In 1966, campus leaders took a bold step and built a brand new engineering discipline — one that brought together engineering, technology and business — and the engineering management program was born. Recognized as the first university to offer such a program, Missouri S&T is still one of the top producers of graduates in the field.
Message from the chair

It is a time of tremendous achievement and anticipation for EMSE! I am having an amazing journey as interim chair of the department and am so impressed by all that our faculty, staff, students, and alumni do to advance the profession, contribute new knowledge, and give back to our community on campus and beyond. I can point to many as living legacies of Professor Bernie Sarchet, the founder of engineering management as a department and as a field of engineering!

As we begin the countdown to our celebration of 50 years in 2016, I invite you to see where we’ve been and just how far we’ve come. We embody the campus motto that MINERS DIG DEEPER in all that we say and do. We are human powered, we are family!! I feel certain that you’ll enjoy reading about the accomplishments of our students, the scholarship of our faculty, the dedication of our staff, and the passion of our alumni! I have every confidence that the features in the newsletter will send you rushing to your calendars to put 2016 Homecoming in your date books. Come home to EMSE to help us celebrate our 50th anniversary in grand style. It won’t be a party without YOU!

Warm Regards,

Dr. Suzie Long  
Hist’84, Phys’84, MS EMgt’04, PhD EMgt’07  
Interim Chair, Engineering Management and Systems Engineering
Lucas Parker, a sophomore in engineering management, aerospace engineering and mechanical engineering, is obsessed with fitness.

Even though we are serious about performance and begin preparation for the next competition as soon as the last one is done, the atmosphere isn’t stressful,” he says. “It’s a relaxed learning experience. It’s just a bunch of friends building a bike and learning at the same time.”

Parker says the team is more than a learning experience — it’s a life experience.

“As a freshman, I didn’t know anyone, so I would go to the shop every weekend to work on the bike and that’s how I met new friends,” he says. “The team has opened up doors for friendships, networking and travel that I wouldn’t have gotten otherwise.”

Though he loves being part of the team, Parker says that he enjoys teaching others teamwork just as much. When he coached soccer at Gene Slay’s Boys Club in the Soulard neighborhood in St. Louis, he learned just how much he loved it.

“All of the kids hated soccer because they didn’t understand it,” he says. “I taught them how to pass and how cool it could be if they worked together and slowly it worked. I felt like I had given them a sense of purpose.”

When Parker is not busy encouraging others to stay healthy, he’s focused on keeping himself healthy. In any free time, the Kappa Sigma fraternity member plays sports with friends and lifts weights in order to stay healthy for Air Force ROTC.

Fitness is an important part of his life, sure, but he says it’s not the only thing he’s focused on.

“My motto is to always stay happy,” he says. “I’m not sure what I’m going to do after Missouri S&T, but I do know I’m going to make it a priority to be happy.”

From lifeguarding to coaching a gym class at The Centre, Rolla’s Health and Recreation Complex, Parker spends a lot of time taking care of his body and encouraging others to do the same. And he’s been this way his whole life.

In high school, Parker rode his bike to school every day. So, when he came to S&T and wanted to join a design team, he found the perfect fit in the Human Powered Vehicle Competition Team.

Each year, the team designs, builds and races an aerodynamically fitted recumbent bicycle or tricycle. This year the team earned first place at the American Society of Mechanical Engineers 2015 Human Powered Vehicle Challenge East Coast Competition in Gainesville, Florida.
It has been said that beer brings people together. At least that was the case for Missouri S&T students and Zeta Tau Alpha sorority sisters Delaney Sexton and Courtney Mandeville, who worked together in co-op positions at Anheuser-Busch in St. Louis.

Sexton and Mandeville worked with S&T’s Cooperative Education Program, which gives students employment opportunities to gain practical degree-related work experience before they graduate. The program is set up so that students can take a break from studies and work full time for one semester or a combination of semesters, which allows eight to nine months of work experience versus the three summer months allowed for internship positions.

Sexton, a senior in engineering management and mechanical engineering from Independence, Missouri, worked in operations, where she managed four bottling lines at the company’s historic Bevo Bottling Plant. She says she had 30 operators reporting to her at any given time during her co-op, which concluded in July.

Mandeville, a senior in chemical engineering from Belleville, Illinois, worked through December as a brewing quality and operations group manager. Each had to deal with problems on the fly. In some cases, they worked together to find a solution.

“Sometimes Courtney sends me beer with higher levels of oxygen,” Sexton says. “Or maybe my meter’s off. Then we have to call up her people to test the beer.” “We have to react quickly,” Mandeville adds.

They have also had to learn how to manage a group of employees that are sometimes much older and certainly more experienced than themselves.

“You can’t come in thinking you know everything,” says Sexton, adding that she gleaned as much from her co-workers as they did from her. Applying what she learned in engineering management, Sexton says she got to know her operators on a personal level, which helped earn their respect.

Mandeville says she learned a lot from her superiors, as well. “It’s an open-door policy. It could be a stupid question, but they will answer it for you. They are there to help you grow.”

“Actually, it’s more of a no-door policy,” jokes Sexton. “Actually, there are no corner offices on A-B’s St. Louis campus. Regardless of title, office employees work in cubicles with no door.”

The A-B co-op program has been around since the mid-’90s, and many S&T students have been through it, according to Jane Killebrew, director of brewing quality at A-B.

“I think the biggest thing is you watch them come in at the very beginning, and they don’t know anything about making beer,” says Killebrew. “But they will leave at the end of their co-op term and know an incredible amount about making beer.”

“It’s amazing how much a person can learn in a semester or a summer,” she adds. “It’s one of the most rewarding things in the world for me to watch — to see them learn, grow and evolve. The ones that really love it usually come back to work full time.”
MODOT, S&T MERGE FOR RESEARCH

“THIS IS NOT A GAME WHERE YOU CAN JUST DRIVE WHEREVER YOU WANT.”

Missouri S&T researchers are using a Missouri Department of Transportation grant to help determine if alternate signage could make drivers — and workers — safer in work zones.

Using the cab of a white Ford Ranger XLT with split bucket seats as their driving simulator, Missouri S&T’s team is evaluating merge sign configurations for work zones along the state’s roadways. Three projectors are mounted on the truck’s roof to show a simulated straight stretch of Interstate 70 on a concave screen. Drivers control the steering wheel and acceleration and brake pedals to go through four merge configurations, two each for left and right.

“We do this under normal conditions,” says principal investigator Dr. Suzanna Long, interim chair and associate professor of engineering management and systems.
by the numbers

118
Female students

5
Degrees in Engineering Management and Systems Engineering

747
Total student enrollment

629
Male students

9
ENGINEERING MANAGEMENT CERTIFICATES
- Engineering Management
- Financial Engineering
- Human Systems Integration
- Leadership in Engineering Organizations
- Lean Six Sigma
- Military Construction Management
- Project Engineering & Construction Management
- Project Management
- Safety Engineering

4
SYSTEMS ENGINEERING CERTIFICATES
- Computational Intelligence
- Model Bases Systems Engineering
- Network Centric Systems
- System Engineering
ACCESS FOR ALL

Imagine all of the things students must do on a daily basis to get to class.

Things like opening doors, reading room numbers or even deciding where to sit are simple for most. But for some it’s not that easy.

Students with limited muscle movement, those who use a wheelchair or have reduced vision may have difficulty with the things we take for granted.

We noticed several things that were not up to the current Americans with Disabilities Act (ADA) standards, and set out to improve things.

EMSE worked with Connie Arthur, advisor for Disability Support Services, and Mike Bassett, supervisor of skilled trades and physical facilities, to walk through the building, room by room, floor by floor, and set a plan of action.

By summer 2016, all of the door handles will be switched to the lever style and all room numbers will be switched out to new ones. New door signs will feature easy-to-read colors, and Braille will be located beneath the numbers.

If you would like to find out if your space meets ADA standards or learn what you can do to improve it, please go to the ADA’s website ada.gov.

COMPLEX ADAPTIVE SYSTEMS

Missouri S&T brought together 90 leading technologists and academic experts during the fifth annual Complex Adaptive Systems (CAS) Conference to discuss the complexities, design and operation of the multifaceted systems of the future. This year’s conference ran Nov. 2–4, 2015, in San Jose, California, and featured representatives from 21 nations, including 78 thought leaders who presented advanced research papers on a variety of subjects. The EMSE department was a sponsor for this event and Dr. Cihan Dagli, professor professor of engineering management and systems engineering and founder and director of the systems engineering graduate program, served as the conference director.

KEYNOTE SPEAKERS

Seven keynote speakers presented this year on topics related to the conference theme “Engineering Cyber Physical Systems: Machine Learning, Data Analytics and Smart Systems Architecting.”

- Olivier de Weck of MIT — “When is complex too complex?”
- Amrita Basu of Lockheed Martin — “Exploiting Big Data in Precision Medicine.”
- Charles University’s Iveta Mrázová — “Deep Neural Networks and Their Role in the Quest for Human-Like Brain Power.”
- Dr. Sajal K. Das of Missouri S&T — “Beyond Cyber-Physical Era: What’s Next?”
- Mike Calcagno of Microsoft — “Assistance Patterns: The DNA that will make Digital Assistants Helpful.”

BEST PAPERS IN THE THEORETICAL CATEGORY

- Best Paper: “Adaptation of Spike-Timing-Dependent Plasticity to Unsupervised Learning for Polychronous Wavefront Computing” by Fred Highland and Corey B. Hart of Lockheed Martin IS&GS.
- First runner-up: “Multidimensional Joint Scale and Cluster Analysis” by Mika Sato-Ilic of the University of Tsukuba, Japan.
- Second runner-up: “Analyzing Responses from Likert Surveys and Risk-Adjusted Ranking: A Data Analytics Perspective” by Abhijit Gosavi of Missouri S&T.

MISSOURI S&T PH.D. STUDENT PAPERS

On Wednesday afternoon, several Ph.D. students in the engineering management and systems engineering department presented during the Cyber Physical Systems: Complex Systems Architecture Assessment session. Papers included:

- “A Model for Assessing UAV System Architectures” by Andrew Renault.
- “Selecting Attributes, Rules and Membership Functions for Fuzzy SoS Architecture Evaluation” by Louis Pape, Siddhartha Agarwal and Dr. Cihan Dagli.
SPRING LUNCHEON

The 22nd annual Spring Luncheon was held on April 17, 2015. It was hosted by the American Society for Engineering Management (ASEM) and sponsored by the Missouri S&T Academy of Engineering Management. The luncheon is held every spring in celebration of the current students and future graduates to wish them well in their future endeavors. Along with the presentation of awards of achievement, new members were inducted into the Epsilon Mu Eta honor society.

- **Nameka Amaeshi** received the 2015 Outstanding M.S. Research Award. His advisor was Dr. Ruwen Qin.
- **Varun Ramachandran** received the 2015 Outstanding Ph.D. Research Award. His advisor was Dr. Suzanna Long.
- **Sean Schmidt** received the 2015 Outstanding Graduate Teaching Award.
- **Elaine Smith** received the Outstanding Senior Award.
- **Delaney Sexton** received the Don Myers Leadership Award.

YEAR IN REVIEW: ASEM STUDENT CHAPTER

ASEM students hosted many regular events including the department luncheon, breakfast socials with the faculty, the LEAN Manufacturing Workshop and a career fair prep-session for engineering management students. In addition, there were several new guest speakers and plant tour opportunities.

GUEST SPEAKERS

Dr. Joan Schuman spoke to ASEM students about the graduate programs for both engineering management and systems engineering disciplines and Courtney Wyatt, a successful business owner from Kansas City, spoke about the importance of prioritization and goal setting. ASEM students had the chance to attend fun and educational plant tours at Hussmann Corp., a world-class manufacturer; Brewer Science, a silicon wafer production facility; and Anheuser-Busch Brewery, the leading American brewer.

MENTORING PROGRAMS

The two mentoring programs in the ASEM student chapter continue to grow and develop within the society. The In-Department Mentoring Program pairs experienced upperclassman with freshmen and transfer students to give advice about which classes to take, emphasis areas, the department itself and life at Missouri S&T in general. This past year, 30 ASEM members were paired for this mentoring program and its growth is expected to continue in the future. The Academy Mentoring Program gives all students the chance to be paired with an academy member who can help students using successful industry experience with classes, internships and co-ops, and career paths. The academy mentors are a great asset to the ASEM students and have been greatly appreciated by all involved.

FUNDRAISING SUCCESS

ASEM focused heavily on fundraising for the 2014–15 school year. Continuing the past fundraiser of Engineering Management polo sales to students, faculty and staff, the organization raised over $1,500. The First Annual Cornhole Tournament also broke ground as a new fundraiser for the organization to donate to local Rolla charities and gave students a chance to socialize and have fun for a good cause.

A NOTE OF THANKS

The students of ASEM would like to thank all faculty and staff involved in this past year’s success, especially faculty advisor, Dr. Ivan Guardiola. Without the help of our very supportive department, ASEM would not be able to grow and thrive as it is today.

SHARE YOUR MEMORIES

Missouri S&T is defined by its students, faculty, staff, alumni and the local community. As this department approaches its 50th anniversary in 2016 and the university prepares for its sesquicentennial in 2020, we need your help to tell the story of one of the nation’s top research universities.

Among the many activities and projects planned to commemorate the 150th anniversary is a new history book of the university. Dr. Larry Gragg, Curators’ Teaching Professor of history, is writing the book and is seeking submissions from alumni about their experiences on campus through the years.

To submit your memories and photos for the Missouri S&T history book project, email 150@mst.edu.
WE ASKED KEVIN FRITZMEYER, EMGT’85, AND HIS SON JEFF FRITZMEYER, EMGT’14, ME’14, A FEW QUESTIONS ABOUT THEIR EXPERIENCES AT S&T. HERE ARE THEIR RESPONSES.

WHEN DID YOU START AT UMR OR S&T?

Kevin: I started in the fall of 1979 and graduated in May 1985 with a B.S. in engineering management with a mechanical engineering preference.

Jeff: I started at S&T in the fall of 2010 and graduated in December 2014 with a dual degree in engineering management and mechanical engineering.

IF SOMEONE WERE TO ASK YOU WHY YOU STUDIED ENGINEERING MANAGEMENT, HOW WOULD YOU RESPOND?

Kevin: I chose engineering management because I knew I wanted to be a businessman and run a company. The technical (mechanical engineering preference) along with the business classes was the perfect combination. I started in ceramic engineering but changed to engineering management with the mechanical engineering preference because I lost interest in the program. The appeal of engineering management was the broad engineering-based background with the business overview. I knew I wanted to start on the plant floor when I graduated.

Jeff: Growing up I always knew I would be an engineer. Math and science were my strong points, and I liked to build, construct, and invent. I also knew that someday I wanted to run my own company, be my own boss, or a CEO. Beyond that, the influence of my dad and Dr. Raper drove me to the decision to dual major. Engineering management is what I wanted to do, while mechanical engineering was where I needed to start. The mechanical engineering degree took the technical parts of the EMGT degree a few steps further and opens the doors to a wide variety of starting career options. EMGT however provides the tools and skills needed to excel in those jobs and stand out from those around you.

Engineering management teaches you about everyday real topics. Never again will I use my upper-level technical mechanical engineering classes. However, every day I am using operations management, project management, accounting and finance, strategic management, etc. In order to be successful in a production environment, you need to understand the process as well as how to make money, and how to manage people. Engineering management gives you all of those.

DID YOU WORK WHILE PURSUING YOUR DEGREE? AND IF SO, WHERE?

Kevin: I worked seven summers at Six Flags during high school and college, most as a supervisor in the food service department. I started washing dishes and cooking. I learned a lot about managing people. After graduation I started at Coke St. Louis out of college, running the second shift in a union production plant. I was promoted to director of engineering after six months. From there I went to work at Barry-Wehmiller and stayed there for 15 years. I started the Barry-Wehmiller design group during that time (currently over 1,000 engineers) and ran other packaging equipment companies for them. I then moved to Cameron Holdings and worked there for 15 years. I was responsible for two platform companies, Cloud/Multi-Pack where I served as president, and USA Tank where I served as CEO. I am currently the CEO of FlexXray in Dallas, Texas.

Jeff: Similar to my dad I worked at Six Flags through my first two years at school and in high school. I started as a rides operator in high school, and quickly worked my way up to an operations supervisor. My sophomore year I took a mechanical engineering co-op with Control Devices LLC. I spent eight months working on process control, new product design and testing, and value-engineering projects. The summer after my junior year, I interned as a manufacturing engineer with Eaton Corp. in Olean, New York, in a former Cooper Power Systems plant. I spent that summer working on process improvement, lean manufacturing, and ergonomic improvement projects. My last summer I spent as a marketing intern again for Eaton, but this time at home for a former Cooper Bussmann plant. As a marketing intern, I worked on engineering based projects to improve the marketability of some of the main catalog of fuses, and some stocking strategies to reduce inventory costs, while improving customer lead time. After graduation I went to work for Anheuser-Busch in St. Louis. I started in their Brewery Development Program, a 27-month developmental rotation program, where my first position was the midnight shift warehouse manager. Immediately out of school I was managing a group of 25 union workers, and did about zero engineering. I relied heavily on the skills I had learned from both managing people at Six Flags as well as EMGT coursework. After eight months I got promoted out of the BDP program as the maintenance manager for utilities, now managing two salaried group managers who directly supervise a staff of 31 craft technicians.

OTHER NOTES OF INTEREST:

Kevin is a member of the Academy of Engineering Management. He has frequently returned to campus to speak to classes such as basic management, productions and operations management, engineering economy, and strategic management. He brings a lot of wisdom and is an avid promoter of the degree and the value it has provided. Jeff will soon be following in his dad’s footsteps, returning to campus to speak to engineering management students.

Kevin’s mom and Jeff’s grandmother, Edna (Fritzmeier at the time) Weatherford graduated with a B.A. in English from Missouri S&T in 1972!
S&T KICKS OFF SARCHET SEMINAR SERIES

In advance of its 50th anniversary in fall 2016, the engineering management and systems engineering department launched the Bernie Sarchet Graduate Seminar Series.

Dr. Simon Philbin, director of program management at Imperial College London, presented the inaugural lecture in October. His presentation, titled “Insights from Managing Complex Research, Technology and Engineering Projects in Academia,” highlighted the practical applications of project and engineering management. He drew on experience gained in a university environment and through extensive engagement with industrial companies.

Philbin is director of programme management at Imperial College London, where he leads the programme management office (PMO). The PMO is focused on supporting research programs and projects across the university. This includes international research programs, European Union collaborative research projects and commercial projects.

Philbin is a recipient of the Merritt Williamson Best Paper Award from the American Society for Engineering Management and the Rod Rose Best Paper Award and Best Annual Symposium Paper Award from the Society of Research Administrators International.

The series is named after Bernie Sarchet, who joined Missouri S&T in the mid-1960s as the founding chair of the engineering management department.

"Sarchet is considered by many to be the founder of engineering management as a discipline worldwide," says Long.

Sarchet, who retired in 1981, secured approval for a Ph.D. program in engineering management at Missouri S&T. He also was a founding member and first national president of the American Society for Engineering Management. After retirement, he helped raise funds for the Engineering Management Building, helped develop the Order of the Golden Shillelagh and spearheaded the development of the Video Communications Center at Missouri S&T, which led to membership in the National Technological University, a consortium of universities that provide distance learning via satellite.

IN PRINT

A new book authored by a Missouri S&T researcher discusses best practices on how to be an effective, results-oriented engineer by looking at real-world case studies of productive maintenance.

Dr. Elizabeth Cudney, an associate professor of engineering management and systems engineering at Missouri S&T, co-wrote Total Productive Maintenance: Strategies and Implementation Guide. This is Cudney’s fifth book.

Kellie Grasman, a lecturer in engineering management and systems engineering at Missouri S&T, won the Joint Publishers Book of the Year Award at the 2015 Industrial and Systems Engineering Research Conference for a textbook she co-authored titled Fundamentals of Engineering Economic Analysis.

Grasman shared the award with her coauthors: Dr. John A. White, chancellor emeritus of the University of Arkansas; Dr. Kim LaScola Needy, head of industrial engineering at Arkansas; and Dr. Kenneth Case and Dr. David Pratt, professors of industrial engineering and management at Oklahoma State University.

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S&I NEWSLETTER
6 THINGS YOU SHOULD KNOW ABOUT 2015 ASEM CONFERENCE

Engineering management and systems engineering (EMSE) faculty and programs received multiple honors at the 2015 American Society for Engineering Management (ASEM) International Annual Conference.

1. **ASEM Founders Award for Best Undergraduate Program**

   Missouri S&T’s undergraduate program in engineering management was selected for this award in part for its faculty involvement in ASEM and other professional societies, and its contributions to engineering management education and practice.

2. **ASEM Founders Award for Best Student Chapter**

   For the sixth time since 2002, the Missouri S&T chapter of ASEM took home the Best Student Chapter Award. ASEM members submitted a yearly report outlining the chapter’s current success. The heavy involvement of all 46 student members and the continuous goal for improvement allowed the 2014–15 school year to be very successful.

3. **Dr. Beth Cudney named Chair-Elect for the ASEM Fellows**

   Dr. Beth Cudney was named chair-elect for the ASEM Fellows for 2015–16. She will serve as chair of the Fellows from 2016–17.

4. **John Bade recognized as Engineering Manager of the Year**

   **John Bade**, EMgt’85, MS EMgt’87, of the Boeing Co. and an associate adjunct professor of EMSE, was recognized for his contributions to the advancement of engineering management. Bade joined Boeing in 1988.

5. **Dr. Suzie Long named Fellow, earns service award**

   **Dr. Suzie Long** was named Fellow for her engineering management accomplishments and service to the society. She also earned the Frank Woodbury Special Service Award in part because of her support of EMJ and her repeated service as chair.

6. **Five faculty members receive commendation awards**

   Dr. *Beth Cudney*, Dr. *Suzie Long*, Dr. *Susan Murray*, Dr. *Henry Wiebe* and Dr. *Brian Smith* all earned the ASEM World Headquarters Service Commendation Award.
A traditional capstone senior design course was scheduled to be implemented into the curriculum beginning in the Fall 2009 semester. However, due to ABET concerns, it was necessary to offer the class during the Spring 2009 semester. The course description is as follows: “Open-ended design projects will be addressed with small teams. The emphasis will be on solving industry-based projects that are broad in nature and which will require the students to incorporate the knowledge and skills acquired in earlier course work in the solution of the problems.”

The intent to solve industry-based problems presents a moderate challenge for our program. Due to our location in Rolla, as compared to larger metropolitan areas, industry partners are more limited. Fortunately, several of our alumni and the organizations they work for have partnered with us multiple times in the past. However, the locations still have provided a bit of a challenge.

Our first industry partner was Invensys Controls in West Plains, Missouri. Located approximately 100 miles from Rolla, Invensys partnered with us for three consecutive semesters with a wide range of projects. Students tackled real-world problems, worked with team members at the plant, and gained useful experience outside of the traditional classroom setting.

Kristen Beckmeyer Fielder, EMgt’05, was our alumni contact and partner in this process. Eric Foster, EMgt’05, arranged for several of our student teams to partner over multiple semesters. His firm at that time was Synergetics in O’Fallon, Missouri, approximately 100 miles away. Again, the teams gained valuable experience working with an industry partner.

Two other industry partners, were also established through alumni contacts. Aero Fil Technologies in Sullivan, Missouri, approximately 45 miles from Rolla, has hosted several teams over multiple semesters. Greg Wilke, EMgt’08, was instrumental in establishing this partnership, which gave our student teams valuable exposure to lean principles and practices. Christina Stage, EMgt’08, a lean enterprise manager for Silgan Plastic Food Containers, hosted nine design teams over two semesters in the Union, Missouri, facility. The student teams were exposed to a variety of issues in the facility and provided potential solutions. This facility was located about 60 miles from Rolla.

Recently, Dr. William V. Stoecker, a local dermatologist and entrepreneur, has partnered with our students multiple times. The great benefit to this relationship is that Dr. Stoecker is located in Rolla, and even has an office on campus! In addition, the projects expose students to business and market development opportunities and the challenges that come with them.

To be sure, the program has had other partners since 2009. We are continually seeking industry partnerships that will allow our students to experience real-world problem-solving opportunities. Please contact the department if you or your organization has capstone design opportunities.

ABET ACCREDITATION

The engineering management undergraduate degree program founder, Professor Bernie Sarchet, understood the need for an accredited engineering program. So when the program was moved into the School of Engineering, it was essential for the program to become accredited.

The Accrediting Board for Engineering and Technology (ABET) is the entity that grants accreditation in various commissions. Engineering programs are accredited through the Engineering Accreditation Commission (EAC) and usually under criteria specific to the program name. The engineering management program received its initial six-year accreditation under the “general criteria” in 1979, but when criteria for engineering management and similarly named programs were developed, accreditation was granted under that specific criteria.

The undergraduate degree program has been granted full accreditation, which generally means accreditation is granted for a six-year period, since its initial application for accreditation. As reported in the previous newsletter, the program was awaiting the results from 2013–2014 accreditation cycle. All engineering programs and the computer science department (Computing Accreditation Commission of ABET) began preparations in the Fall semester of the accreditation cycle.

Our program began collecting materials required for the team visit in Fall 2013, and prepared the self-study report for submission to ABET on June 30, 2014. The ABET team visited the campus in October 2014. Initial assessments based on a review of program self-studies and the campus visit were delivered at the end of the visit. Programs then made responses to the findings and draft statements from ABET were given to each campus program in February 2015. Some programs submitted additional information, which was then evaluated, and final statements for the accreditation cycle occurred in August 2015. We are very pleased to report that the engineering management program was granted accreditation once again for the full six-year cycle.

Dr. Stephen A. Raper, associate professor and associate chair of undergraduate studies for the engineering management program, was appointed as ABET campus coordinator in Fall 2012. In this role, he was responsible for all coordination and reporting requirements to ABET, and served as the direct interface for the campus. This effort required coordination with 15 engineering programs and a computer science program, multiple campus administrative units, multiple academic support departments (mathematics, chemistry, etc.), and a variety of other tasks. He is currently continuing in this role as a part of the College of Engineering and Computing.
EMSE FRIENDS SERVE OUTSIDE THE DEPT

We congratulate our EMSE faculty on their administrative positions on the Missouri S&T campus.

- **Dr. Robert Marley**, provost and executive vice chancellor for academic affairs
- **Dr. Venkat Allada**, vice provost for graduate studies
- **Dr. Susan Murray**, interim chair of psychological science

ALUMNI NEWS

Reginald Nations, pictured with interim chair Dr. Suzie Long, visited the department in the fall of 2015. Nations was one of eight graduates to receive the first bachelor’s degree in 1968. He enjoyed reminiscing about his time here and looking at a copy of the 1968 Rollamo yearbook located in the EMSE office.

FACULTY ACCOMPLISHMENTS

Keep up with our faculty’s latest accomplishments. From books to grants to conferences, our faculty are sharing their expertise in their fields. The following list features their research, publishing and other academic activities outside of the classroom.

**DR. STEVEN CORNS**

**GRANTS**


**PUBLICATIONS**


**DR. ELIZABETH CUDNEY**

**JOURNAL PAPERS**


**BOOKS**


**FUNDED RESEARCH**

Cudney, E., (P.I.) "Incorporating Blending and eLearning in Online Six Sigma Curriculum" Missouri S&T eFellows Program, $4,000. August 2015–August 2016.


Cudney, E.,(P.I.) and Guardiola, I., "Development of a Bed Management Control Tower" Department of Veterans Affairs, $64,532. September 2014–September 2015.


Cudney, E., (P.I.) "Incorporating eLearning in Quality Engineering Curriculum" Missouri S&T eFellow Program, $4,000, August 2014–August 2015.


**KEYNOTE PRESENTATIONS**


**CONFERENCE PROCEEDINGS**


**U.S. ARMY ENGINEER CAPTAINS CAREER COURSE**

Missouri S&T, in coordination with the U.S. Army Engineer School, continues to lead the way in providing outstanding opportunities for professional education. Officers may choose to pursue a degree in engineering management, environmental engineering, civil engineering or geological engineering. In 2015, 96 of the officers accepted chose to pursue a degree in engineering management.

**YOU’RE INVITED**

Come back to where it all began this October and help engineering management and systems engineering celebrate our 50th anniversary.

We will kick off the celebration with a reception on Thursday, Oct. 13, and end with a tailgate party before the Homecoming football game on Saturday, Oct. 15.

Missouri S&T was the first university to offer an engineering management program and we’re still one of the top programs in the field. Help us commemorate 50 years of excellence this Homecoming.

We hope to see you there!
DECEMBER 2015 MASTER’S RECIPIENTS AND THEIR THESIS


2015 PH.D. RECIPIENTS AND THEIR DISSERTATIONS


Dr. Varun Ramachandran, “Modeling Supply Chain Interdependent Critical Infrastructure Systems,” April 2015. Advisor: Dr. Suzanna Long

DR. IVAN GUARDIOLA

PUBLICATIONS


GRANTS


US PATENTS

Multi-Path Wireless Mesh Networks in Oil and Gas Fields App #14299723 EFS ID #19251017 Zawodniok, M., Guardiola I.G., Bateman, D., Phillips, A., Maran, A., and Price, N.D.


2015 JOURNAL ARTICLES


Economic and environmental comparison of grouping strategies in coordinated multi-item inventory systems with Brian Schaefer, article in press at *Journal of the Operational Research Society*.

Economic and environmental considerations in a continuous review inventory control system with integrated transportation decisions with Brian Schaefer, *Transportation Research Part E* (80), pp. 142–165.

DR. DINGER KONUR

PUBLICATIONS


GRANTS


US PATENTS

Multi-Path Wireless Mesh Networks in Oil and Gas Fields App #14299723 EFS ID #19251017 Zawodniok, M., Guardiola I.G., Bateman, D., Phillips, A., Maran, A., and Price, N.D.


CONFERENCE PUBLICATIONS WITH PRESENTATIONS (PEER REVIEWED)


KEYNOTE PRESENTATIONS


Funded Research


“Integrating Geospatial Data into Multi-Hazards Supply Chain Network Restoration Strategies,” PI (70% Year 1; 60% Year 2; 60% Year 3) with Steven Corns, Co-PI, USGS, February 2013–February 2016, $270,000. Awarded.

DONALD D. MYERS SCHOLARSHIP AWARDED

Mason Lee Donnell, a sophomore in chemical engineering, has been awarded the Donald D. Myers Scholarship in recognition of his extraordinary service to the community and the campus.

The Willard, Missouri, native received the award for the 2015–16 academic year during Missouri S&T’s 12th annual student leaders’ banquet at the Havener Center in April.

“Mason was selected because of the meaningful impact he has made through his service, his ability to lead and inspire others, and his continued commitment to serve,” says Tina Reagan, student services advisor in student life at Missouri S&T.

Donnell is heavily involved on campus, but maintains a high GPA, Reagan says. During his senior year in high school, he established a school science club in his small home town to promote and encourage youth to pursue an education in STEM fields. He also mentors S&T students to make sure they have the support needed to succeed and grow.

The scholarship is named for Dr. Donald D. Myers, who was a professor of engineering management at Missouri S&T for more than 30 years. Established in 2009 by his family with the generous contributions of his many friends, the scholarship is an annual tribute to his extraordinary life of service.

The purpose of the scholarship is to recognize and support Missouri S&T students who have made a significant contribution to the community or campus through their service.

(continued on next page)
AND THE AWARD GOES TO ...

Bea Bonebrake
• 2015 Outstanding Staff Award.

Dr. Elizabeth Cudney
• Academician, International Academy for Quality — Elected in April 2015
• 2015 ASEM World Headquarters Service Commendation Award
• Chair-Elect for the ASEM Fellows for 2015–2016
• Chair of the Fellows then from 2016–2017.

Dr. Ivan Guardiola
• Bernard Sarchet Award, Epsilon Mu Eta National Engineering Management Honor Society, Outstanding Achievements in Engineering Management, 2015
• Edward Smith Faculty Award, Stipend: $1,800, 2015
• Missouri S&T, Student Life, Advisor of the Year Award, 2015.

Dr. Suzanna Long
• 2015, ASEM Fellow, International Honor
• 2015, ASEM Franklin Woodbury Award, International Honor
• 2015, ASEM World Headquarters Service Commendation Award, International Honor.

Dr. Ruwen Qin
• 2015 Outstanding Graduate Faculty Award
• Edward Smith Faculty Award, Department of Engineering Management and Systems Engineering, Missouri S&T, 2015
• Outstanding Professor Award, Department of Engineering Management and Systems Engineering, Missouri S&T, 2015.

Dr. Stephen Raper
• 2015 Outstanding Undergraduate Faculty Award.

Karen G. Swope
• 10 year service award, Missouri S&T.


UNIVERSITY OF MISSOURI SYSTEM SERVICE
UM System Presidents Award Committee, 2014–2015.
Innovative Teaching, Intercampus Collaboration, Student Entrepreneur of the Year, committee member, 2014; committee chair, 2015.
Faculty Engagement, Thomas Jefferson and Economic Development, committee member, 2015.

MISSOURI S&T CAMPUS SERVICE
Task Force on Selection of Vice Provost and Dean Policy, 2015.
Graduate Faculty Council, secretary, 2014–2015.
Student Scholastic Appeals Committee, 2014–2016.

DEPARTMENT SERVICE
Executive Committee, chair, 2015–
Emergency Management Committee, chair, 2015–
Graduate Committee, chair, 2013–2015

DR. RUWEN QIN

GRANTS

Work zone simulator analysis: Driver performance and acceptance of alternate merge sign configurations. Missouri Department of Transportation with match from Mid-America Transportation Center. $156,839 total funding, $39,210 (25%) shared credit. October 2014–June 2016. Co-PI with S. Long (PI), D. Konur and M. Leu.

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DEPARTMENT SERVICE
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Emergency Management Committee, chair, 2015–
Graduate Committee, chair, 2013–2015

DR. ZEYI SUN

JOURNAL PAPERS

CONFERENCES PUBLICATIONS
CHILI COOK-OFF A SUCCESS

The EMSE department held its annual Chili Cook-Off on Friday, Oct. 30, 2015, to raise money for G.R.A.C.E. (Greater Rolla Area Charitable Enterprise).

The chili winners are:
- Non-Traditional — Dr. Beth Cudney
- Traditional — Stan Busch

The chili judges were:
- Lisa Strauser, senior student support specialist, distance and continuing education
- Sharon Matson, lead graduate specialist, office of graduate studies
- Jesse Singleton, manager, printing and mail services.

The department raised a total of $365 this year.

The Halloween Costume Contest winners are Violet Kouzes and Brianna DeGroot (the Grinch and Cindy Lou Who), both students in EMSE.
Tell us how you’re doing. We’d love to hear about new appointments, degrees earned, job promotions and other life events.

Get in touch with your department by emailing emgt@mst.edu or syseng@mst.edu. Tell us what you’re doing with a degree in engineering management or systems engineering so we can feature your accomplishments among our alumni achievements stories.

GRADUATION DOESN’T MEAN GOODBYE.