Hall, Columbia, MO 65211-2200. All efforts are made to provide correct information, however, information is subject to change without notice.

If you have questions, comments, suggestions or news to share, please contact us.

E-mail: LobensteinP@missouri.edu Web: www.engineering.missouri.edu

UNIVERSITY OF MISSOURI-COLUMBIA
COLLEGE OF ENGINEERING
ENGINEERING DEVELOPMENT
W1006 THOMAS AND NELL LAFFERRE HALL
COLUMBIA, MO 65201-2200

Address Service Requested

The MU College of Engineering does not discriminate on the basis of race, color, religion, national origin, ancestry, sex, age, disability, sexual orientation, or status as a disabled veteran or veteran of the Vietnam era.

Non Profit Org.
U.S. Postage
PAID
University
of Missouri



Team members gather around the college's formula car, which placed 20th out of 120 cars in the Formula Society of Automotive Engineers Competition held May 19 through 22 at the Silverdome in Detroit, Michigan.

MIZZOU ENGINEERING NEWS

inside this issue

- Missouri Honor Award Recipients
- Citation of Merit Recipient
- Special Recognition Award
- Giving News
- Development News
- Alumni News
- Faculty Awards
- Student Awards
- Engineers' Week in Review
- NSBE Event

2005 calendar of events

September

- 9 MUEAO Golf Tournament, silent auction, BBQ
- 10 MUEAO Board meeting, 9:00 A.M., Ketcham Auditorium
- 16 CoE Campaign Leadership Team Committee

October

- 14 DEAC, Holiday Inn Select Executive Center, 8:30 A.M.–3:30 P.M.
- 14 CoE Campaign Leadership Team meeting (follows DEAC meeting)
- 14 St. Patrick Society Gala, Historic Tiger Hotel, Downtown Columbia, 6:00 P.M.
- 15 MU Homecoming
- 21 MUAA Faculty-Alumni Awards Banquet
- 23-25 ABET visit to CoE
- 26 CoE Scholarship Dinner, Reynolds Alumni Center, 6:00 P.M.

November

- 9 Public Policy Advisory Council meeting
- 19 Thanksgiving recess begins
- 28 Classwork resumes

December

- 6 Fall Faculty Meeting, Ketcham Auditorium, 4:00 P.M.
- 9 Classwork ends
- 10 Reading day
- 12 Final exams begin
- 16 Fall semester closes
- 16 CoE Convocation, Jesse Auditorium, 6:00 P.M.

*Updates to the calendar can be found on the college's Web site:
www.engineering.missouri.edu/calofevents.shtml*