

2012
DEAN'S
REPORT

Engineering Diversity



Vision

The vision of the SIUE School of Engineering is to be a partnership of faculty, students, staff, alumni and other professionals who work together to provide the highest quality education and maintain innovative resources that support the technical growth and economic development of the region.



From the Dean

Diversity in age, gender, race, culture, nationality and education are all assets to the engineering culture. This year's report highlights the diversity found in our student body, faculty, alumni and the educational opportunities we offer. Engineering is about helping people and improving the world for them. To make improvements effective, we need to hear everyone's voice.

Working collectively, men and women can present different sides of a problem to find the most effective solution. Over the years, we have educated a significant number of women (approximately 800 since 1973) who are now sharing their knowledge and wisdom in an effort to make a difference in the world. Currently, we have 122 female undergraduate students representing only 11 percent of our student body. However, their passion for engineering has enabled them to become our finest advocates in ensuring the continued growth of women in this discipline.

Each year, SIUE gains more international exposure by attracting new students from countries that have not been represented in the past. More than half of the international student population at SIUE can be found in the School of Engineering. These students, representing 15 countries, bring unique contemporary perspectives which help us prepare all our students for the global market. The international collaboration to understand these perspectives brings a great synergy to our engineering community.

Without the viewpoint of a diverse population we cannot anticipate the future needs of society. You will see evidence of our understanding as you read through this report. As we continue to attract more highly qualified students, we anticipate continued growth in the diversity shown in our school.

We have broken ground on our 32,000-square-foot addition to accommodate our ever increasing enrollment. As excited as we are to watch the building take shape, we realize we need more than space for our engineering community. The energizing quality within the School of Engineering that we have been nurturing needs your support. We invite you, our alumni and friends, to be a part of this energy. We need your assistance – your time, talent and financial support to help the school progress. There are many ways for you to help move the School forward. Whether you serve on a board, provide internships for our students, offer jobs to our graduates or contribute much needed financial support, there is an opportunity for everyone. To learn how you can help, please contact Karen Wicks at kwicks@siue.edu.

I invite all of you to actively participate in our School's pursuit of excellence.

Sincerely,

A handwritten signature in black ink that reads "Hasan Sevim".

Hasan Sevim, Ph.D.
Dean and Professor



About SIUE

Beautifully situated on 2,660 acres, SIUE is a public university offering a broad choice of degrees and programs, ranging from liberal arts to professional studies. Undergraduate and graduate degrees are offered in the arts and sciences, business, education, engineering and nursing. Professional degrees are available in dental medicine and pharmacy. More than 14,000 students choose SIUE for its enlightening programs, engaging faculty and convenient location, just 25 minutes from St. Louis.



From the Chancellor

As the eighth chancellor of SIUE, I look forward to leading this vibrant, growing campus and maintaining the momentum that has been established in recent years.

I am particularly impressed by the academic excellence of this University and the degree to which SIUE has impacted the well-being of the Southern Illinois region. With 44 baccalaureate programs and 70 master's and professional offerings from which to choose, SIUE has broad appeal and extensive influence. And, with more than 90,000 alumni, that influence will continue for generations to come.

The School of Engineering encompasses a community of inventive minds committed to enhancing the educational opportunities within our strong undergraduate, graduate and doctoral programs. Through a commitment to student success, faculty excellence and economic development, the School provides high-quality education and maintains innovative resources to support technological advancements in the region. Examples of this commitment include the addition to the Engineering Building, which will provide additional classrooms, laboratories and office space; SIUE's growing Society of Women Engineers chapter which informs young women of the opportunities available to them in the field of engineering; and an expanding team of faculty members dedicated to innovation and excellence in research.

SIUE has unlimited potential as a premier Metropolitan University, and I welcome the opportunity to lead the institution as, together, we take SIUE to the next level in higher education.

Let's celebrate the "e"!

Julie Furst-Bowe, Ed.D.
SIUE Chancellor

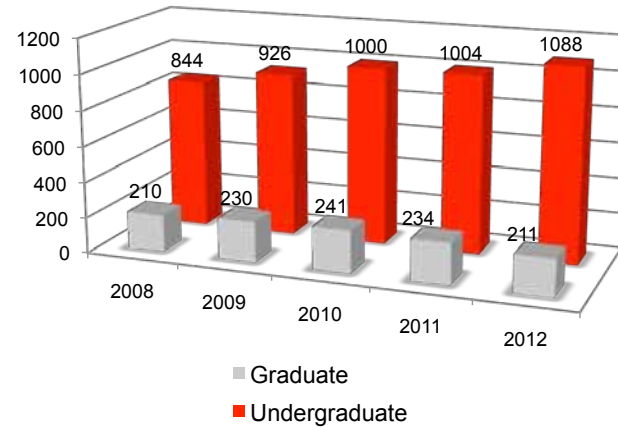


About the School

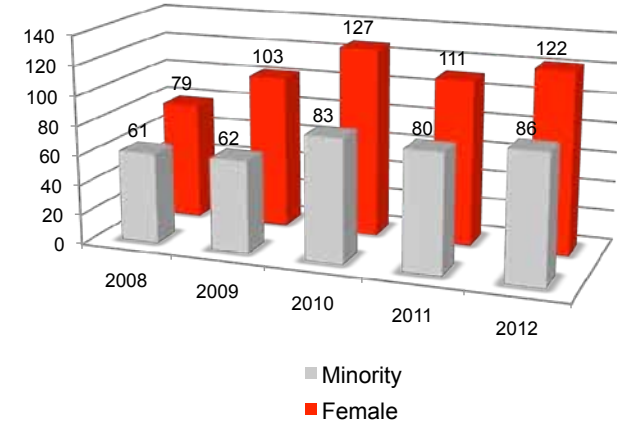
The SIUE School of Engineering takes pride in its diversity and acknowledges that other people, voices and cultures can offer new ways of seeing the world, solving problems and working together. Diversity is a catalyst to innovation in engineering. The School believes that differences in age, gender, race, culture, nationality, education and other characteristics of a person's background can be leveraged as assets, particularly toward a goal of improving quality of life.



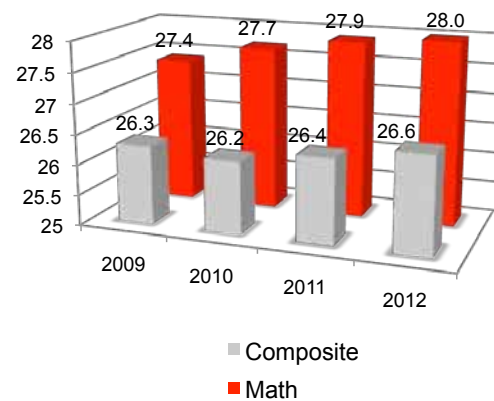
Record Enrollment



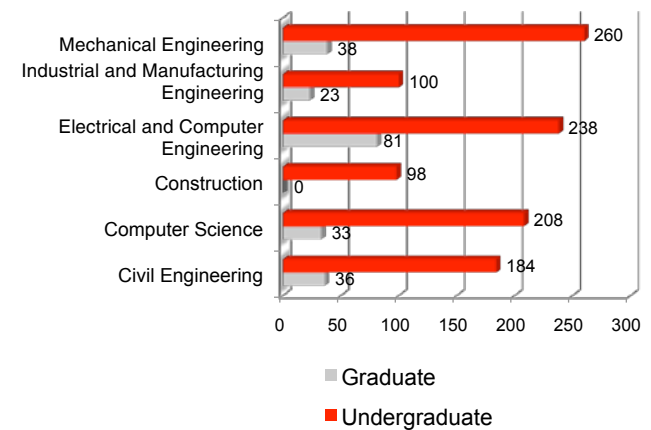
Minority and Female Enrollment



ACT Scores – First Semester Freshmen



2012 Undergraduate and Graduate Enrollment By Program



Engineering Degrees

The SIUE School of Engineering offers a comprehensive collection of professionally accredited engineering programs:

Civil Engineering – BS, MS

Computer Engineering – BS, Minor

Computer Science – BA, BS, MS, Minor

Construction Management – BS, Minor

Electrical Engineering – BS, MS, Minor

Industrial Engineering – BS, MS, Minor

Manufacturing Engineering – BS, Minor

Mechanical Engineering – BS, MS, Minor

Engineering Science – Ph.D.

(collaborative program with SIU Carbondale)

From the Provost

The School of Engineering offers a challenging educational experience through an appropriate mix of classroom instruction, independent research and practical, hands-on experience. The School's academic culture encourages undergraduate and graduate students to engage in their own learning and discover innovative solutions to the challenges facing our communities.

The faculty's passion for their subject pervades the classroom, from introductory courses to graduate courses. With a commitment to providing the highest quality teaching, they connect with students both inside and outside the classroom, providing a personalized learning experience enriched by scholarship and research opportunities.

This is an exciting time for the SIUE School of Engineering. Faculty, staff and students have a powerful commitment to academic excellence, evidence-based professional practice, interdisciplinary collaboration and active engagement with a global community. The School embraces their diversity and melds it into their vision for the future. Your continued support will strengthen this vision.



Ann M. Boyle, D.M.D., M.A.

Interim Provost and Vice Chancellor for Academic Affairs



The Need to Expand



"The addition will enable the School to keep pace with our developments while keeping our classroom and laboratory facilities at the leading edge."

Dr. Chris Gordon

With the School of Engineering educating a record number of students each year and the increasing number of junior faculty members needing research space, a building expansion and renovation have become vital to the continued growth and success of the School.

In April 2012, the University broke ground on a \$14.2 million construction project that includes a new 32,000-square-foot addition connected to the existing Engineering Building through an enclosed bridge. The addition, scheduled for completion during fall 2013, will provide additional offices, classrooms and teaching labs to accommodate the 1,300 students now enrolled in

SIUE's engineering programs. Once the addition is completed, a renovation of the existing building will include a refresh of the specialized classrooms and teaching and research labs.

Dr. Chris Gordon, associate dean of the School, believes the addition is vital to the continued success of the School of Engineering. "The School has made tremendous strides in recent years and continues to attract outstanding students and faculty," Gordon said. "The addition will enable the School to keep pace with our developments while keeping our classroom and laboratory facilities at the leading edge, which is essential to propel the work of our many talented teacher-scholars and students."

The Engineering Building addition will require funds to outfit the classrooms and laboratories with state-of-the-art equipment. If you are interested in contributing to the Engineering Building addition, contact Karen Wicks, director of development, at (618) 650-5020 or kwicks@siue.edu.

Supporting Student Success through Scholarship

During Terry Taborn's campus visit to SIUE, he felt a personal connection to the School of Engineering and to the University as a whole. "I liked the campus and atmosphere," said Taborn, a freshman from Harrisburg, Ill. "I met several students and faculty, including Dr. Hasan Sevim, the dean of the School of Engineering. After talking with him, I felt very comfortable with my decision to attend SIUE, specifically the School of Engineering."

Following his visit, Taborn stayed in contact with Sevim, who inquired about his interest in the mechanical engineering program and informed him of a scholarship through The Boeing Company. Taborn jumped at the opportunity to receive financial assistance and became one of five recipients of the scholarship.

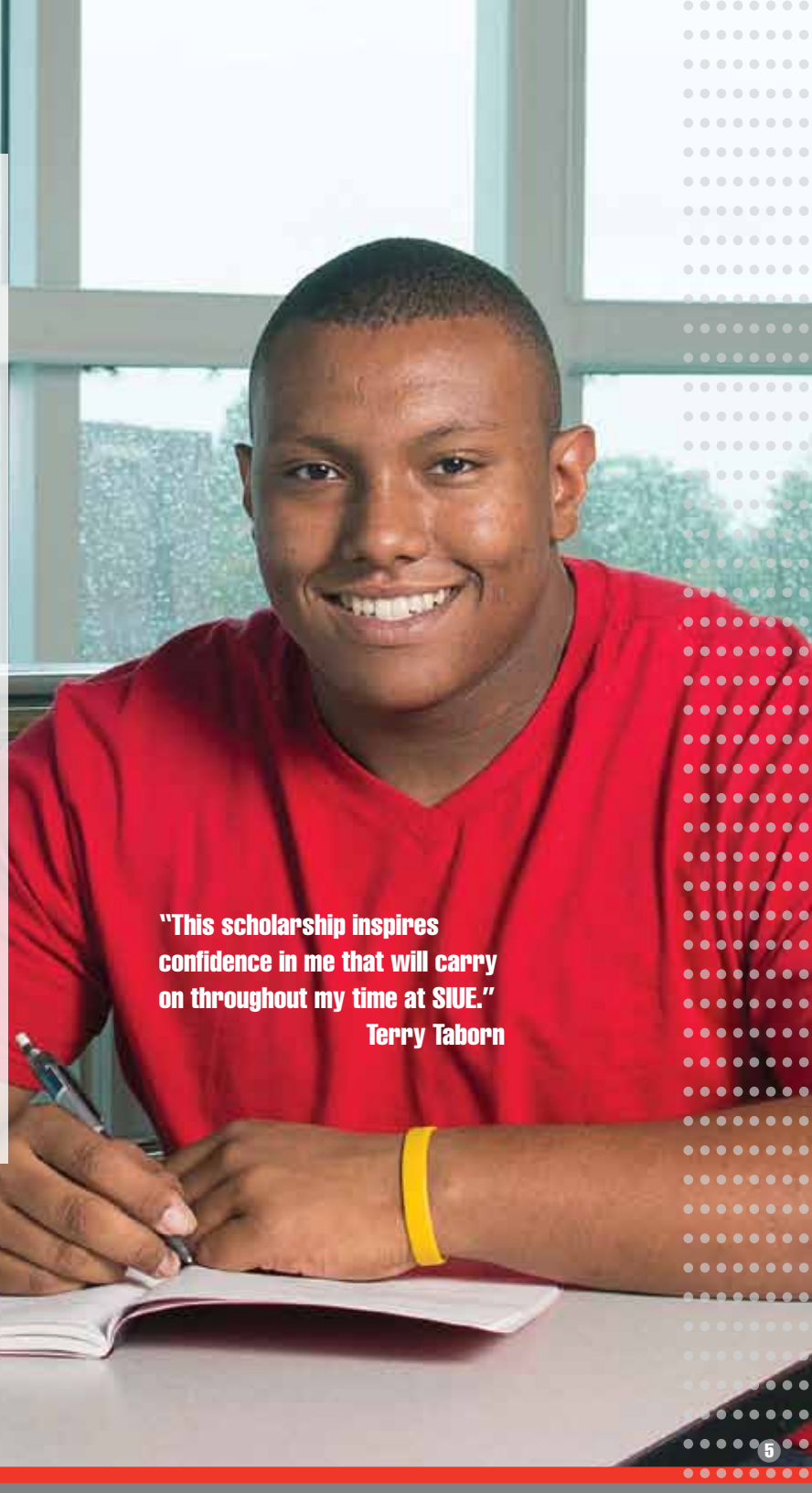
The Boeing Scholarship awarded to Taborn is one of nearly 20 need- or merit-based scholarships available through the School of Engineering. Scholarship support is an essential tool to recruit highly qualified students who have financial need, including female and minority students. The School's

goal and vision are to seek and provide endowed scholarships to support deserving students through four years of college, provided they remain in good academic standing. Such support enables engineering students to focus on academic success instead of financial challenges.

Scholarship support allowed Taborn to pursue a college education, which will open him up to numerous career possibilities. He has always been interested in the mechanics of car engines. With the help of this scholarship and through his enrollment at SIUE, Taborn aspires to advance his interest in engines to a much larger scale, perhaps working on jets with The Boeing Company upon graduation.

Receiving the prestigious scholarship has helped Taborn focus on his major. "I came to college to earn a degree, but my motivation has advanced," Taborn said. "This scholarship inspires confidence in me that will carry on throughout my time at SIUE."

.....
If you are interested in endowing a student scholarship, contact Karen Wicks, director of development, at (618) 650-5020 or kwicks@siue.edu.



"This scholarship inspires confidence in me that will carry on throughout my time at SIUE."
Terry Taborn

The Value of a Role Model



Omar Rivera

According to the United States Census Bureau, Latinos and Hispanics are the fastest-growing ethnic groups in the United States. Following suit, the national percentage of Hispanics and Latinos receiving a bachelor's in engineering increased in 2011 to

8.5 percent, continuing a 10-year trend of annual increases per the American Society for Engineering Education.

Regionally, Latino and Hispanic engineering students remain underrepresented. However, the

"We need great minds from all corners of the world. Latinos and Hispanics can help maintain that multicultural environment needed in this community."

Omar Rivera


number has been steadily increasing. Over the past five years, the SIUE School of Engineering has seen significant enrollment growth in Hispanic and Latino students, from eight to 26 students.

Dr. Marcelo Azambuja, assistant professor in the Department of Construction, is a firm believer of the importance of Latino and Hispanic diversity in the higher education setting and on the job site. "Hispanics and Latinos in the engineering field are needed and important," said Azambuja, a native of Brazil. "In construction specifically, Hispanics and Latinos constitute a significant percentage of the work force. It's important to have efficient communication between administration levels. Increasing the number of Hispanics and Latinos in our field will only help with this communication hurdle."

Azambuja was inspired to come to the United States by those he admired and respected. "My decision to come to the U.S. for my Ph.D. was influenced by

the fact that I knew of Latino faculty members at my University of choice," Azambuja said. "Having someone with your cultural background excelling in the field you want to pursue is definitely motivating. It's important to have role models."

Omar Rivera, a graduate student with an emphasis in computer networks and security, understands the importance of role models in the classroom — he is one of them. Originally from Puerto Rico, Rivera is a graduate assistant in the School of Engineering. "I take my teaching assistant position seriously because I am viewed by the students as a mentor," Rivera said. "I want to be a good role model for all students, but especially for those of Hispanic and Latino descent. It is important for the engineering community to grow. We need great minds from all corners of the world. Latinos and Hispanics can help maintain that multicultural environment needed in this community."



**"Engineering is not an easy field, which makes NSBE extremely valuable to me as an African-American female engineering student."
Jacqueline Walls**

Student Organizations Provide Community

Engineers are innovative and creative, and they strive to develop solutions to society's challenges whether they are small or large. They require a sense of vision and understand that there is never just one way to solve a problem. Diversity in thought, education, perception, background and life experiences provides a means to foster openness, engagement and new ways to approach daily challenges. The SIUE School of Engineering strives to facilitate the diverse needs of its student body. Students embrace diversity by interacting with other students. They are exposed to this diversity through various student organizations.

The National Society of Black Engineers (NSBE) student chapter is an organization dedicated to the academic success of African-American engineering students and engineering professionals. NSBE has 15 student members and is led by two faculty advisors: Dr. Emmanuel Eneyo, professor of industrial and manufacturing engineering, and Dr. Robert LeAnder, associate professor of electrical and computer engineering.

Jacqueline Walls, NSBE's organization secretary, says its members are dedicated to academic excellence and committed to giving back. By establishing roots within the community, NSBE has created a vision

of possibility for prospective high school students interested in engineering. For several years, NSBE has worked with the East St. Louis Charter High School robotics team, guiding them through the annual Botball Tournament held at SIUE. The Botball Educational Robotics Program gives students skills, experience and opportunities to succeed as they work in teams to design, build and program autonomous robots for regional and international competitions.

Throughout the year, NSBE members also participate in community-based projects. "We try to work at least twice a year with Habitat for Humanity," said Walls, a senior civil engineering major from Chicago. "Working on buildings, planning, helping the environment and assisting families with their new homes are great learning experiences for all of us."

"Engineering is not an easy field, which makes NSBE extremely valuable to me as an African-American female engineering student," Walls said. "It's important to have an organization like NSBE who is a strong advocate of increasing the number of minority students excelling academically and professionally within the engineering community."

A Vital Perspective

**"Women bring a different and vital perspective to the industry.
SWE inspires us to use our perspectives for the greater good."**

Alexis Brown

Women have made tremendous progress in education and the workplace during the past 50 years. Even in historically male fields such as business, law and medicine, women have made impressive gains. In science, technology, engineering and mathematics (STEM), however, women's progress has been slower, especially in engineering.

In 2011, the Bureau of Labor Statistics reported that women hold only 12.9 percent of engineering positions. Of the 1,088 undergraduate students registered for Fall 2012 in the School of Engineering, 122 are women. While aspiring women engineers remain underrepresented in engineering at SIUE, enrollment continues to be relatively consistent with national numbers. One group dedicated to improving these statistics is the Society of Women Engineers (SWE).

SWE has been supporting women in engineering since it was founded in 1950 and has expanded to more than 100 professional sections and 300 student sections in the United States alone. SWE provides a foundation for the women in the SIUE student section to pursue their academic and career goals in engineering.

The organization offers women in engineering the chance to connect with their peers who have found their passion in engineering, as well as networking opportunities with professionals and companies. "The priorities of SIUE's SWE section are to attract, recruit, retain and network for success and professional growth," said Alexis Brown, a junior mechanical engineering major and president of SIUE's SWE section. "Ultimately, we want to attract women to engineering and encourage them to stay in the field. We do this through outreach initiatives, social events and networking engagements."

SWE also offers skill-building courses in leadership, management and resumé building. An annual international conference invites all members of SWE to come together and network with other students and professionals from around the world. "The conference is three days of endless opportunities to make important connections that will benefit us after graduation," Brown said. "It's a rewarding experience for any student engineer."



Alexis Brown and Stephanie Veile

The SIUE SWE section enjoys partnerships with many regional and national companies, including the Ameren Corporation and Anheuser-Busch, to form connections that could lead to future employment for SWE students. Each student section is required to have a professional advisor to guide SWE members from college into the workforce. Jessica Hoffman, a transportation engineer with CH2M Hill in St. Louis, is SIUE's collegiate

advisor. She is a 2010 graduate of SIUE's civil engineering program, and a former SWE student member.

"Companies realize how important it is to hire women engineers," Brown said. "Women bring a different and vital perspective to the industry. SWE inspires us to use our perspectives for the greater good."

NSF Grant Supports Research and Recruitment

Dr. Fengxia Wang, assistant professor of mechanical engineering and expert in dynamics, vibration and energy harvesting, came to SIUE with a purpose in August 2009. After graduating from Purdue University with her Ph.D. in 2008 and working as a multi-body dynamics software developer for Caterpillar Inc., Wang was ready to make a contribution to the energy harvesting field and eager to assist underrepresented students interested in engineering. “SIUE gave me the opportunity to explore my interests,” Wang said.


This year, Wang was awarded a prestigious National Science Foundation (NSF) grant from the Broadening Participation Research Initiation Grants in Engineering (BRIGE) program. This award aims to support innovative research and diversity plans that contribute to recruiting and retaining a broad representation of engineering researchers — especially those from groups that are underrepresented in engineering.

Wang proposed to use piezoelectric energy harvesting as a green energy creation method, which provides an alternative for alleviating world energy stress. Piezoelectricity is the charge that accumulates in certain solid materials in response to applied mechanical pressure. The success of Wang’s proposed study aims to introduce a new generation of high-energy-efficiency cars with emission reduction and ultimately improve environmental conditions.

In addition to focusing on her research, Wang is committed to mentoring students at different stages in their studies – high school, undergraduate and graduate – to improve recruitment, retention and the success of underrepresented students in engineering. This opportunity was made possible through her BRIGE grant.

“The potential for my research to contribute to energy problems is a powerful way to attract a diverse group of students to STEM related careers,” Wang said. “I want to reach students at an early age and give them opportunities to learn about engineering and the important role of engineering in society.

“It is important for students to interact with role models who are women or minorities so they see that a career in engineering is a possibility.”

A close-up portrait of Dr. Fengxia Wang, a woman with short dark hair, smiling warmly. She is wearing a light-colored blazer over a dark top. The background is a dark, textured wall with a grid of small white dots.

“It is important for students to interact with role models who are women or minorities so they see that a career in engineering is a possibility.”
Dr. Fengxia Wang

Meeting Three Criteria



Mir Areeb Ali

"SIUE was the best place for me to be a part of the science world and to perform the research I enjoyed."

Mir Areeb Ali

"When I was searching for a university to attend in the United States, I had three criteria," said Mir Areeb Ali, an electrical engineering graduate student from Maharashtra, India. "I was looking for small class sizes, good research in my field and professors with actual design experience. SIUE had everything that I wanted."

It was important for Areeb to receive his master's from a university in the U.S., specifically SIUE. "The United States is known for science, research and state-of-the-art facilities," Areeb said. "Here, I am exposed to the science world. SIUE was the best place for me to be a part of the science world and to perform the research I enjoyed."

Areeb arrived at SIUE in January 2011 and has been assisting Dr. George Engel, professor of electrical and computer engineering and expert in analog and digital electronics, since May 2012. Currently, they are working

to improve the HINP16C (Rev. 3) chip, which Engel originally designed and fabricated in 2007. The revised chip, HINP16C (Rev. 4), is an integrated circuit (IC) for use in a series of low and intermediate nuclear energy physics experiments.

"I am gaining valuable experience during my research assistantship with Dr. Engel," Areeb said. "The software and tools that we use daily are also used in large companies such as Intel and Texas Instruments. The skills I am developing will be very beneficial for me after graduation."

Areeb will graduate in May 2013. Upon graduation, he plans to stay in the United States to earn his Ph.D. "Every day I learn something new," Areeb said. "The School of Engineering has fulfilled all three of my criteria during graduate school. I'm looking forward to using my new knowledge to make a difference."

Importance of International Experience

Global knowledge and worldly experiences are valued by the students participating in the SIUE-ITU Dual Diploma Program. A collaborative effort between SIUE and Istanbul Technical University (ITU), this program offers students the opportunity to earn two diplomas in industrial engineering—one from each university.

In the fall 2012 semester, the School of Engineering welcomed 38 new sophomores from ITU and welcomed back 33 seniors who will graduate

from the program in 2013. Mesut Kurga, a senior from southern Turkey, and Emre Savas and Betul Akyuz, seniors from Istanbul, have always had the desire to study in the United States.

“Studying in the United States is a great experience,” Kurga said. “Companies around the world prefer international experience in their employees. We are getting that through the Dual Diploma Program. We will be one step ahead of others when we graduate.”

Akyuz feels like she is getting the best of both worlds by participating in the Dual Diploma Program. “ITU is a very reputable university in Turkey and SIUE is known for its high quality education,” Akyuz said. “Both institutions are globally recognized. I am happy to get diplomas from both institutions.”

To Savas, one of the most valued experiences of studying at SIUE is the diversity within the School of Engineering. “It’s important to be surrounded by people from different

cultures while in college,” Savas said. “Everyone has different ways of explaining situations and different ways to evaluate problems. Different ideas improve outcomes.”

“The Dual Diploma Program opened us up to diversity,” Kurga said. “Diversity in college prepares us for diversity in the workforce. We do not know who we are going to work with or communicate with in the future. SIUE is helping prepare us for business in the real world.”

“Companies around the world prefer international experience in their employees. We are getting that through the Dual Diploma Program.”
Mesut Kurga



Front row (L-R): Idil Ciftci, Bilgehan Kucuk • Back row (L-R): Mesut Kurga, Betul Akyuz, Emre Savas

The following engineering professionals joined the faculty in fall 2012.

Igor Crk, Assistant Professor, Computer Science
Ph.D., Computer Science, University of Arizona, Tucson
Teaching and Research interests: operating systems, human-computer interaction and energy management

Jeff Darabi, Associate Professor, Mechanical Engineering
Ph.D., Mechanical Engineering, University of Maryland
Teaching and Research interests: BioMEMS and microfluidic systems, energy and thermal systems, and multiphysics modeling

Gunes Ercal, Assistant Professor, Computer Science
Ph.D., Computer Science, University of California, Los Angeles
Teaching and Research interests: graph theory, game theory, randomized algorithms, wireless and social networks

Jianwei Huang, Assistant Professor, Civil Engineering
Ph.D., Civil Engineering, Syracuse University
Teaching and Research interests: mechanics of solids, engineering materials, reinforced/pre-stressed concrete design, bridge engineering and design of FRP-structure systems

Mark McKenney, Assistant Professor, Computer Science
Ph.D., Computer Engineering, University of Florida
Teaching and Research interests: high performance geospatial computing and spatiotemporal data modeling and implementation

Abdolreza Osouli, Assistant Professor, Civil Engineering
Ph.D., Civil/Geotechnical Engineering, University of Illinois Urbana-Champaign
Teaching and Research interests: field monitoring, performance-based geotechnical design, soil-structure interaction, resilient and sustainable infrastructure and numerical modeling

"We are fortunate to be able to respond to this high demand by hiring outstanding faculty who bring tremendous energy and pioneering ideas to the School."

Dr. Hasan Sevim

Faculty Excellence

The School of Engineering has seen tremendous growth and has become the school of choice for increasingly well-prepared students. The average math and composite ACT scores of the fall 2012 freshman class are 28.0 and 26.6, respectively. Fall 2012 marked the fourth consecutive year the School has achieved record undergraduate enrollment. Over the past four years, student enrollment has grown nearly 30 percent.

"The reputation of our programs has been spreading rapidly through the region, which has increased enrollment significantly," said Dr. Hasan Sevim, dean of the School of Engineering. "We are fortunate to be able to respond to this high demand by hiring outstanding faculty who bring tremendous energy and pioneering ideas to the School."

The School's academic success is related to the work of its faculty, who effectively combine the best practices of teaching, scholarship and service.



L-R: Jeff Darabi, Abdolreza Osouli, Jianwei Huang, Mark McKenney, Gunes Ercal and Igor Crk

"My URCA research allowed me to gain hands-on experience that I wouldn't have received in the classroom."

Jessica Eichhorst

When civil engineering major Jessica Eichhorst became an Undergraduate Research and Creative Activities (URCA) assistant during her senior year at SIUE, her career took off on a path she had not anticipated. SIUE's URCA program offers undergraduate students opportunities to design, conduct and assist with scholarly projects that have an impact on our world for the better.

With an interest in green storm water infrastructure, Eichhorst spoke with Dr. Susan Morgan, professor of civil engineering, about possibilities to learn more on the topic. Morgan, who has extensive experience researching various environmental problems, was planning to conduct an URCA research project in collaboration with the Metropolitan St. Louis Sewer District (MSD).

Eichhorst was hired as Morgan's URCA assistant to research a potentially sustainable bioretention media. Bioretention cells, also known as rain gardens, are a relatively new urban storm water best management

practice developed to reduce runoff quantity and improve quality in a natural manner.

"The goal of the study was to determine whether incinerator bottom ash from municipal waste water treatment can be an acceptable replacement for sand in bioretention media," Eichhorst said. "I tested the hydraulic conductivity on various combinations of materials. We wanted to see if we could replace sand with incinerated bottom ash because it's potentially a sustainable practice.

"My URCA research allowed me to gain hands-on experience that I wouldn't have received in the classroom," Eichhorst said. "I also had the opportunity to work closely with Dr. Morgan and learn from her expertise."

Because the results of the initial study were positive, MSD gauged the interest of Morgan and Eichhorst to continue the study beyond the URCA project. "Although I wasn't necessarily planning on going to graduate school immediately following graduation,



Jessica Eichhorst

I was presented with a great opportunity," Eichhorst said. "This research is important and is providing beneficial information for MSD. I was compelled to go to graduate school at SIUE and continue with the research.

"It has been a lot of hard work. But I believe hard work pays off, and it has for me. I am conducting research that might actually bring a better solution than what is currently being practiced."

Diversity within Positions

An engineering degree can lead in many directions. SIUE engineering graduates work in positions ranging from aerospace to power distribution — occupations as varied as the industries themselves.

According to the Bureau of Labor Statistics, engineering is among the fastest growing occupations in the United States. Because of this, there is great opportunity for more women to enter the field and have a substantial impact on our everyday lives. Many companies today are discovering that increased diversity in the workplace contributes to product innovation,

global competence and other successful corporate outcomes.

The Boeing Company works closely with selected colleges and universities to enhance undergraduate curricula, support continuing education of Boeing employees, recruit for internships and employment, and collaborate on research that benefits the long-term needs of their business. The company also values the skills, strengths and perspectives of a diverse team. A number of alumni from the SIUE School of Engineering work for Boeing.

Industrial engineering alumna Megan Harris has been an employee of Boeing since she graduated from SIUE in 2005. Over the past seven years, Harris has held numerous positions, starting with the Engineering Skills Rotation Program (ESRP). This program affords new engineers the opportunity to spend eight months in three different positions within Boeing. Boeing is the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft.

"Being involved in ESRP was a rewarding experience," Harris said.

"I was given the opportunity to participate in a variety of engineering projects. It definitely helped me figure out what I really enjoy within my industry."

Now working as a manufacturing engineer and F/A18 supplier affordability project manager, Harris believes Boeing has provided her diverse opportunities that will be beneficial throughout her career. "Every position I have held has made me better at my next job," Harris said. "Everything is interconnected, and my experiences have helped me become a well-rounded and efficient engineer."



A small sample of SIUE School of Engineering alumna employed with The Boeing Company:

First row: Nancy Vossel, F-15 PACS Project Lead • Kay Guse Director, Engineering, Operations and Technology Policies, Procedures & Processes • Melissa Glauber, Patent Prosecution Professional, Intellectual Property Management • Jeanna Cossett, Integration Engineer • Megan Harris, Manufacturing Engineer, F/A18 Supplier Affordability Project Manager • **Second row:** Tyria Riley, Ph.D., Project manager – Electrical System, 737 Program, Boeing Commercial Airplanes • Sheila Kitzmann, Software Engineer, Apache Architecture & Weapons, Apache Training Systems • Robbie Hartline, Manager, Direct Attack Programs – ATE Design • Dana Booher, Product Support Architecture and Strategies Engagement Lead • Samantha Schaefer, Systems Engineer, Boeing Research and Technology • Alison Steppig, Manufacturing Engineer, F-15 and F/A18 Equipment Installations Integrated Product Team • Jessica Sorrill, Manufacturing Engineer, Global Strike Systems – Armament Team • Jenny Voss, Oklahoma City Site Corrective Action Focal, Quality Engineer

School of Engineering Industrial and Professional Advisory Councils (IPAC)

Civil Engineering

Jeffrey Abel, BS '91 • Illinois Department of Transportation
Garry Aronberg • Kuhlmann Design Group Inc.
Geri Boyer, BS '91 • Kaskaskia Engineering Group LLC
Tom Cissell, BS '97, MS '04 • Oates Associates
Pat Judge, BS '96 • Gonzalez Companies LLC
Charles Juneau • Juneau Associates Inc.
Vicki LaRose, BS '90 • Civil Design Inc.
Jim Middleton, BS '93 • Missouri Department of Transportation
Scott Miller, BS '96 • MiTek Industries
Ted Nemsky, BS '85 • Illinois Department of Transportation
Ruofei Sun • Cannon Design

Computer Science

Ben Carmitchel • ESS Data Recovery Inc.
William H. Gentry, BS '82 • Capital Innovators
Roger Germann, BS '84, MBA '94 • Gliacom Corp.
Kathy Henely • Perficient
Dr. Michael S. McCoy, BS '75, • Washington University in St. Louis
Derik Reiser • Enterprise Rent-a-Car
Paul Scheibal, MS '90 • Laclede Gas
David West, BS '80, MBA '84 • Monsanto Company

Construction Management

Brad Barnard, BS '91 • Contegra Construction
Tonya Beesley • Baker Concrete Construction
Mark Bengard • Murphy Company
Tom Buchheit • BRiC Partnership LLC
Ken Cates, BS '96 • Northstar Mgmt. Co. LLC
Ron Covarrubias, BS '88 • Alberici Constructors
Michael Dunda, BS '85 • Ameren Services
Tim Garvey, BA '72 • Southern Illinois Builders Association
Scott Green • Tarlton Corporation
Phillip Hoher • Pace Construction Company
Tim Holland, BS '98, MBA '05 • Kay Bee Electric Co.
Daniel Hunyar • Self-Employed
Tom Lavelle, BS '03 • Keller Construction
Josh Lawrence, BS '99 • McCarthy Building
Jason Mantle • The Korte Company
Jody Mertzke • DW Mertzke Excavating & Trucking Inc.
James Peterson, MS '07 • Self-Employed
Matthew Pfund, BS '96 • Tarlton Corporation
Len Toenjes • AGC St. Louis
John Wendler, BA '74 • John D. Wendler Law Office
Ron Wiese • Alberici Constructors

Electrical and Computer Engineering

Mike Basler • Basler Electric
John Bechtoldt, BSE '90, MS '93 • Scott Air Force Base
Mike Blakey, BS '93, MBA '99 • Anheuser-Busch InBev
Joseph Brinker, BSE '88, MSE '91 • The Boeing Company
Jeff Burnworth • Basler Electric
James Fowler • J.F. Electric Inc.
Paul J. Galeski, BS '83 • MAVERICK Technologies LLC

Dan James, BS '02 • Emerson
George Mues • Ameren
Tyria Riley, BS '02 • The Boeing Company
Ronald J. Schaefer • Bitrode Corporation
Randall Schlake • Ameren
Jeffrey Stumpf, BSE '90, MSE '92 • MiTek Industries

Industrial and Manufacturing Engineering

Jeff Bothe, BS '97 • Intelligrated
Bill Frank • Schnuck's Markets
Megan Harris, BS '05 • The Boeing Company
Dr. Michael S. McCoy, BS '75 • Washington University in St. Louis
Cory Whitaker, BS '04 • The Boeing Company
Rami Younes, BS '04, MBA '06 • Emerson Climate Technologies

Mechanical Engineering

Bill Alexander • The Dow Chemical Company
Jamison Bloebaum, BS '96 • Heideman Associates Inc.
Eric L. Brault, BS '95 • Rock Hill Mechanical Corporation
Steve Bright, BS '99, MBA '09 • Basler Electric Co.
Richard W. Burns • The Boeing Company
Jerrold Hock, BS '04 • Alipro USA LLC
Brad Korte • Highland Machine
Raghu Kunapuli • APC by Schneider Electric
Sesha Madireddi • Nurtureenergy Inc.
Tom Miller • Marcal Rope and Rigging Inc.
Tom Petrunich, BS '94, MS '04 • Amsted Rail Company Inc.
Charles R. Saff • Reitred
Richard C. Smith, MBA '02 • Triumph Fabrications
Chad Winkler • The Boeing Company

Environmental Resources Training Center

Tim Albers, BA '96, MS '09 • American Water Co. Inc.
Tom Brueggemann, BS '87 • SIUE
Becka Coyle, BS '06 • Metropolitan Sewer District
Susan Czerwinski • Lewis & Clark Community College
Joe Hogg • Caseyville Twp. Wastewater Plant
Penny Pinkerstaff • City of Lebanon, Ill.
Martin Reynolds • City of Roxana, Ill.
Patti Schaae
Jim Zhou • SIUE

Southwest Advanced Manufacturing Center

Jeff Bothe, BS '97 • Intelligrated
David Boulay • Illinois Manufacturing Extension Center
John Herzog • Madison County, Ill.
Gary Langenfeld • The Boeing Company
Jim Nelson • Illinois Manufacturers' Association
David Stoecklin • Madison County, Ill.
Ray Varady • V-TEC
Mike Walters • Southwestern Illinois Employers' Association
Dennis Wilmsmeyer • America's Central Port

School of Engineering Industrial Advisory Board

The School of Engineering Industrial and Professional Advisory Councils and the Industrial Advisory Board support the School in several ways. They help the School meet the constantly changing landscape of engineering education, provide student-internship opportunities, help assess strengths and weaknesses of current curriculum, bring contemporary issues and directions to the attention of the administration and faculty, help students develop employment contacts, and add credibility to the engineering programs.

Mike Blakey, BS '93, MBA '99
Assistant Operations Manager
Process Support, Anheuser-Busch InBev

Jyoti Dharna, BS '03, Functional Architect
Monsanto Company

Paul J. Galeski, BS '83, Chairman & CEO
MAVERICK Technologies LLC

Hal Gentry, BS '82, Partner
Capital Innovators

Melissa Glauber, BS '03
Patent Prosecution Professional
Intellectual Property Management
The Boeing Company

Edward Grady, BS '72, Chairman & CEO
Reel Solar Inc.

Kay Guse, BS '88, Director EO&T Policies,
Procedures & Processes
The Boeing Company

James J. Heinz, BS '83, Self-Employed

Todd Korte, President & CEO
The Korte Company

Rich Oller, BS '76, Regional Director
Lockwood, Andrews and Newman, LAN

Jeff Pitts, General Manager
Anheuser-Busch InBev

Robert A. Roseman, President
Ehrhardt Tool & Machine Co., Inc.

Bruce P. Schopp, BS '82, President & COO
Oates Associates Inc.

Charles A. (Al) Wentz, Jr., MBA '86, Retired

Friends of Engineering

The School of Engineering is grateful to our alumni, friends, corporate and foundation partners, and organizations that made contributions to the School this fiscal year (July 1, 2011 to June 30, 2012). Your generosity is so important in assisting the School to maintain excellence in our programs. On behalf of the faculty, staff and students, I extend heartfelt thanks and gratitude to all our donors who made an investment in our future engineers, computer scientists and construction managers.

Thank you!

Hasan Sevim, Dean, School of Engineering

Individuals

\$5,000 - \$9,999

William H. '82 & Jean Gentry
Paul M. '83 & Kay Guse '88
David L. & Debra S. Hill '90 '99

\$2,000 - \$4,999

Michael J. '93 '99 & Verbal J. Blakey '93

\$1,000 - \$1,999

Melissa A. Glauber '03
Louise W. Saunders '74
Dr. Hasan Sevim
Duane O. & Melanie Steiner
Rollie G. Thouvenot '72

\$500 - \$999

James C. Fowler
Joseph A. Hamilton '89 '00
David C. Lake '73
Dr. Felix Lee & Dr. Guim Kwon
Dr. Chiang & Shih-ing Lin
David J. & Sharon E. Sherrill
Dr. Terry Yan & Cynthia A. Wang

\$250 - \$499

Eddie H. '76 & Lynne Agha '72
Dr. Dennis J. Bouvier
Michael D. '98
& Sharon S. Busch '94 '06
Dr. Ryan N. Fries
Edward C. '72 & Karen S. Grady
Thomas G. Koerkenmeier '90
Rajeev A. Mathew '93
Kenneth C. '78
& Toni M. McDonough '79
John A. '95 & Stephanie Metter
David Novak '72
John Odak '83
Brian A. Schuetz '99
Jicheng Tang '91
Brent M. Vaughn '95 '99
John J. Votoupal '85
Mark D. Wagner '02

\$100 - \$249

Gurbux A. Ajwani '93
Joshua R. Allen
Steven A. Ballot '94
James D. '96 '02 & Rhonda Beane
Michael P. '92 '94 & Lori Beatty '92
Thomas S. Bechtel '84
Audrean D. Beecher '93
Alex C. Benz '10
Sheri L. Blecha '90
Jared A. Boeser '12
Dennis C. '79 & Anna M. Bouse
Charles J. Caldwell III '95
Warren A. Carter '80
Kermit P. '84 & Nancy J. Christmann
Steven A. Collins '82
& Julie A. Florence
Matthew T. Combes
Jennifer L. Cooper Carter '90 '92
Steve & Sandra D. Cupp '99
Jack B. Deeken '11
Joshua T. '05 & Shelby L. Dersch '06
Damien A. DiVittorio '12
Nancy J. Eastman '91
Marion C. Erwin '81
Hook S. Eu '86 '89
Sanjay Gongalare '90
Jake A. Gonterman '08
Loen Graceson-Martin
Terry M. Grayson '80
Mark D. Haag '80
Anne Haddad '85
Kent R. Hamilton '89
Doug E. '00 & Sherrie J. Harned '94
Robbie L. Hartline '96
John T. Hawthorne '07
Sean M. '95 & Sheila J. Honer
Norman F. Howard '83
Xiapien Hua '96
Jean F. Hunsaker '85
Yiming K. Jia '99 '00
& Qing M. Yang '99 '04
Robert E. Johns '90
Thomas E. '88 & Michelle A. Klasner
Don E. Kocher '94

Matthew P. Liefer '05
Kyle S. Loyd '98
Sean E. Loyd '95 '00
Abhishekar Madduri '09
John R. Moffatt '82
Joseph M. '85 & Diane T. Moffatt
Dr. Susan M. Morgan
Scott R. '99
& Stephanie S. Muentnich '96
Mary E. Neuman '80
Travis Niederhofer
Robert D. Niemietz '73
Leslie J. Nolan '87
David M. Ogle '00
Andrew A. Parcels '11
Dr. Bradford Cross
& Amy Pedersen Cross '98
Sridhar C. Ramalingam '94
Jeffrey R. '98 '01 & Lora S. Rensing '00
David N. '84 & Melanie M. Richter
Richard J. '79 & Elaine Rinehimer
Robert J. Jr. & Carol A. Schreiber '95
John L. '91 & Linda A. Sedlacek
Edward H. Settlemoir '82
Franklin W. Sharpe '10
Ronald L. Smith '86
Dr. Gregory & Mary L. Stephen
Paul A. Stroh '84
Ruofei Sun
Marce P. Tebbe '78 '82
John E. & Karen L. Thompson
Lucas R. Thompson '11
David '06 & Debra Trojahn
Angelo E. '96 & Cynthia V. Turner '93
Dr. Scott E. '82 & Jeanie M. Umbaugh
Kevin F. Veit '86
Hung B. Vu '94
Donald R. & Michelle E. Wagoner
Bruce A. Walter '77
David F. Warchol '81
Dr. Bernard M. & Anita L. Waxman
John A. Wegener '81
Dr. Charles A. Jr. '86 & Joan D. Wentz
Dr. Anne M. Werner
Dr. Keqin Gu & Xinxin G. Zhu '96
Ryan T. Zwijack '09

\$1 - \$99

Timothy D. '03 & Collena H. Ahrens '04
Kyle J. Arentsen '09
Lawrence S. Baczkowski '83
Kevin M. Baker '00
Joshua C. Bariola '09
Sanjeev K. Basavatia '04
Dr. Daryl G. Beetner '90
Andrew '71 '83
& Paulette J. Berkbigler
Kent T. Berry '02
Christopher M. '94
& Stephanie L. Betts
Steven D. '87 & Lori L. Bluemner
Dr. Narayan N. & Ruth A. Bodapati
Mr. Steven D. Brendel '80
Jonathan D. Bridges '10
Dr. Lisa J. Brown '75
Dustin K. '93 & Beth A. Bunting '93
Janet Butcher
Thomas L. III '97 '04
& April N. Cissell '02
Coe D. Daniels '06
Chester W. Densmore '72 '89
Clint E. Dougherty '08 '09
Ted J. '81 & Amy L. Dragovich '08
Jason A. Dreyer '08 '10
Roger L. '85 & Lynn A. Driskell
Robert S. Eck '73
Kate Edstrom
Angela D. Ellmo '91
Todd M. Embrey '96
Ben J. Erschen '04 '05
David L. Falbe '06
Mark R. Fehrenbacher
James A. '74 & Nelma Fritsche
Gary R. Garrison '77
Shawn E. Gillam '86
Dr. Chris Gordon
Maisie A. Graser '07
Timothy W. Gregowicz '91
James M. Groesch '76
Jeffrey A. Gunnells '88
Michael J. Hall '06 '07
Steven M. '89
& Heidi J. Hamilton

Megan Harris '05
Cory M. Hart '05
Bonnie M. Hassell '92
Joseph R. Hemphill '07
Anthony & Amy L. Hensley '98
Lawrence B. '00 & Kristi L. Hilmes '05
Kay M. Hoffmeyer '91
Garfield S. Jones '02
Dr. S. Cem Karacal
John R. '99 & Robin Kelly
Bruce E. Kerkemeyer '89 '92
Brent C. Kirchhofer '10
John R. Knipmann '99 '02
Todd M. Kocher '07
Brian S. '87 & Katherine A. Kunz '87
James R. Lawrence '03
Franklin A. Lee '85
Scott G. & Nura J. Lee '88
Carol A. Lieb '78
Shirley M. Lodes
Daniel G. Lutz
Brittany M. Marron '07
Curtis P. '02 & Clarice M. McKay '03
Jeffrey L. McKean '90 & Angela West
Scott '82 & Jill L. Mohnkern '92
Robert W. Moske '84
William A. Mueller '10
Raymond C. II '84 & Janet E. Munzert
William S. Myers '85
& Donna L. Myers
Hiep X. Nguyen '98
Dr. Nader Panahshahi
Leroy J. Petersen '77
Thomas J. Petrunich '94 '04
Richard L. '94 & Vanessa R. Pohlman
Bertram J. Pritchard Jr. '72
Terry L. Proctor '95
Wongtu Ps '10
Gregory A. & Shelley L. Puckett '96
Stephen E. '82 & Denise A. Putz
Brittnee N. Radcliffe
Kurt A. '05 & Rebecca L. Rakers
Duane J. Ratermann '88
Ryan L. Relleke '03
Thomas M. Reuter '96

Linda S. Ritterskamp '83
 Lawrence T. Sr. '73 & Lois J. Roth
 Randy E. & Donna L. Roth
 Rodney J. '83 & Tina Roundcount
 David W. '71 & Kathleen A. Rudy
 William L. '91
 & Susan M. Ruffcorn '90 '95
 Keith A. & My Schellhardt '83
 John M. '82 & Rose A. Schmitt
 Chris L. '79 '87 & Cindy L. Segafredo '88
 Glen A. '76 & Renee P. Seganfredo
 Dave A. '78 & Mary J. Shadowen '78
 Dr. Scott R. Smith
 Tom L. '73 & Carol J. Sneed '67 '93
 Michael J. Stedelin '02
 Kenneth R. Steinberg '94
 Mark A. '77 & Sheryl Steyer
 Alberta E. Thies
 Gary R. & Susanne Thies
 Bill E. Tindall III '02
 Randy G. Venhaus '07
 Michael A. '98 & Patricia A. Viviano '02
 Paul N. Voss '93
 Christopher L. Walker '05
 Sandra E. Walter '11
 Chris E. '79 & Carolyn M. Warnky '79
 Joseph T. Watson '08
 Wayne A. Weber '09
 Dr. Jerry B. & Lori A. Weinberg
 Karen S. Wicks
 Richard L. Jr. & Rebecca A. Wilburn '93
 April N. Wood '00

Corporate Partners

ABBA Engineering, LLC
 Ameren Corporation
 American Institute of Steel Construction
 American Society of Civil Engineers
 Anheuser-Busch Companies Inc.
 ASCE - Region 7
 ASCE - St. Louis Section
 Basler Electric Company
 Bitrode Corporation

Burns & McDonnell
 Byrne & Jones Enterprises Inc.
 Cannon Design
 CMI Leasing Inc.
 Construction Financial Management Association
 Edwardsville School District #7
 Ehrhardt Tool & Machine Co. Inc.
 France Mechanical Corporation
 IAPA - Illinois Asphalt Pavement Association
 Illinois Water Environment Association
 Heideman Associates Inc.
 Holland General Contractors Inc.
 Johnson Controls
 Klingner & Associates P. C.
 Missouri Chapter ACI American Concrete Institute
 Oates Associates Inc.
 Oates Associates
 Charitable Contribution Fund
 Otis Elevator Company
 Peabody Investments Corp.
 Pepper Construction Co. #2
 RJN Foundation Inc.
 SIUE Joint Engineering Student Council
 Society of American Military Engineers
 Southern Illinois Sheet Metal Contractors
 The Boeing Company
 The Grady Family Foundation
 The Korte Company
 The Lake Family Fund
 ThyssenKrupp Elevator Corporation

Matching Gift Companies

Ameren
 Anheuser-Busch Companies Foundation
 ExxonMobil Foundation
 Schneider Electric North America Foundation
 The Boeing Company
 Verizon Foundation

SIUE Alumni Hall of Fame 2012 Honorees



Kenneth Cates, '96 BS Construction

Kenneth Cates is the executive vice president of Northstar Management Company, a firm he co-founded. Cates is a certified healthcare constructor who has developed educational programs for health care owners, architects and contractors. He has chaired design and construction planning meetings for national conferences and has given countless hours to enhance the process of planning, design and construction of health care facilities. Cates has worked on more than 1,000 projects with a lifetime value of more than \$3 billion. In 2009, he was awarded the Crystal Eagle Award from the American Society for Healthcare Engineering (ASHE) of the American Hospital Association, recognizing him for his excellent leadership qualities, innovation and overall contribution to ASHE.



Dr. Kurt Smith, '85 BS, MS '86

Dr. Kurt Smith is an engineer and entrepreneur who started his first company while a student at SIUE. Since then, he has founded 15 different ventures and is now the global vice president of new growth platforms at Covidien, a \$10 billion medical technology company that provides surgical and therapeutic products. Smith, who earned his bachelor's degree in electrical engineering in 1985 and a master's degree in electrical engineering in 1986, earned a doctor of science degree in electrical and biomedical engineering from Washington University in St. Louis. His work has revolutionized the operating room, enabling surgeons to see where they are in real time on MRI and CT images displayed in the operating room.

Box 1804
Edwardsville, IL 62026-1804

618.650.2541



*SIUE is proud to support responsible
use of forest resources.*

Engineering Diversity



siue.edu/engineering