



MINERBITS

Smart Computing™

*Celebrating 50 Years of
Excellence in Computer Science
1965-2015*

The Department of Computer Science
ANNUAL REPORT 2014

MISSOURI
S&T
University of
Science & Technology

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MESSAGE FROM THE CHAIR

SAJAL DAS

Greetings from the Computer Science Department (CS) at the Missouri University of Science and Technology, one of the top technological research universities in the nation. Founded in 1965, the department offers the B.S., M.S. and Ph.D. degrees in computer science and currently has 626 students including 498 undergraduate and 128 graduate students. With 20 full-time faculty, the department provides a high quality dynamic learning environment. Our faculty is engaged in cutting-edge research clustered around six focus areas: Algorithms and Theory, Computational

Intelligence and Vision, Mobile and Pervasive Computing, Systems and Networking, Security and Privacy, and Software Engineering. Our interdisciplinary research spans Missouri S&T's signature area on Smart Living (e.g., smart buildings and cities, smart energy, smart healthcare, smart transportation), big data analytics, critical infrastructure protection, cyber-physical systems, cyber-security, and social informatics.

The academic year 2013-2014 has been particularly spectacular. We have an aggressive strategic plan in place; two of our faculty members received the prestigious NSF CAREER Awards; two faculty members were granted tenure and promotion to associate professor; three new junior faculty were hired; a new course on Experiential Entrepreneurship is offered; and a \$3M NSF funding was received on cyber-security research and education, among many other accolades. Our program now claims the second highest number of undergraduate majors at Missouri S&T. The College of Engineering and Computing was also established in 2014 along with the hiring of a new dean. With a strong commitment to substantially increase diversity including female student enrollment, we sent 30 female students to the Grace Hopper Celebration of Women in Computing held in Phoenix this fall.

Although we have grown in quality and quantity and reached significant milestones, we do not wish to stop because we know there is still so much more to do. We are committed to take the department to the next level of excellence in terms of teaching, research, service, outreach, and national and international visibility. We will work closely with our stakeholders and move forward with passion and focussed goals as we mentor our students to build strong foundation, creative thinking and problem solving skills, gain interdisciplinary education and research experience, effective communication skills, and teamwork capability to become industry and academic leaders.

As we are getting ready for the 50th Anniversary celebration in 2015, may I request that you stay engaged and help us realize our ambitious goal of becoming a world-renowned Computer Science Department. Please visit our website to have a glimpse of the excellent learning and research opportunities. Prospective undergraduate and graduate students are invited to apply for admission to our programs offering competitive fellowships and assistantships.

We wish you all Happy Holidays!

Sincerely,

Dr. Sajal K. Das
Department Chair & Daniel St. Clair Endowed Chair
Department of Computer Science

New Faculty Hires



Dr. Bushra Anjum, Assistant Teaching Professor, received her PhD in Computer Science from North Carolina State University in 2012. Her research interests include Network Modeling, Resource allocation under QoS, Performance Evaluation, and Queueing Theory.



Dr. Abusayeed Saifullah, Assistant Professor, received his PhD in Computer Science from Washington University in 2014. His research interests include Cyber-Physical, Embedded and Real-time Systems, Wireless Sensor Networks, Distributed and Parallel Computing.

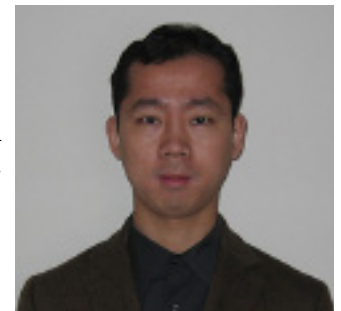


Dr. Simone Silvestri, Assistant Professor, received his PhD in Computer Science from University of Rome in 2010. His research interests include Wireless Networks, Network Management, Network Diagnosis and Recovery after Massive Failures, Tactical Networks.



Drs. Sriram Chellappan and Wei Jiang received promotion to Associate Professor of Computer Science with Tenure effective September 1, 2014.

Faculty Promotions



Michael Aguilar Joins CS Academy

Michael Aguilar, president and co-founder of Innocorp, Ltd. Verona, WI, was inducted into the Academy of Computer Science on October 16, 2014. The Academy of Computer Science honors outstanding CS alums for their contributions to the profession and their involvement with Missouri S&T students and faculty. The academy also serves as a strategic advisory group for the computer science department.

Aguilar earned his B.S. degree in computer science from Missouri S&T (formerly UMR) in 1976. He also earned an MBA from St. Ambrose University in Davenport, Iowa in 1988. Happily married for 35 years, Deb and Michael have two children, Elizabeth (32) and David (28).

TWO NSF CAREER Awards – a historic achievement

Zhaozheng Yin, “Microscopy Image Analysis to Aid Biological Discovery: Optics, Algorithms and Community”



Dr. Zhaozheng Yin, an assistant professor of computer science, received the National Science Foundation’s prestigious CAREER award for young faculty members in 2014. He received \$488,149 for five years to work on optics-oriented microscopy image analysis algorithms for biological discovery. Using time-lapse microscopy

images, he can record the movement and division of cells, and track changes in their shape and appearance.

“There is a lot of interest in using a person’s own stem cells to repair an injury – like for a soldier wounded in combat,” says Yin. “Stem cells can be grown very quickly, but biologists need to be able to control the

growth of cells and decide whether they should become bone, blood or skin. Our goal is to help biological researchers see the process of the stem cell growth so they can learn from it.” Using a time-lapse video sequence, Yin tracks and monitors individual cells. “Every time a cell divides it creates ‘children,’ each with its own family tree. It looks like a garden,” he says. “These trees give us a lot of information to compute. An algorithm counts the cells, tracks how fast they divide and when they die.”

Dr. Yin joined the Missouri S&T faculty in fall 2011 after earning a Ph.D. in computer science and engineering from Pennsylvania State University in 2009, and a postdoctoral experience at Carnegie Mellon University.

Sriram Chellappan, “Understanding Human Behavior through Internet Usage Patterns”



Dr. Sriram Chellappan, an associate professor of computer science received the NSF CAREER award of \$428,409 in 2013 for his work on understanding human behavior through Internet usage patterns.

Dr. Chellappan, who joined the Missouri S&T faculty in 2008, will use the CAREER Award funding to research classification algorithms to determine how Internet usage patterns can help better understand human behavior.

In a study, published in the December 2012 issue of IEEE Technology and Society Magazine, Chellap-

pan and his team showed signs of depression tend to use file-sharing services, send email and chat online more than others. Depressed students also tend to use higher “packets per flow” applications. Those high-bandwidth applications are often associated with online videos and games.

Chellappan is now using these findings to develop software that could be installed on home computers to unobtrusively monitor Internet usage patterns and alert individuals if their usage patterns indicate symptoms of depression. He also believes this technology could help diagnose other mental disorders like anorexia, bulimia, attention deficit hyperactivity disorder, or schizophrenia.

\$3 Million Grant from NSF for CyberSecurity Research and Education



Computer Science researchers led by Assistant Professor Dr. Dan Lin are working to combat threats to cybersecurity. A \$3 million NSF grant titled “MASTER: Missouri Advanced Security Training, Education and Research,” will train more than a dozen graduate students

in cybersecurity. After graduation, these students will join the workforce at federal agencies as part of the U.S. government’s CyberCorps Scholarship for Service (SFS) program.

“Cybersecurity is often taken for granted by Internet users,” says Dr. Lin. “If we didn’t have it, we would be lost. Banking, shopping and more would be impacted; it is not just something like social media concerns.”

“The workforce in cybersecurity is too small. There is a huge need to protect our nation and develop security solutions.” “The Computer Science Department will use this grant to promote its experiential learning opportunities. The MASTER project will also help the department recruit and retain more women and minority students,” Das said.

For details, <http://cs.mst.edu/scholarship/cybercorps/>.

NSF Funding to Study Climate Change



Missouri S&T is one of nine institutions in a research consortium that received a \$20 million grant from the NSF Experimental Program to Stimulate Competitive Research (EPSCoR) to study climate variability and its potential agricultural, ecological and social impacts in Missouri. In the exciting project titled “The Missouri Transect: Climate, Plants and Community,” Dr. Zhaozheng Yin, assistant professor of computer science, received \$685,000.

Funding to develop robotic platforms and remote-sensing technologies to monitor the growth, development and environmental response of plants. He will also design vision and learning algorithms to analyze long-term surveillance data so digital signatures of plants can be extracted and associated with genotypes and environment.

Participating institutions in the consortium include all four University of Missouri System campuses – Missouri S&T, the University of Missouri-Columbia, the University of Missouri-Kansas City, and the Univer-

sity of Missouri-St. Louis, Washington University in St. Louis, Lincoln University, the Saint Louis Science Center and Saint Louis University. The project will draw on each institution’s research expertise in plant sciences, atmospheric and environmental sciences, bioinformatics engineering, social sciences, and computer science, as well as science outreach, and education. The project is made up of four interdisciplinary teams in the areas of climate, plant biology, community resilience and education/outreach.

The Missouri Transect project will support workforce development in three areas: undergraduate and graduate education; bioinformatics training for women, minorities and people with disabilities; and job training. It also will provide opportunities to move research from the lab to the marketplace and thus spur innovation and entrepreneurship. “The Missouri Transect provides ground breaking biotechnology tools for improving crop climate resilience and educating a workforce that understands the effects of climate change on plant adaptation,” says Kelvin Chu, program director at the NSF.

[Best-In-Class] Signature Area

The Missouri S&T Chancellor recently selected **Smart Living** as one of four signature areas. This vision, conceptualized by the Computer Science Department, seamlessly transforms home, workplace, transportation and energy infrastructures into “smart” environments to the improve quality of life. Drs. Sanjay Madria and Bruce McMillin (Computer Science) and Dr. Glenn Morrison (Civil and Environmental Engineering) will lead the Smart Living initiative.

Smart Living combines participatory sensing, social behavior analysis, data analytics, engineering and technology into one integrated concept. A multidisciplinary team of faculty spanning the entirety of Missouri S&T is working to connect the university’s strengths in energy research, architectural design, environmental sustainability and transportation infrastructure to develop a more secure, sustainable society through secure computing, sensing and network communications. The Smart Living signature area involves Missouri S&T’s Solar Village research development platform and also involves industry and academic partners to create results of national and global importance.

Smart Living means more than creating intelligent homes. Here are some areas that the research will influence:

Building materials. New smart materials will turn buildings and structures into “living laboratories” that allow researchers to gather feedback to improve infrastructure and chemical or biological environments. Embedded sensors can monitor how efficiently a building uses energy or water.

Smart grid. Fuel cells and batteries from automobiles provide energy to buildings connected to a smart energy grid. Automated sensors and intelligent systems in and among the buildings in a smart environment help to manage the use and flow of energy.

Transportation. Improved urban planning and infrastructure provide scheduled, individualized and cost-efficient transportation to alleviate traffic, reduce emissions and cut down on fuel costs.

Disaster management. A smart city will provide timely information to the public regarding hazards and inform the populace of crisis situations.

Smart Health. Smartphones and sensors can track activity and health conditions of people to generate proactive alerts for potential health risks, wellness management, and assisted healthcare environment.

Privacy. Data collection is anonymous and confidential. Residents’ habits and preferences, incorporated into a feedback system, will lead to a sustainable home with little to no waste.

Security. Linking the systems in a smart household will provide monitoring of energy usage and ensure that shared energy resources are also secure.



Missouri S&T Solar Village

Experiential Entrepreneurship

In fall 2014 the Computer Science Department offered for the first time a unique opportunity for its students through the Experiential Entrepreneurship course. Mentored by experienced entrepreneurs, 19 students worked in teams to generate innovative ideas and transformed them into business models for economically viable tech companies. Experiential learning is used for live customer discovery, prototyping, and market validation. This initiative is supported by a grant from VentureWell (formerly NCIIA or National Collegiate Inventors and Innovators Alliance) for the project Entrepreneur's Journey that follows the teaching methods and material from the NSF I-Corps Program. The interdisciplinary teaching team of the Experiential Entrepreneurship course included John Lovitt (Entrepreneur in Residence), Sajal Das (Computer Science), Bonnie Bachman (Economics), and Daniel Oerther (Environmental Engineering).

The poster features a blue and purple background with a circuit-like pattern. The text is as follows:

- Experiential Interdisciplinary Course
- NEW for Fall 2014
- Take an Entrepreneur's Journey
- Comp Sci 301*
- Experiential Entrepreneurship
- *In collaboration with Economics (ECON 300) and Environmental Engineering (ENVE 390)
- Comp Sci 1510 is required for computer science students. This course can be used as an elective.
- For more information, please contact Prof and Dept Chair Sajal Das 325B Comp Sci Bldg.
- Students will work in teams mentored by experienced entrepreneurs to generate innovative ideas and transform them into business models for economically viable knowledge tech companies. Experiential learning will be used for live customer discovery, prototyping, and market validation.
- Computer Science, Economics & Environmental Engineering
- MISSOURI S&T

Missouri S&T has also been recently selected to participate in the NSF funded Epicenter Pathways to Innovation network at Stanford University, which will allow us to accelerate development of other courses and programs to foster innovation and entrepreneurship. These efforts are part of a broader initiative, supported by the S&T strategic plan, to build an innovation and entrepreneurship community and culture at the university, and create commercialization opportunities from our research by students and faculty. S&T is highly respected for its strong technical programs, making us an attractive partner within the rapidly growing business and university entrepreneurship communities in the region.

NSF Program Director Visits CS Department

Dr. Rathindra (Babu) DasGupta, lead program director for the Innovation Corps (I-Corps) program at the National Science Foundation (NSF), visited Missouri S&T on November 11, 2014 and delivered a distinguished seminar talk on the NSF's various Innovation Programs. The NSF recognizes that transitioning technology out of an academic laboratory requires different skill sets and knowledge, and that these skills and expertise are much more common in a start-up environment than in the academics. DasGupta mentioned the objective of the I-Corps program is to help develop these skill sets among young entrepreneurs to drive the economic engine of the nation. I-Corps projects must have a three-member team consisting of a student entrepreneur, a faculty investigator, and an industry mentor. In 2014 S&T received an I-Corps grant with CS PhD student Francesco Restuccia as the entrepreneur lead, Sriram Chellappan and Sajal Das as the PIs, and John Lovitt as the mentor.

DasGupta also highlighted other NSF programs such as Small Business Innovation Research, Industry University Cooperative Research Center, and Accelerating Innovation Research-Technology Translation. Additionally he met with the students in the Experiential Entrepreneurship class and also visited the Solar Village and Student Design and Learning Center at Missouri S&T. "I am extremely pleased with the quality of students and their passion for innovation. This is a great institution with a rich history," DasGupta said in a meeting with S&T's Chancellor Cheryl Schrader, and Vice Provost of Research K.Krishnamurthy, Vice Provost and Dean of College of Engineering and Computing Ian Ferguson and Vice Provost and Dean Stephen Roberts of College of Arts, Sciences and Business.



Increasing Diversity in Computer Science



Missouri S&T is one of 15 schools selected by the Anita Borg Institute, a nonprofit organization focused on advancing women in computing, and Harvey Mudd College to participate in a new program designed to increase the percentage of undergraduate computer science majors who are female or students of color.

Through the Building Recruiting and Inclusion for Diversity (BRAID) initiative, the department will receive \$30,000 per year for three years to implement programs that will help attract women and underrepresented minorities to the computer science program.



The Computer Science Department is committed to implementing a number of approaches that include expanding outreach to high school teachers and students, modifying introductory computer sciences courses to make them more appealing and less intimidating to students from underrepresented groups, building community among underrepresented students, and developing joint majors in areas like computer science and biology to encourage interdisciplinary approaches.

“Currently 7 percent of computer science undergraduate students are female, which is below the national average of 17 percent. We have an ambitious goal and

a strategic plan to increase the female undergraduate enrollment from 7 percent to 20 percent in the next three to four years. We are committed to work hard to achieve this goal through a multitude of ways.”

This fall, the department revamped the Introduction to Programming courses to feature assignments that focus on more exciting, contemporary, real-world problems that include domains in the natural sciences, humanities, and social sciences. That model will be expanded to other courses over the next two years. “Our students will learn and practice first hand the importance of using problems of an interdisciplinary nature that have societal relevance to teach computer science,” according to Dr. Leopold, associate professor of computer science and associate chair for undergraduate studies and outreach activities.

The department also plans to build confidence and a sense of community among women students by hosting monthly events through the ACM-W students chapter. Activities will include social events, field trips, mentoring opportunities, and visits to high schools in urban and rural areas of Missouri for recruiting purpose.

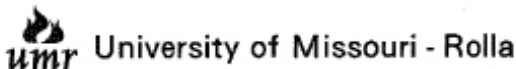
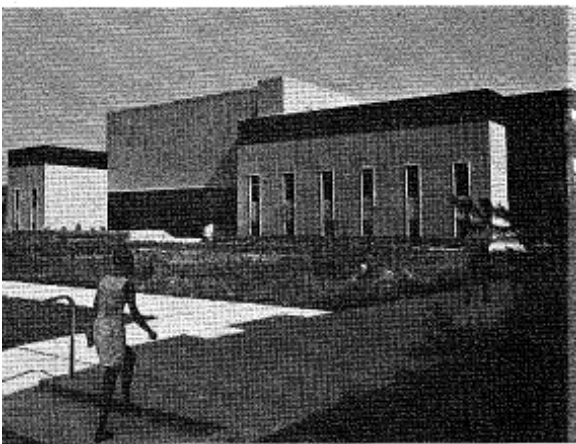


Missouri S&T's Computer Science Department to Celebrate Golden Jubilee Anniversary!

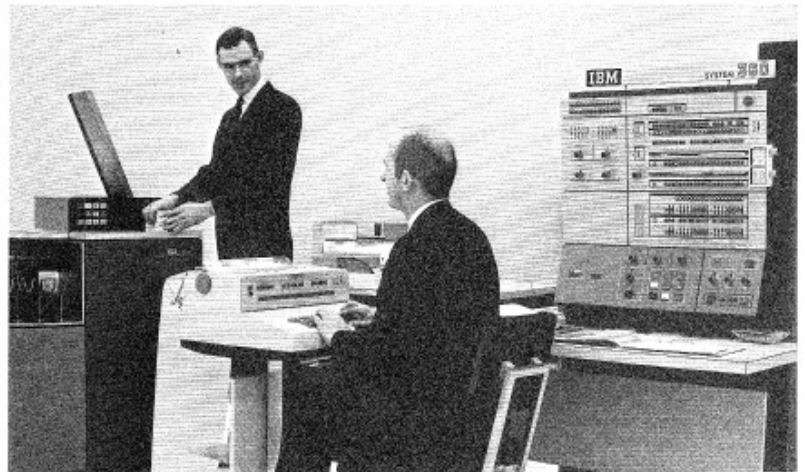
In 1964, with the field of computing barely 20 years old, University of Missouri-Rolla (UMR) began a forward thinking program in computer science at the master's degree level. Two years later, in 1966, a bachelor's program was founded and in 1969 computer science became its own department. A quote from the 1968 UMR brochure lists "an IBM 360/50 with 262,144 bytes of core storage and 42,500,000 bytes of disk storage." The early curriculum stressed mathematical methods, linear programming, time sharing, and hybrid computation. An independent Ph.D. program followed whose first Ph.D. graduate produced her dissertation in video-based learning. Five decades of graduates have gone on to work on advances in aviation, space, manufacturing, control, and information technology.

DEDICATION
OF THE
MATHEMATICS –
COMPUTER SCIENCE
BUILDING

OCTOBER 27, 1972

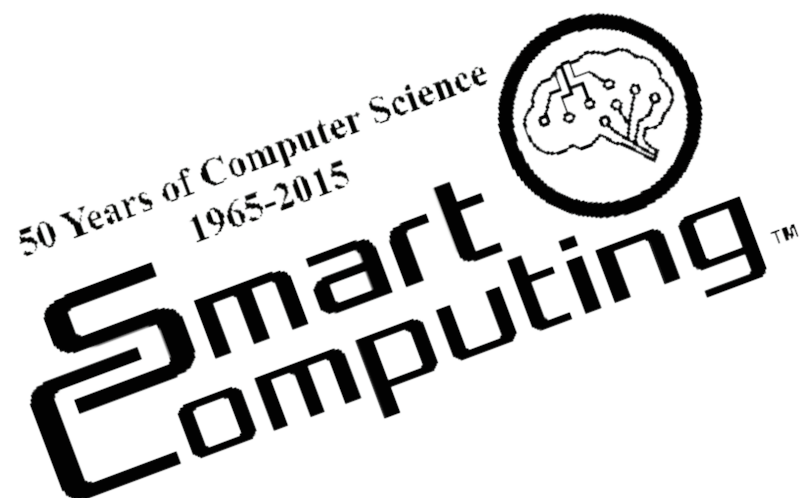


Operations in the UMR Computer Science Center.



Computer Center at UMR (1968)

In 2015-2016, to celebrate our golden jubilee as one of the earliest computer science programs in the nation, Missouri S&T plans an exciting program of alumni reunions with a remembrance of shared experiences, high profile speakers on perspectives of computing, and major conferences brought to the St. Louis area. Looking forward, we will engage our Smart Computing theme in "hackathons for humanity", sociotechnical societal futures enabled by computing, and speeches by futurists. We invite you to share in our celebration by visiting campus and following our Facebook/Twitter updates.



Computer Science Feature Student Luis Pereira



Luis Pereira helps organize an annual recruitment retreat for Hispanic and Latino high school students who want to learn more about STEM fields. Photo by Sam O'Keefe.

he wants to be an example of the opportunities Hispanic students have in the science, technology, engineering and math (STEM) fields.

He helps organize ¡Sí Se Puede!, an annual weekend retreat for Hispanic and Latino high school students who want to learn more about pursuing a college education in a STEM field, ideally at S&T. Through information sessions and hands-on workshops, students explore career options and learn what college life is really like.

“We tell them about how awesome our university is,” Pereira says.

Last year, four high school students who attended ¡Sí Se Puede! enrolled at S&T this semester. “It’s pretty exciting,” Pereira says. “It makes you feel proud knowing that those students came to S&T through ¡Sí Se Puede!”

He says student organizations and events like ¡Sí Se Puede! are essential in recruiting Hispanic students to STEM fields.

“Within the Hispanic community, especially if your parents haven’t gone to school, you don’t know anything about college,” Pereira says. “Like in my case, my senior year (of high school) I didn’t pay attention to visiting schools, trying to decide which one I should pick, what I should do.”

In January, Pereira plans to return to Honduras for a third time with Engineers Without Borders. He serves as translator for the team, which is trying to bring clean drinking water to Santiago, a small town in the Central American country.

Pereira, who lived with his grandmother in Honduras until he was 12, says he remembers calling American volunteers in Honduras “gringos” when he was a child. “I never imagined I was going to be a gringo,” he says, laughing. “I’m so proud of being a gringo, coming back to my country and helping.”

Nearly everything Luis Pereira does, he does for future Hispanic college students, especially his four-year-old brother, Johann.

“I want my little brother to know, ‘You can do it; you can go to college,’” he says. “One of my passions is being a role model for my little brother; 15 years from now, I want to be visiting S&T with him.”

Pereira, a senior in computer science from Sedalia, Mo., transferred to Missouri S&T from State Fair Community College in fall 2013. The first in his family to attend college, students have in the science, technology, engineering and math (STEM) fields.



Luis Pereira, left, and Cathryn Pherigo, a senior in chemical engineering, attach a flow meter to a water well in the small village of Santiago, Honduras, during an Engineers Without Borders trip to the Central American country in May.

ACM Student Chapter Activities

The ACM (Association for Computing Machinery) chapter at Missouri S&T hosts a variety of talks, workshops, company recruiting events, and competitions throughout the year to help encourage our student's knowledge about high-tech topics as well as increase their exposure to technical companies and concepts. Some examples of these events are the bi-annual career fair dinner held during of the fall career fair on September 23, 2014 where students got the opportunity to speak with seven different potential employers in the relaxed and informal environment of Alex's Pizza Palace; A presentation from Google on September, 18, 2014 by Computer Science Alumni Jeff Shelburg (BS 2011, MS 2013) on software engineering and working at Google; the 13th bi-annual MegaMinerAI competition on April 12 and 13, 2014 where student teams create an Artificial Intelligence Program that competes against other student teams playing a game completely designed and implemented by students; and a Wi-Fi workshop held on February 1, 2014 where students learned about the insecurities of wireless communication and how to penetration test Wi-Fi security.



ACM Wi-Fi Workshop



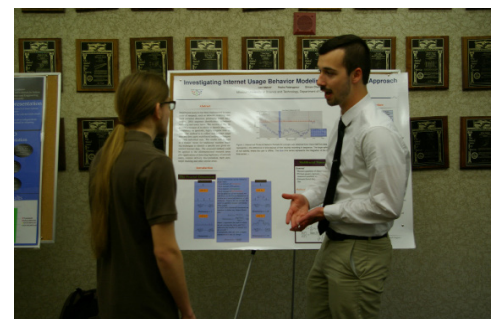
Google Talk

and working environment for women in computing. ACM-W also established an annual undergraduate research affair that aims to provide a platform for female students to network with faculty and promote undergraduate research.

The ACM-W (women) chapter is also very active with a variety of events organized every semester, such as peer advising, career workshop, and social events with the goal of building a supportive study

Student Research Competition and CS Banquet

On April 17th 2014, S&T's Thirteenth Annual Computer Science Department Student Awards Banquet took place. As part of the department's vision of establishing a pervasive research culture in the department, for the first time the banquet was opened by a Student Research Poster competition during the reception. The competition was organized by Dr. Daniel Tauritz, supported by staff members Christina Barton and Dawn Davis, and judged by a distinguished panel of judges consisting CS faculty and alumni, and the banquet's keynote speaker Dr. Matthew Mutka, computer science department chair at Michigan State University. Four undergraduate research students and fourteen graduate students participated in this competition and presented their work with the help of professionally produced conference size posters. The winner of the undergraduate category was Katrina Ward, advised by professor Dan Lin. The first place in the graduate category went to Yunxiang Mao, advised by professor Zhaozheng Yin, and the second place went to Matthew Martin, advised by professor Tauritz.



Undergraduate Students Engaged in Cutting-edge Research

Many of our computer science undergraduate students from freshman to senior are engaged in cutting-edge research that not only make them stand out for internships, co-ops or job interviews but also give them unique opportunity to explore deep computer science concepts and make significant contributions. In fall 2014, itself, 28 undergraduate students are conducting research under the supervision of faculty, postdoc or PhD students. As an example, CS senior Timothy Sanders is working on the Participatory Sensing project with PhD student Francesco Restuccia. “I am developing an Android app that can gather data from all of a phone's sensors and send them to the cloud, while attempting to use as little power as possible,” said Tim. His partner Philip Boyle is working to get a data stream up and running between Tim’s data collection app and his website so as to visualize those data. According to freshman Adam Evans, “I am working on the Smart Living project and developing a smartphone app that uses signal strengths from Bluetooth iBeacons deployed throughout the CS building to localize the phone's user.” On the other hand, Ashley Painter, a junior is figuring out the number of people in a room using a directional sensing pressure mat and other sensors. Senior Abira Das is implementing graph isomorphism algorithms on motifs extracted from gene regulatory networks.



Cooperative Agreements with Europe

Missouri S&T’s Computer Science Department spearheaded a cooperative agreement with three universities in Europe – two in Italy and one in Ireland – to establish strong programs of academic cooperation and educational exchange. The partner universities are the University of Bologna and the University of Pisa in Italy and Cork Institute of Technology in Ireland. The broad objectives of these agreements are to promote cooperation in teaching and research, and international exchange of ideas to enhance the scholarly efforts of the participating institutions. Specifically such programs include exchange of teachers, researchers, postdocs, doctoral, graduate and undergraduate students; joint research projects; jointly organized conferences and cultural events. Founded in 1088, the University of Bologna has about 85,000 students and is recognized as the oldest university in continuous operation, considering that it was the first to use the term universitas for the corporations between students and masters which came to define the institution. The University of Pisa was founded in



University of Pisa

1343 by an edict of Pope Clement VI. With 57,000 students, it is the 19th oldest existent university in the world and the 10th oldest in Italy. The Cork Institute of Technology (CIT), formerly the Regional Technical College, is located in Cork, Ireland. It has 17,000 students.



University of Bologna

Probe the Pensieve of Professional Skills

On October 16, 2014 more than fifty Computer Science students attended a panel discussion on workplace and business skills hosted by the Academy of Computer Science. In keeping with the year's Homecoming theme, the seminar was titled "Probe the Pensieve of Professional Skills." Five members of the Academy -- John Hock, John Lovitt, Pam Leitterman, Susan Rothschild, and Kim Tracy -- shared examples of best practices and lessons learned that have served them well in their careers. Topics included interpersonal communication, writing and publishing, volunteering, networking, discovering what kind of work suits one best, and being prepared to adapt to new projects, organizations, and companies. Students were also invited to share what they have learned about professional skills from their internships and other work experience. It was a great way for Academy members to engage with students and to further help them learn some specific best practices for effective communication, teamwork, and career planning.



Two CS Alumni Recognized



Dr. Daniel A. Reed, 1978 computer science graduate from Missouri S&T and a member of the Academy of Computer Science, received the Distinguished Alumni Achievement Award from S&T during homecoming in October 2014. He is currently the Vice President for Research and Economic Development at the University of Iowa. He is also the University Computational Science and Bioinformatics Chair, and Professor of Computer Science, and Electrical and Computer Engineering. Reed was Corporate Vice President at Microsoft during 2009-2012. He founded the Renaissance Computing Institute in 2004 and served as its director until December 2007. Prior to that, he was Director of the National Center for Supercomputing Applications (NCSA), Gutsell Professor and Head of the Department of Computer Science at the University of Illinois at Urbana-Champaign. In 2006 Reed was appointed to the President's Council of Advisors on Science and Technology (PCAST) and served on the President's Information Technology Advisory Committee (PITAC) from 2003-2005. As chair of PITAC's computational science subcommittee, he was lead author of the report "Computational Science: Ensuring America's Competitiveness." He co-authored a report on the Networking and Information Technology Research and Development (NITRD) program called "Leadership under Challenge: Information Technology R&D in Competitive World." Reed is the past chair of the Board of Directors of the Computing Research Association (CRA).



Brian Alan Quandt received an honorary professional degree from Missouri S&T during the spring commencement ceremony in May 2014. A former computer science major at Missouri S&T, Quandt of Duarte, Calif., is an entertainment engineering executive and founder of Production Data Services. He has served as a stereoscopic business and technology consultant on more than 100 major motion pictures, including "Underworld," "Zorro" and "Casino Royale." He has worked with major Hollywood studios like Sony, Disney and Lionsgate. Before going to Hollywood, Quandt was a digital communications and video systems expert and a specialist in data encryption and security. From 1993 to 1998, he ran a joint venture between Pulitzer Broadcast and HEURIS Logic. In 2002, Quandt pioneered the first HD digital dailies system, Rush Play, which has been used on the set of many A-list motion pictures.

Where Do Our CS Graduates Go?



Computer Science Phonathon

Students will be calling throughout the months of January through June as a part of our annual Phonathon. The support you provide makes a tremendous difference in our department and to the future success of our students. Please keep in mind that any amount you are able to contribute is greatly appreciated.

Alumni contributions go right back to the students, by way of scholarships, allowing the department to send students to national conferences, or to visit area companies to work on real-world industry design projects.

This year, when a student calls please take a few minutes to share with them some of your memories from your college experience. Your words of encouragement go a long way in our student's lives. Thank you very much for this support. We look forward to speaking with you soon!

DEPARTMENT OF COMPUTER SCIENCE

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