

**Message from the Dean**

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Dean Hasan Sevim

I am pleased to report to you the very exciting events of the fall 2010 semester.

As you all might know, we are thrilled with the prospect of having a 32,000 sq. ft. extension to the School, which will provide much needed space for state-of-the-art classrooms and offices. During the fall semester, the administrative team of the School worked hard with the designers of the Hastings and Chivetta Architects, Inc. to finalize the schematics of the building. If we do not experience any unforeseen difficulties, the ground breaking should take place in spring 2012.

The School has reached several important milestones in the past semester. Fall 2010 enrollment has been the highest in the history of the School, with 1002 undergraduate and 241 graduate students, respectively, enrolled. Our faculty's scholarship skyrocketed in 2010. Because of excellent teaching and scholarship, the School's reputation continuously reaches higher levels. We attract more freshmen with higher ACT scores; the average math ACT score of 2010 freshmen class reached record high 27.7, which is a commendable achievement.

The dual-diploma program initiated in 2007 with the industrial engineering program of Istanbul Technical University (ITU) continues to bring

excellent students from Turkey. In fall 2010 we welcomed 33 sophomores in addition to 4 returning seniors. The four seniors represent the first cohort, and will be graduating in May 2011. The Chancellor of ITU will be our host at the spring commencement festivities.

I am pleased to inform you that two more distinguished engineering alumni of the School have been inducted in the Alumni Hall of Fame. Hal Gentry is a 1982 computer science graduate, a prolific entrepreneur who founded two separate companies and lead them to success before selling them. Bruce Schopp is a 1982 civil engineering graduate who was recently named as President and Chief Operating Officer of Oates Associates, Inc. Both of these outstanding alumni have been prolific supporters of the School, and we are proud to recognize their noteworthy achievements.

The School continues to add outstanding members to its Advisory Board. Most recent addition is Mr. John Wottoon of DRS. John is a Vice President and the Chief Technology Officer for DRS Sustainment Systems, Inc. John brings substantial industry experience to our Advisory Board, which will be invaluable to our students and programs. We have already started a very busy spring 2011 semester full of activities and projects.

Please join the efforts of our faculty, staff, students, alumni and friends to make our School one of the best in the region.

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**Upcoming Events**

<b>March 19, 2011</b>	<b>April 3, 2011</b>	<b>April 19, 2011</b>	<b>May 7, 2011</b>
Engineering Open House <a href="http://www.siu.edu/engineering/openhouse.shtml">http://www.siu.edu/engineering/openhouse.shtml</a>	Honor's Day	Senior Assignment Showcase	Spring Commencement <a href="http://www.siu.edu/commencement/">http://www.siu.edu/commencement/</a>

## Engineering and Chemistry Professors Put Blood to the Test



Dr. Bradley Noble

Two SIUE faculty members, Dr. Bradley Noble and Dr. Edward Navarre, were highlighted in the Saint Louis Post Dispatch for the development of their innovative blood testing system in a

November 2010 article entitled: "[Inventions by SIUE Scientists Test for Heavy Metals in Blood](#)," Noble, an associate professor of electrical and computer engineering and Navarre, an assistant professor of chemistry, discussed their efficient and affordable invention, a portable electrothermal analyzer, in the feature.

The portable electrothermal analyzer tests small blood samples for contamination from various heavy metals, including lead and mercury. Those metals and additional elements which are analyzed, can threaten the mental and physical development of people, especially children. The professors,

along with electrical engineering student Chris Edmiston, who worked with them on the project as an Undergraduate Research and Creative Activities (URCA) assistant, hope that the analyzer will eventually become a tool of everyday use in environmental agencies and health departments throughout the country and the world.

Noble, the 2006- 2007 recipient of the SIUE Teaching Excellence Award, said, "Applying engineering concepts in collaboration with my colleagues in other disciplines to create devices that help the public gives me great satisfaction."

## Cho on a Roll: Receives in Grants to Better Others

Sohyung Cho, assistant professor of industrial and manufacturing engineering, received the National Science Foundation (NSF) Major Research Instrumentation Award valued at over \$192,000. Dr. Cho was awarded the grant for to construct a state-of-the-art supply chain test bed in the SIUE School of Engineering.

Cho has teamed with engineering professors Felix Lee, Kevin Hubbard and Luis Youn to make the test bed experience worthwhile and to ensure it serves its purposes. The lab will be used for education, research and service opportunities, and will provide students and faculty with the hands-on resources needed to investigate and implement solutions to manufacturing and supply chain problems currently facing the industry.

The test bed will also be used to operate a student-managed, University-wide company—presently called "Cougaroar"—that will sell items such as chess sets through the SIUE Bookstore as a primary retailer. The items will be designed and manufactured in this particular lab.

Dr. Cho has also been engaged in finding solutions for medical professionals. Recently, Cho teamed with surgeons at the School of Medicine at Washington University in Saint Louis to secure more than \$47,000 in funding from Intuitive Surgical Inc., the manufacturers of the *da Vinci*® Surgical System. The funding supports research that will explore the ergonomic benefits of performing laparoscopic surgery with the surgical robot versus standard laparoscopic tools.

In summer 2010, Cho also submitted an NSF CAREER proposal on biomechanics for substantial funding for five years. CAREER funding promotes research early in the careers of junior faculty members. Cho is awaiting the outcome of this pending proposal, but is staying busy in the meantime with all of his exciting research.



Dr. Sohyung Cho

## Student Awarded Freeman Fellowship

Randy Cook, a graduate student in the civil engineering department, was awarded the 2010 National American Society of Civil Engineers (ASCE) Freeman Fellowship.

This prestigious fellowship provides funds to graduate students to cover expenses for research and experiments.



Cook is a graduate student in the SIUE Department of Civil Engineering studying the infiltration of rain gardens.

"I am thankful that this fellowship has given me backing for my work," Randy commented. "Receiving the fellowship has allowed me to broaden my project scope since the funding is in place to do so. Without the fellowship, many aspects of the project simply would not be possible."

## And the Employee of the Month Award Goes to...

Kathi Ledford, the office support specialist of the Department of Electrical and Computer Engineering, was the August 2010 recipient of the Employee of the Month recognition award.

Kathi has been with SIUE and with the School of Engineering since 2004. Kathi's service to the School and to the ECE department has been an invaluable resource to faculty, staff and students. Kathi's recognition comes as no surprise to Dean Sevim. He commented, "I am thrilled that Kathi has been recognized for her dedicated work to the Department and to the School of Engineering."

Kathi accepted the award at a ceremony held in the atrium of the Engineering Building in December. In addition to the plaque of recognition, Kathi was awarded with gift certificates to the University Bookstore and Dining Services.

According to Kathi, "I am honored to have received the Employee of the Month award. The faculty in the ECE department has always been supportive of me and regularly expresses their appreciation for my work. This frequent encouragement is a wonderful motivator."



Ledford with Dean Sevim and Faculty

## Dual-Diploma Students Welcomed with Open Arms



Dual Diploma Welcome Picnic

On a sunny September day, the SIUE School of Engineering welcomed 33 additional Dual-Diploma program students from Istanbul Technical University (ITU) with food and friendly faces during a picnic at Edwardsville Township and Community Park. The students are enrolled in the industrial engineering Dual-Diploma program between the SIUE School of Engineering and ITU. Hasan Sevim, Dean of the School of Engineering, as well as faculty and staff from the School and International Student Programs, greeted the international students who will spend their sophomore and senior years at SIUE studying industrial engineering.

SIUE students were in great supply as current seniors in the Dual-Diploma program and students who studied abroad in

Turkey during the summer of 2010 were present to receive their peers and welcome them to the University. Cem Karacal, Associate Dean and coordinator of the Dual-Diploma program, said it was refreshing for the new sophomores to be welcomed by the current seniors in the program who have already started to mentor their younger peers on the ins and outs of life at the University and life abroad.

When asked what he envisions for the program and its new students, Karacal said, "These students were ranked in the 98th percentile on the national exams taken by 1.5 million high school students in Turkey. We want them to graduate with high honors from the program and become ambassadors for SIUE and the School of Engineering."

Later in the month, Dual-Diploma students felt even more at home when SIUE Chancellor Vaughn Vandegrift paid them a special visit. Vandegrift welcomed the 33 new and 4 returning ITU students at a September 2010 reception in the Engineering Building lobby.

Enjoying his easygoing style at the gathering, many of the incoming students commented that they sincerely appreciated the Chancellor taking the time to talk to them.



Chancellor with students

## Portrait of Female Engineering Leader

Leadership flows through junior Kimberly Luebcke's veins as naturally as blood does. With a vast array of exciting endeavors in and out of school, the mechanical engineering major exhibits versatility and passion as she exercises her leadership skills. This is a snapshot of a female, engineering leader in action.

One would think Kim's plate was full with her studies, but for her, there's always room for a little more. Not only is she a Resident Assistant in Evergreen Hall, but also, in Fall 2010, she worked with Serdar Celik, assistant professor of mechanical engineering, to start an SIUE chapter of American Society of Heating, Refrigerating, and Air-Conditioning Engi-

neers (ASHRAE) for which she is currently chapter president. Kim's hard work is paying off, literally. She is the recipient of various scholarships, including those from the Illinois General Assembly Legislature, Boeing Corporation, Illinois Space Grant Consortium, Society of Women Engineers and the Arabian Horse Foundation, and her connection to the Arabian Horse Foundation is a glimpse into where Kim cultivated her leadership skills.

When she's not focusing on academic pursuits and campus life, Kim enjoys her passion of horses. At the age of eight, Kim began showing Arabian horses in shows in her hometown of Peoria, IL, and

when her family purchased her horse named Billy, she took her hobby to the next level.

"Billy and I started showing and winning at the Regional and National level," Kim shared. "From 2001 to 2005, we won four regional championships and five national top ten awards."



Kim and her horse, Billy

## Alumni Hall of Fame



Hal Gentry

Two of the School of Engineering's most outstanding alumni were honored with the 2010 SIUE Alumni Association Hall of Fame Award.

The first of these honorees is William "Hal" Gentry. Hal has more than 25 years experience building global software start-up companies. He is the retired CEO and Co-founder of Gridlogix, an energy company which focused on energy savings applications for the building automation industry, which was purchased by Johnson

Controls in 2008. Prior to that, Hal founded Gentry Systems, a global software company that provided GIS and outage management for electrical utility companies. Throughout his career, Hal has served on many committees and boards, presented at industry conferences and published papers in industry trade publications. He is currently an angel investor, board member and mentor for several early stage businesses.

Hal currently serves on the School of Engineering Advisory Board, the Department of Computer Science Advisory Council and is the face of the School of Engineering Campaign for Excellence. Hal and his wife, Jean, have an endowed scholarship for computer science students and support a Botball team annually.

Bruce Schopp is a licensed Professional Engineer and Structural Engineer who has been with Oates Associates in Collinsville, Illinois for 25 years. During his career at Oates Associates, he was named to the position of Chief Structural Engineer with responsibility for all structural engineering, and the firm's major transportation projects. Bruce was recently promoted to the position of President and Chief Operating Officer. He now oversees all operations including project selection and management, technical production, quality assurance, technical/professional staff development, and client development.

Bruce has been active in the National Society of Professional Engineers for several years. He is currently State President of the Illinois Society of Professional Engineers, previously holding officer and committee chair positions including President of the St. Clair Chapter of ISPE. In addition to his involvement with ISPE, Bruce was recently appointed to the Board of Directors for the American Council of Engineering Companies. Bruce serves on the School of Engineering Advisory Board and has been a dedicated supporter of the School for many years. Oates Associates supports two annual scholarships for civil engineering students.



Bruce Schopp

The School of Engineering is truly proud to recognize the accomplishments and service of these invaluable friends.

## Graduate Student Stands Out and Wins



Baghehi with Dean Sevim Sevim

Each school year, a myriad of teaching assistants are nominated by their respective faculty members for the honor of SIUE's Outstanding Teaching Assistant Award. Reza Baghaei, a graduate student in the engineering science doctoral program, was the 2010-2011 recipient of this prestigious honor. The Graduate School presented Baghaei with his award at their annual Honor's Day Luncheon held in October.

Baghaei disseminates his expertise to undergraduate seniors in thermal science laboratory (ME410L) to the Department of Mechanical Engineering. He credits this honor to nominations from SIUE School of Engineering administration and professors, in addition to his passion for sharing knowledge.

Majid Molki, professor of mechanical engineering and Baghaei's faculty advisor, was equally enthused about his mentee's recognition. Molki said, "I kept hearing good things from our undergraduate students about Reza's teaching, which makes me proud of him. His dedication to quality work is commendable. He truly deserves this recognition."

## Local Business, SIAM Collaborate on Revolutionary Machinery

Hydrodynamic Technologies Inc. of Collinsville and the Southwest Illinois Advanced Manufacturing Center (SIAM) are preparing locally to globally revolutionize the roughly \$50 million "bar feeding industry", a business segment related to metalworking and mass production of various machine parts and industrial products.

For the last five years, Ray Varady, owner of Hydrodynamic Technologies, has worked with SIAM Center Director Kevin Hubbard, to develop a new technology for the control of vibration in industrial "bar feeding" and "turning opera-

tions." In bar feeding applications, bar stock is automatically fed to numerically controlled turning centers (automated lathes) for un-attended operation. Vibration typically develops in these applications, resulting in out-of-specification work parts, degraded surface finishes, and rapid machine tool wear.

The SIAM Center has developed a method by which this vibration may be detected, and damped out. Damping is achieved by the application of varying magnetic fields to magnetostrictive fluid. A new fluid, which is significantly less costly than the existing commercial

fluids, has also been discovered and patented, during the development process. Such a move would save money, create jobs and improve efficiencies and productivity for industry leaders ranging from aerospace to electrical, plumbing, automotive and medical. Hubbard said, "This new technology paves the way for significant cost reductions, and therefore profitability improvements for American industry. Ultimately, our hope is that our technology will lead to the creation and retention of high skill, high wage, high tech manufacturing jobs in the United States".

## Engineering Career Fair: More than Just Landing a Job

Nearly 300 engineering, construction and computer science students made rounds to 43 employers in the SIUE Meridan Ballroom on Oct. 8, 2010 at a Career Day for the School of Engineering. While full-time, co-operative, and internship positions were available, the fair offered students more than just potential job opportunities.

According to Tammy Dugan, Assistant Director for Employer Relations in the Career Development Center, Career Day gives students real-world experience in communications with potential employers and colleagues. "The career fair is an excellent opportunity to network. We have found that, in general, many students fear networking. Networking is a skill, and it must be developed," Dugan said. "The fairs give students opportunities to enhance interview techniques, as well. When employers talk with students one-on-one, these interactions are

essentially mini-interviews, which is excellent for skill-building."

Dean Hasan Sevim and Associate Dean Cem Karacal, of the School of Engineering, also attended the fair to assess student and employer attendance and greet company representatives. "Considering the state of the economy, I am very pleased with the turn out," commented Sevim. "The School looks forward to working with the Career Development Center to attract even more companies for the next fair and show them the level of quality students graduating from our programs."



Southern Illinois University Edwardsville  
School of Engineering  
Campus Box 1804  
Edwardsville, IL 62026

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*Educating tomorrow's engineers,  
computer scientists, and  
construction managers today.*

*The mission of the School of Engineering is to provide excellent innovative engineering, computer science, and construction education to citizens of Illinois, the greater St. Louis metropolitan area, and representatives of the global community. The School focuses on strong undergraduate education and graduate programs that serve the needs of full-time students and employed professionals. The faculty conduct basic and applied research and outreach activities in partnership with others that contribute to technological advancement in our fields.*

## Doing Good Gets Noticed



Members of the SIUE Student Chapter of Engineers Without Borders (EWB) did not set out to receive recognition for their outreach projects in Pimienta, Honduras. They hoped only to improve the living conditions of the townspeople by lending their engineering expertise and hard work to the infrastructure and waste water systems. However, following the most recent trip to the impoverished South American country, the lasting impact of their good works was not only felt by the people of the Casitas community in Pimienta, but also caught the attention of multiple news sources.

News of their work struck a positive chord among various news outlets, including SIUE News, The Alestle and

Stltoday.com, the Saint Louis Post-Dispatch's online component. Each source highlighted the team by capturing perspectives of students, faculty, and professional engineers who attended the trip.

On their most recent trip in Pimienta, the team constructed and installed two drainage ditches and gutters for homes in the community that previously had neither

The SIUE Student Chapter of EWB plans to continue to impact society, both locally and globally with their future outreach projects. They plan to return to Honduras in May of 2011 for a bridge-building project.

