MESSAGE FROM THE DEAN

Greetings from the School of Engineering. We are ready to embark on spring 2008 semester. Our enrollment remains strong with 860 undergraduate students and 230 graduate students—all eager to study and excel in our engineering programs.

Our strong enrollment has resulted in the addition of two new faculty positions that we are in the process of filling along with the replacement of several retiring faculty members. This means that next year we will have six new faculty members. The School continues to be energized with new faculty members with state-of-the-art knowledge.

We are exceptionally pleased that the cooperative Ph.D. program between SIUE and SIUC is set to begin with the advent of the spring semester on January 1, 2008. The program makes it possible for a student to complete the degree requirements entirely on the SIUE campus.

The Ph.D. program will also allow our faculty to engage in more externally funded research and provide greater continuity in research with doctoral students being available for a longer period of time than master’s students. From 2004 to 2006, external research funding at the School increased threefold, while total funding of instruction, research, service, and education increased 64%.

Tradition is back as the School held its Annual Picnic on October 8. Turnout and participation were great as students, faculty, staff, and their families celebrated at Cougar Lake with hot dogs, hamburgers, and volleyball.

Don’t forget to attend the School’s 2nd Annual Awards Banquet on Thursday, February 28, 2008, and the first Alumni Day as part of SIUE’s 50th Anniversary celebration on Saturday, April 19, 2008, where you will have an opportunity to reconnect with one another.

See you there,

Hasan Sevim
Dean

Upcoming School of Engineering Events

The SIUE School of Engineering has many exciting upcoming events. Please check the online version of our newsletter at www.siue.edu/engineering/ for specific details of each event.

- **Saturday, February 23, 2008**, Annual Open House. This event provides a great opportunity for parents and prospective students to learn about the programs we offer at the School. www.siue.edu/engineering/openhouse.shtml
- **Thursday, February 28, 2008**, Annual Awards Banquet. Distinguished students, faculty, and alumni will be recognized. www.siue.edu/ENGINEER/banquet/
- **Saturday, April 19, 2008**, Alumni Day. As part of SIUE’s 50th birthday the School of Engineering will have its Inaugural Alumni Day to give our alumni an opportunity to reconnect with one another. A golf outing in the morning and an informal mixer in the afternoon are being planned. www.siue.edu/engineering/alumniday.shtml
- **Sunday, April 13, 2008**, Honors Day. Engineering students with scholarships, awards, and high GPAs will be recognized.
- **Saturday, April 26, 2008**, the Greater St. Louis Regional Botball Competition. After several months of preparation, hundreds of middle and high school students from throughout the area will bring their robots to the SIUE campus and compete. www.botball.org

Just the facts:

For Fall 2007

- Undergraduate student enrollment: 860
- Graduate student enrollment: 230
- Total Enrollment: 1,090
- Total Faculty: 46
- 207 undergraduate degrees were awarded in 2006.
- 102 graduate degrees were awarded in 2006.
Mechanical Engineering students from Southern Illinois University Edwardsville visited Nashville Community High School recently to promote math, science, and teamwork.

The SIUE students are members of Cougar Baja team, a student organization of future engineers who design, plan, fund, fabricate, test and race off-road vehicles. For example, the team recently traveled to Rochester, NY, to compete against 140 other universities. The students are dedicated to using their involvement with Cougar Baja to help close the gap between classroom lessons and real-world application.

At the suggestion of The Dow Foundation the group decided a community outreach program would be a great opportunity to help promote the sciences for high school students. The team members stressed the importance of good communication and teamwork to approximately 75 Nashville High students.

Cougar Baja co-captain and business manager Miles Musick said, “This is a great opportunity for our group to get out into the communities and stress the importance of the sciences as well as the fundamentals of teamwork.” Justin Schnitker, Cougar Baja co-captain and fabrication manager, added, “If our time helps inspire just one person to become something great, to strive for lofty goals, then it is time well spent.”

With all eyes focused on the upcoming year, the group hopes to place in the top 40 internationally. But members are quick to point out “The competitions are only a small part of what we do as an organization; personally, I enjoy things like helping young people realize their potential,” Schnitker said.

The SIUE School of Engineering robotics team “Fishtank Assassin” took first place recently at the International Beyond Botball competition in Honolulu, Hawaii.

Fishtank Assassin members include Ross Mead, a senior majoring in computer science at SIUE; Jeff Croxell, an SIUE graduate student in Electrical and Computer Engineering; and Jerry Weinberg, an associate professor of Computer Science at the SIUE. “The final match was a repeat of last year’s final match-up,” Weinberg said. “Once again our team found itself going undefeated into the finals of the double elimination contest against the team of Lockheed Martin engineers, called the “Return of Pins and Needles.” Last year, we took second place after losing two out of three rounds in the final to the same team of engineers.”

Weinberg said the competition attracts robot hobbyists, college teams, and professional engineers, who build and program autonomous robots to bring plants and a spaceship crew affectionately nicknamed “Botguys” to a safe location in the face of a pending “warp core reactor explosion.”

Fishtank Assassin developed two mobile robots that coordinated their activity to collect the Botguys, close the safe zone door, and then find as many plants as possible to place in the solarium.

Weinberg said the Fishtank Assassin entry was two mobile robots—named Who and What—that used every possible sensor input available to them. It included 11 distance sensors to help them navigate to specific locations in the arena, one light sensor for starting, a color camera to track crew members and plants, and a radio module so the two robots could communicate to coordinate their activities.
FOUR ENGINEERING STUDENTS RECEIVE BOEING SCHOLARSHIPS ARE WELCOMED AT LOCAL FACILITY

On September 28, 2007, Kay Guse '88 Industrial Engineering graduate and Director, Engineering, Operations and Technology and Matt Daniels, Manager, University Relations at The Boeing Company hosted a reception for the five SIUE students who competed and received one of five $2,000 Boeing Company Scholarships. Four of the five students were from the School of Engineering.

The engineering students are Laura Hemker, manufacturing engineering; Jessie Mills, electrical engineering; Lisa Rhoads, mechanical engineering; Brian Schuh, civil engineering; and Jennifer Sellman from the School of Business.

The scholarship recipients were chosen by a committee established by the Director of Student Financial Aid. Selection criteria included full-time student status, sophomore or junior standing, U. S. citizenship or permanent residency, and an overall grade-point average of 3.2 or better on a 4.0 scale. Applicants were also required to write an essay as well as provide references.

At the reception The SIUE scholarship recipients enjoyed hearing about Boeing and how the different disciplines, and they as individuals, might fit into the company's structure.

Also in attendance were Gary Giamartino, Interim Vice Chancellor for University Relations, School of Engineering Dean Hasan Sevim, School of Business Dean Tim Schoenecker, the directors of development from the schools of engineering and business as well as several other representatives from Boeing.

STUDENT ACHIEVEMENTS RECOGNIZED AT RECEPTION

This year a number of engineering project teams won awards in the competitions in which they participated. The School organized a reception on September 13, 2007, to recognize their success.

On hand for the event were Provost Paul Ferguson, Vice Chancellor for Student Affairs Narbeth Emmanuel, Dean Hasan Sevim, many engineering faculty, staff, and students to celebrate and recognize the accomplishments of the School of Engineering students.

Among the groups represented were the Concrete Canoe Team, Steel Bridge Team, Robotics Team, FRP Beam Team, Mini Baja Team, Formula Race Car Team, Solar Car Team, and UGS Award recipients. Most of these groups have already been featured in previous issues of Innovation, the School of Engineering newsletter.

Each group had the opportunity to talk about their experience in the competition.

ZAK COMPANIES ESTABLISHES SCHOLARSHIP

Zak Companies headquartered in St. Louis, has established a $2,000 scholarship for students interested in construction and consulting engineering. Zak has already hired a number of School of Engineering graduates who are enjoying success at the company which operates nationwide.

The scholarship is open to a junior or senior student, majoring in mechanical or electrical engineering, although those majoring in civil engineering or construction management may also be considered. Students must have a grade point average of 2.5 or higher and be a resident in the greater St. Louis metropolitan area.

Applicants must demonstrate their interest in consulting engineering or building construction through a written essay on the topic or during an interview.

“We are so excited about all the wonderful students we are meeting,” said Director Linda Marie Grawl. Grawl added that the scholarship recipient will also be awarded a paid internship at Zak.

“Scholarships like the Zak Scholarship help the School build relationships with area companies and provide important assistance to our students as they pursue their education,” said Dean Hasan Sevim.
DELEGATION OF HENAN UNIVERSITY OF SCIENCE AND TECHNOLOGY VISITS SIUE SCHOOL OF ENGINEERING

A delegation from Henan University of Science and Technology (HUST), located in Luoyang, Henan Province, China, visited the SIUE School of Engineering on November 16, 2007, to explore potential cooperation with SIUE. The delegation consisted of Wang Jianji, President and Professor of Chemistry, Zhou Xiejian, Professor of Mechanical Engineering, and Zhong Qinglun, Deputy Director of Foreign Affairs’ Office.

The delegation met SIUE Chancellor Vaughn Vandegrift and Provost Paul Ferguson. A Preliminary Memorandum of Understanding was signed by Chancellor Vandegrift and President Wang to explore the cooperation between SIUE and HUST in the area of joint research, faculty exchange and student exchange.

The delegation also met the School of Engineering Dean Hasan Sevim, Associate Deans Brad Noble and Oktay Alkin, department chairs, and a group of about 10 other faculty members in the School of Engineering. They discussed details of the potential cooperation.

According to mechanical engineering department chair, Keqin Gu, “SIUE faculty feel that such international cooperation is very important in a globalized world, and they look forward to the new opportunities this may bring.”

Serdar Celik Joins Mechanical Engineering Faculty

Dr. Serdar Celik joined ME Faculty as an Assistant Professor in the fall semester of 2007. He received his Ph.D. from Southern Illinois University Carbondale in 2007. Celik received his M.S. degree from Istanbul Technical University, Turkey, and B.S. degree from Yildiz Technical University, Turkey.

Celik’s main area of expertise is in thermal and fluid sciences, especially on refrigeration and Heating, Ventilating, and Air-Conditioning (HVAC) systems.

Celik started his career at Guven Klima Ltd., which is a certified service and distributor of Carrier Corporation in Istanbul, when he was a senior earning his undergraduate degree. At Guven Klima Ltd., he held several positions, including as a technician, field engineer, sales engineer, and finally head of the service department.

After starting his M.S. degree, Celik joined the Research & Development Center of Arcelik A.S, which is one of the top seven home appliance manufacturers in Europe. At Arcelik Labs, he worked as an R&D engineer, focusing on application of alternative cooling technologies in domestic refrigerators. He holds a patent on application of microchannel heat exchangers to refrigerators operating with free-piston Stirling coolers. In 2004, he received an Invention Award from Arcelik A.S.

After completing his doctoral degree at SIUC in 2007, Celik joined the Department of Mechanical Engineering at SIUE in the same year. His research at SIUE focuses on magnetic refrigeration, which is a promising alternative cooling technology that is free of compressors and environmentally harmful refrigerants.

Celik also studies heat transfer enhancement of HVAC and refrigeration systems. His teaching covers courses related to thermal and fluid science such as Thermodynamics, Heat Transfer and Fluid Mechanics. Dr. Celik and his wife, Esra, have a one year old son, Faruk Ilgaz and they live in Edwardsville.

Dr. Serdar Celik has joined the mechanical engineering faculty. His focus is on developing alternative cooling technologies and heat transfer enhancement.
ENGINEERING PROFESSOR BRAD NOBLE RECEIVES THE EMERSON EXCELLENCE IN TEACHING AWARD

Dr. Bradley Noble, Associate Professor of Electrical and Computer Engineering and Associate Dean of the School of Engineering at SIUE, has won an Emerson Excellence in Teaching Award. Noble received the award November 18, 2007, at a ceremony at the Ritz Carlton Hotel in Clayton, Missouri.

"Since joining SIUE’s School of Engineering in 1996, Dr. Noble has consistently received outstanding comments from students in his classes," said Hasan Sevim, dean of the School of Engineering. "On course evaluations, students compliment him on his teaching style, enthusiasm, and showing them how they can apply the theory they learn."

"It is very rewarding to help students cultivate and develop their own passion for the subject," Noble said. "I try to keep in touch with my students after they graduate and when they tell me that I have been a positive influence in their life, it is the best part of my job. It is a real honor to receive this award and be recognized by the community."

Noble resides in Jersey County, IL with his wife Penny and their two children.

The Emerson Excellence in Teaching Award Program annually recognizes 100 pre-school through higher education teachers throughout the St. Louis region for their vital role in shaping students’ lives. Recipients are chosen for their outstanding contributions to the teaching profession and to the students they teach. Winners of the award were formally honored at the ceremony where each honoree received an engraved Tiffany crystal apple.

Emerson is a diversified global technology company, headquartered in St. Louis. It is also a Fortune 500 company.

CONSTRUCTION STUDENTS EARN 2ND PLACE IN DESIGN/BUILD COMPETITION

The SIUE Construction Department sent six students to the Associated Schools of Construction Great Lakes Region Design/Build Competition October 24-27 in Downers Grove, Illinois. The team, known during the competition as Trophy Construction, earned a 2nd place finish behind the 2006 national champion, Milwaukee School of Engineering.

The undergraduate student competition, co-sponsored by the ASC and Associated General Contractors (AGC) simulates a real-life, high-pressure situation. The teams are asked to design, price, schedule, and prepare a professional presentation in an extremely tight timeframe.

The team is judged on estimating, planning, scheduling, thoughtful methodology, creativity, understanding of construction techniques and challenges, and presentation skills.

For this competition, the students were required to submit a prequalification document at 7:00 AM on the first day of the competition. The teams then received a request for proposals for a $22 million medical office building for a private orthopedic group problem statement from the team of judges, who represent the project owner during the competition.

Over the next 17 hours, the teams were sequestered in hotel rooms, and have to create a design, and produce an estimate, and schedule. To add further pressure, the owners submit changes at various times throughout the day. Completed proposals were submitted at midnight.

Materials for the oral presentations were submitted to the judges by noon the next day, with the presentations taking place shortly thereafter. A debriefing after the presentations serves as the educational component of the competition, letting students get feedback and ask questions of the judges.

Trophy Construction’s winning team was Megan Ladwig acting as President and Project Executive; Matt Giacomini acting as Vice President and Senior Project Architect; Kevin Nesselhauf acting as Director of Pre-Construction and Senior Estimator; Bill Nolte acting as Project Manager and Scheduler; Jessica Charles acting as Senior Project Engineer and Sustainable Construction Coordinator; and Oliver Coulson acting as Project Superintendent. The team was coached by Dr. Kerry Slattery.

The team wishes to thank everyone who helped the team prepare for the competition, including the construction faculty, Tarlton Corporation, Korte Construction, McCarthy Building Companies, Kozeny-Wagner, and the Construction Alumni, who pay for student registration and traveling expenses with an annual golf tournament.

Pictured is the second place award earned by Trophy Construction in the recent Associated Schools of Construction Great Lakes Region Design/Build Competition.
SIUE/SIUC Engineering Schools to Start Cooperative “Engineering Science Ph.D. Program”

A cooperative agreement offering a doctoral program in engineering science through the SIUE School of Engineering and the SIUC College of Engineering will begin during spring 2008 semester.

The doctorate in engineering science will encompass areas of specialization in civil, electrical, computer, and mechanical engineering. According to Associate Dean Oktay Alkin, "Graduates will be sought highly by universities, research laboratories, and engineering companies.”

Created last year with a “memorandum of understanding” between SIUE and SIUC, the program recognizes SIUE as a residency center for the doctoral program at Carbondale, said Hasan Sevim, dean of the

SIUE School of Engineering. “This is a great opportunity that will allow our faculty to engage in more externally funded research, publish in prestigious journals, and more importantly provide continuity in research with doctoral students being available longer than master’s students,” Sevim said.

The cooperative program makes it possible for a student to complete the requirements of the degree without leaving Edwardsville. “The ability to complete the program in Edwardsville makes it very attractive for professionals employed in the St. Louis metropolitan area,” Alkin said.

John Nicklow, associate dean of SIUC’s College of Engineering and director of the engineering science doctoral program, said the program will bring together more than 100 engineering faculty from both campuses. “This is a significant intellectual compilation that will benefit doctoral students and boost research capacity in both institutions,” Nicklow said.

For more information about the cooperative program, contact Alkin, (618) 650-2541, or by e-mail: oalkin@siue.edu. Details of the program, including application materials and instructions, also are available through the web at http://www.siue.edu/engineering/phd.

Slattery Joins ACCE Board of Trustees

Dianne Kay Slattery, associate professor and chair of the Department of Construction, was elected to a 4-year term on the Board of Trustees of the American Council for Construction Education (ACCE) at the group’s annual meeting July 18-21, 2007 in Salt Lake City, Utah.

As the governing body of the ACCE, the Board of Industry representatives and educators makes rules, formulates polices, and establishes the programs of the Council. More than 60 baccalaureate construction programs across the United States are currently accredited by ACCE.

The construction program at the SIUE School of Engineering was initially accredited by ACCE in July 2001, and reaccredited in July 2006. The program has continued to grow and develop since it was initiated in 1979 as part of the School of Engineering.

The Department of Construction maintains a strong working alliance with the construction industry through an active advisory board comprised of construction executives, as well as an energetic alumni association.

VanRoekel Steps Down as Associate Dean—Two New Associate Deans Appointed

After eight years as associate dean for the School of Engineering, Jacob Van Roekel has stepped down and resumed duties as professor in industrial and manufacturing engineering. He plans to retire in May of 2008. Van Roekel joined SIUE in 1984 and is responsible for designing and implementing the School’s current computer-integrated manufacturing laboratory.

Professor Van Roekel served as a practicing industrial/management engineer for 16 of 24 years in the United States Air Force where he developed and led numerous management consultant and human resource standard studies.

After a rigorous search and analysis of the School’s structure and requirements, the School now has two half-time associate deans: Dr. Oktay Alkin for research and development and Dr. Brad Noble for academic affairs.

Alkin, professor and chair of the Department of Electrical and Computer Engineering joined SIUE in 1986. Alkin will continue as department chair.

Noble, associate professor in the Department of Electrical and Computer Engineering joined SIUE in 1996 and has earned honors and recognition for his excellence in teaching and working with students.

According to Dean Sevim, “The School will benefit from the complementary skills of the associate deans in different job functions and take the School to the next level.”
The School of Engineering has a new Advisory Board named with helping Dean Hasan Sevim implement the School’s strategic plan, raise money for the school, assist in reconnecting with alumni, and help with other School objectives and projects.


Albert C.J. Luo, an associate professor of mechanical engineering at SIUE, has been named a fellow of the American Society of Mechanical Engineers (ASME). He was honored in November 2007 at the ASME’s annual banquet in Seattle.

Founded in 1880, ASME currently is a 120,000-member professional organization focused on technical, educational, and research issues of the engineering and technology community. Luo is one of two researchers elected as Fellow for 2007 by the Technical Committee of Vibration and Sound. The Fellow Grade recognizes significant engineering achievement and contributions to the engineering profession.

According to Professor Keqin Gu, chair of the department, Luo is the first faculty member in the SIUE School of Engineering to achieve an ASME fellowship. “Professor Luo’s outstanding research and his broad contribution to the field is well recognized in this cutting edge research community,” said Keqin Gu, professor of mechanical and industrial engineering and chair of that department.

There is no doubt that Professor Luo is among the most prominent scholars currently active in the field of nonlinear dynamics and vibration in the world,” Gu said.

Luo has been doing research and study of the theory and application of nonlinear dynamics and mechanics for more than 20 years. He recently developed the theory of flow global transversality in nonlinear dynamic systems. Luo’s research in vibration helps manufacturers discover ways to make production more efficient and thus more profitable.

Molki is currently the graduate program director for the Department of Mechanical and Industrial Engineering. He earned a BS in mechanical engineering in 1975 at Sharif University of Technology, an MS in mechanical engineering at the University of Nebraska–Lincoln in 1979 and a doctorate in mechanical engineering at the University of Minnesota in 1982.

Molki, who joined the SIUE School of Engineering faculty in 2000, spent more than 21 years teaching and conducting research in thermal-fluid sciences at several universities. His current research is in flow boiling of refrigerants in plate evaporators with application to automotive air-conditioning. Dr. Molki conducts and oversees research using the closed-circuit wind tunnel of the School of Engineering.

Molki receives the prestigious Omar Khayyam Award from Scientia Iranica.
SIUE School of Engineering student Ross Mead represented the institution this year as SIUE’s 2007 Student Laureate of the Lincoln Academy of Illinois.

Mead, a senior computer science major, is one of 48 student laureates honored recently at the Old State Capitol in Springfield. Each year, a student from each of Illinois’ four-year public universities is chosen to represent their institution. The students receive a Student Laureate Medallion, a $150 honorarium and a certificate of achievement.

Mead was honored with the award, because he is the top senior at SIUE, as determined by his excellence in curricular and extra curricular activities.

A native of Edwardsville, Mead first discovered engineering, computer science, and robotics in high school. Since then, he has excelled in his study of computer science, research in robotics, and presentations and lectures at the local, regional and national levels, while pursuing his degree at SIUE. Mead currently has six publications and 11 presentations to his credit. “This is an extraordinary performance by an undergraduate student” said Hasan Sevim, dean of the SIUE School of Engineering.

Ross Mead is the recipient of the 2007 Student Laureate of the Lincoln Academy of Illinois.