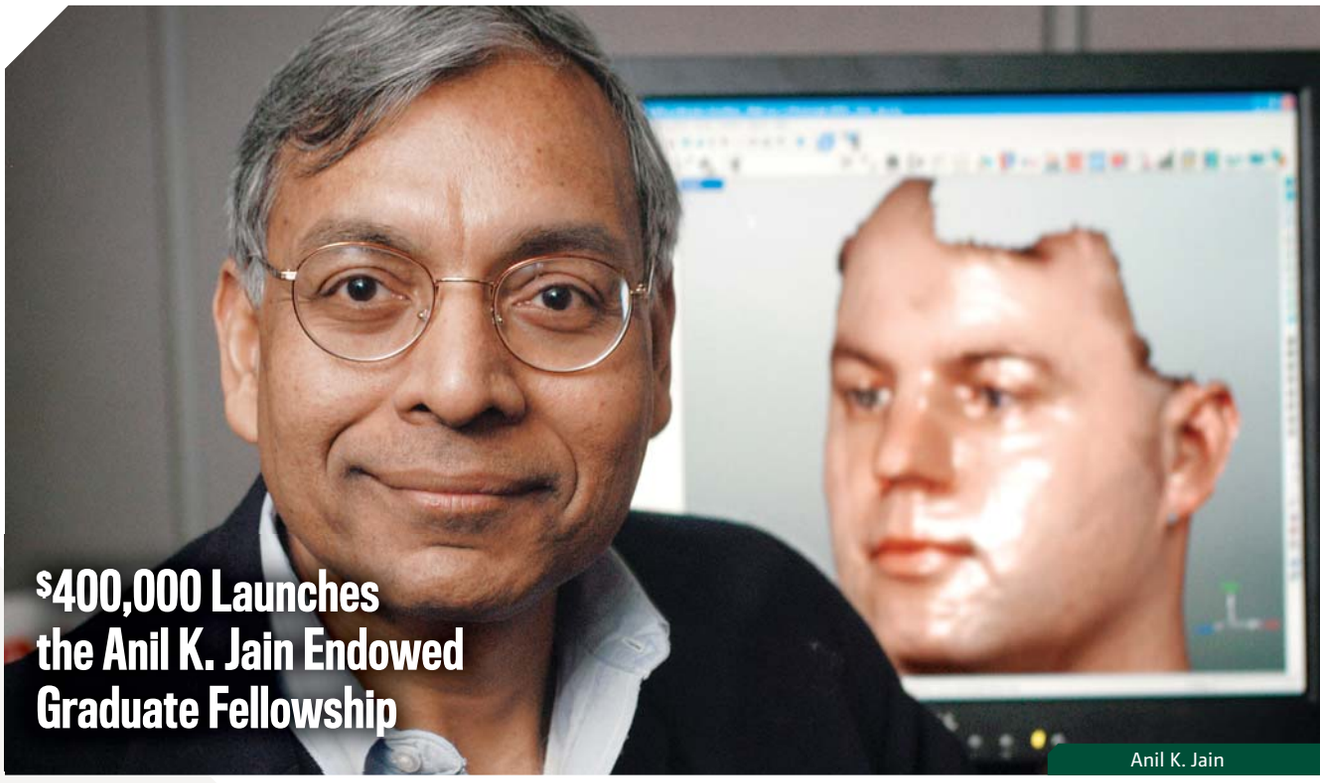
pipeline

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING | SPRING 2015



$400,000 Launches the Anil K. Jain Endowed Graduate Fellowship

Anil K. Jain

A $400,000 cash gift will honor one of the world's foremost authorities on pattern recognition, computer vision, and biometric recognition with the creation of an endowed fund in his name at MSU.

The **Anil K. Jain Endowed Graduate Fellowship** is an anonymous gift from an international businessman who was a visiting scholar in computer graphics and image processing in Jain's laboratory in the early 1980s. The fellowship fund will support doctoral-level research on pattern recognition, computer vision, and biometric recognition. The Department of Computer Science and Engineering will select the recipients of the Jain Fellowship.

Jain is a University Distinguished Professor of Computer Science and Engineering who has conducted trailblazing research in data clustering, fingerprint recognition, and face recognition. His research is followed by his peers as indicated by his h-index, which is the highest among active computer science researchers in the world today. The h-index measures the productivity and citation impact of a scientist's or scholar's published body of work. For details of Jain's contributions, visit *http://bit.ly/1FkgHZg*.

"I am so very grateful that a former student has chosen to honor me by establishing this endowment," Jain said. "I am flattered that our time together at MSU was so meaningful to him. Ultimately, this endowed fellowship will enhance our mutual scientific interests through new generations of graduate students."

Leo Kempel, dean of the MSU College of Engineering, said this new support will help educate the problem solvers of the future. "We continually press forward in the College of Engineering to find practical solutions to our most pressing challenges," Kempel said. "We are delighted someone has chosen to honor Dr. Jain's long and meritorious service in this way."

Jain's articles on biometrics have appeared in *Scientific American*, *Nature*, *IEEE Spectrum*, *Scholarpedia*, and *MIT Technology Review*. ✪

Innovative App Earns Student National Award

An application for mobile phones, known as You++, has earned MSU computer science senior **Angela Sun** a national award.

Sun, of Canton, Mich., was one of three women recently honored by the National Center for Women & Information Technology (NCWIT) and HP as inaugural winners of the NCWIT Collegiate Award. The first-ever NCWIT Collegiate Award encourages women undergraduates to persist in computing majors by recognizing their impressive innovations. (See more on page 4.)

She was honored for her mobile application that allows Android users to discover patterns that affect their battery life, such as the amount of time spent on apps, most-used apps, and the number of times a phone is accessed in a day. The app is available worldwide on the Google Play Store for free. It is compatible with both phones and tablets, but requires Android 4.2 or newer.

Sun is spending this summer as one of only 30 product manager interns at Google in California. ✪

FROM THE CHAIR

Matt Mutka

This issue of the *CSE Pipeline* reports many exciting activities by faculty, students, and alumni. Our faculty members continue their excellent trajectory of productivity with newly funded research projects, patents, outreach, and teaching honors.

For example, it is exciting to report of the engagement with teachers and young women in Rwanda that professor Laura Dillon conducted with CSE alumna and recent Distinguished Alumni Awardee Louise Hemond-Wilson. In addition, professors Richard Enbody and William Punch were recognized by the National Center for Women & Information Technology (NCWIT) and Google for their extensive collection of projects that create interdisciplinary connections between computer scientists and other technical disciplines.

Professor Arun Ross was recognized with the J. K. Aggarwal Prize from the International Association for Pattern Recognition (IAPR) as a researcher under the age of 40 who has made outstanding contributions to the pattern recognition field.

The department is thankful to receive generous support from a number of alumni and friends. We are pleased with the establishments of new endowments to support scholarships, facilities, research, and other activities within the department. The support is needed, partly because of the increased demands placed upon the department. The number of computer science majors in the department continues to grow. The expected number of declared freshman majors this fall will grow 25 percent over last fall. This is on top of the 85 percent growth in computer science undergraduate majors in the past five years!

We are pleased to welcome two new faculty members who joined the department this past academic year: H. Metin Aktulga, who is an expert in high performance computing and parallel processing, and Kevin Liu, who is an expert in computational algorithms and tools for large-scale genomics.

In addition, we offer congratulations on the retirement of two faculty members. Professor Jon Sticklen retired last summer and moved to the Upper Peninsula of Michigan for an administrative position at Michigan Technological University. Professor Sakti Pramanik will retire at the end of this calendar year as he continues his engagement in database research. ✪

Estate Gifts Strengthen CSE's Future

Google Software Engineer Creates Legacy at MSU

A senior software engineer at Google has made a $2 million commitment to benefit the Michigan State University College of Engineering.

The gift, established through an estate plan, is from **Doug Zongker** of Mountain View, Calif., who graduated from MSU in 1996 with a bachelor's degree in computer science.

The provision in his estate will establish the first endowed chair of computer science at MSU.

"I wouldn't be where I am today without the tools and training that I received during my years at Michigan State University," Zongker said. "I am pleased to be in a position to be able to give back. This gift is a small way that I can help my industry and my alma mater stay in the forefront of technology advancement."

$1.3 Million Estate Gift Will Invest in Entrepreneurship and Diversity

A Chicago couple, who met in a calculus class at MSU in the 1970s, has endowed a professorship to support entrepreneurship and diversity in the MSU College of Engineering.

The $1.3 million gift, established through their estate plan, creates the **Bob Nuber and Betty Shanahan Endowed Professorship** and supports Empower Extraordinary, the $1.5 billion campaign for MSU that publicly launched in October 2014.

Nuber, 1978 computer science and Honors College graduate, is managing director of digital technology for Chicago's Tribune Publishing Co. Shanahan, who received her MSU degree in 1978 in electrical engineering, served as the executive director and CEO for the Society of Women Engineers for more than a decade.

Nuber said he is proud of the college's championing of efforts that make a difference, like inclusion and entrepreneurship.

"If we're going to remain a premier institution, we need to sharpen our focus on new activities and processes that change our world for the better," he said. "If anyone will do that, I believe that Spartan engineers will." ✪

Bob Nuber and Betty Shanahan

Participants focus on robotics lessons.

Project Helps Rwandan Female Students Learn about Computing

A unique partnership took CSE professor **Laura Dillon**, a longtime proponent of getting more young women involved in computer and technology careers, to Rwanda last summer to help catapult teachers and young Rwandan women into the computer age.

CSE alumna Louise Hemond-Wilson (BS '86), an IBM Distinguished Engineer, originally had the idea for a camp to help build needed technical capacity based on her IT strategy work in Rwanda. She asked Dillon to help.

The project, called Camp Techkobwa, was made possible through collaboration. MSU and IBM had the expertise to build and deliver the curriculum; the U.S. Peace Corps in Rwanda had on-the-ground experience; and the Ministry of Youth and Information Technology and personnel at the U.S. Embassy in Kigali, the Rwandan capital, collaborated on the project.

CSE student James Holly Jr., who graduated in May 2014, and ECE PhD student Blair Fleet, led the robotics unit; recent MSU professional writing graduate Emily Wilson managed the self-confidence building unit.

Fifty-seven girls, ranging in age from 11 to 20, and 12 teachers, all from remote areas of Rwanda, were brought to the camp, held at a school in Janja. The program included lessons on robotics, basic algorithms and programming in Scratch, logical reasoning, Internet basics and safety, oral and written communications, and experience working in teams.

"We often had to improvise," said Dillon. "We used blackboards and flip charts for 'CS Unplugged' activities that teach computer concepts—like how a computer represents information in binary and what an algorithm is—without a computer or overhead projector."

An important part of the project, according to Dillon, was working with the teachers for long-term impact. The teachers not only learned the curriculum, but also practiced delivering it to students. All the materials used were sent home with the teachers to continue the work with other students.

For information on Camp Techkobwa, visit *www.cse.msu.edu/tc4g*.

CSE Research Highlights

Liu Receives Three-Year NSF Grant for Mobile Devices Project

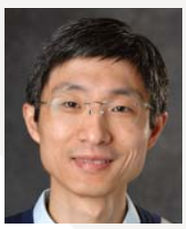
Alex Liu, CSE associate professor, has received a three-year grant through NSF's Computer Systems Research program.

In this project, Liu proposes BEAT, a behavior-based user authentication approach for touch screen devices.

The widely used password/PIN/pattern-based authentication solutions for mobile devices are susceptible to shoulder surfing (as mobile devices are often used in public settings where shoulder surfing often happens either purposely or inadvertently) and smudge attacks (as oily residues left by fingers on touch screens can be recognized by imposters) and are sometimes inconvenient for users to input when they are walking or driving.

Rather than authenticating users solely based on what they input, BEAT authenticates users based on how they input.

Xing Awarded Two NSF Grants



Guoliang Xing, CSE associate professor, has been awarded two NSF grants—one for his work on smartphone-based Near Field Communication systems, and another for his work with vehicular networking.

Near Field Communication (NFC) is an emerging wireless technology that is expected to revolutionize a range of mobile applications. This project develops alternative NFC technologies that are secure and compatible with legacy mobile devices and existing infrastructure. The key novelty of this approach is to leverage visible light and acoustic channels to realize NFC systems with robust performance and security assurance.

This project is a multidisciplinary research effort that integrates novel technologies from visual/acoustic communication, adaptive self-jamming, image processing, and cryptography. The results have impacts on a range of mobile applications such as payment, access control, and smart device pairing.

Vehicular networking is an enabling technology for next-generation transportation services, such as vehicle safety communication, remote vehicle diagnosis, and network-assisted autonomous driving.

This project, funded through NSF's Technology and Systems program (NeTS), takes a system approach to leveraging traffic signatures to optimize vehicular network performance, which has broad implications for future vehicular network systems in multiple application domains that demand high communication reliability under spectrum resource constraints.

Jun Huang, research associate in MSU's Department of Computer Science and Engineering, is collaborating with Xing.

MSU Engineering Causes Big Bang at NCWIT Summit

Actress Mayim Bialik (*center*), who plays Amy Farrah Fowler on the TV comedy *Big Bang Theory*, celebrates with Dean Leo Kempel, Teresa Isela VanderSloot, William Punch, and Richard Enbody at the NCWIT Summit.

Having actress Mayim Bialik, from the TV comedy *Big Bang Theory*, at the 2015 National Center for Women & Information Technology (NCWIT) Summit at Hilton Head, S.C., seemed appropriate because MSU Engineering caused a big noise in May.

National accolades received by the college at the NCWIT Summit included a Collegiate Award for **Angela Sun** (see page 1), the 2015 NCWIT NEXT Award, and an EngageCSEdu Engagement Excellence Award.

NEXT Award

MSU's departments of computer science and engineering, electrical and computer engineering, and mechanical engineering were the recipients of the 2015 NCWIT Extension Services Transformation Award of $50,000 (a second-place tie). The NEXT Award recognized MSU's "broad-range of well-conceived recruitment and retention efforts." Dean Leo Kempel and Teresa Isela VanderSloot, director of Women in Engineering Recruitment and K–12 Outreach, accepted the award on behalf of a college-wide team leading these efforts.

MSU was also commended for its active participation in the NCWIT Academic Alliance, including developing key resources for use by other schools, and its participation in the NCWIT Aspirations in Computing program.

EngageCSEdu

Associate professors **Richard Enbody** and **William Punch** were recognized by NCWIT and Google with an EngageCSEdu Engagement Excellence Award. The award included a $5,000 cash award.

NCWIT EngageCSEdu is a growing collection of high-quality materials for introductory undergraduate computer science courses created by faculty across the country. All of the peer-reviewed materials in the collection employ a number of "engagement practices" that research suggests are likely to engage students, especially women and other underrepresented groups.

Punch and Enbody were recognized for their extensive collection of projects that are designed to create interdisciplinary connections between computer science and various technical disciplines. This collection of materials incorporates student choice with meaningful and relevant content.

Meet Our New Faculty

Hasan Metin Aktulga

Kevin J. Liu

Hasan Metin Aktulga joined the department as an assistant professor in August 2014. His research interests are in high performance computing and applications of parallel computing.

He works on the design and development of parallel algorithms, numerical methods, and software systems that can harness the full potential of state-of-the-art computing platforms to address challenging problems in large-scale scientific computations and big-data analytics problems. His specific research topics include molecular modeling and simulation, computational nuclear physics, and *n*-body computations in machine learning.

Since 2012, his PhD work on parallel reactive molecular dynamics simulations has consistently been recognized by ScienceDirect as being among the Top 25 articles published in the *Parallel Computing* journal. His conference publications have been nominated for best paper awards at HPCS 2011 and SC 2013 conferences.

Originally from Turkey, he received his bachelor's degree from Bilkent University (2004), and master's (2009) and doctorate (2010) degrees from Purdue University, all in computer science. Prior to joining MSU, he was a postdoctoral researcher in the Scientific Computing Group at the Lawrence Berkeley National Laboratory.

Kevin J. Liu joined the department as an assistant professor in August 2014. His research develops efficient and accurate computational algorithms and tools for large-scale comparative genomics, and then applies the insights enabled by his new approaches to create new biological and biomedical discoveries.

He received his PhD in computer science from the University of Texas at Austin, where he was supervised by Tandy Warnow in the Department of Computer Science and C. Randal Linder in the Department of Integrative Biology. From 2011 to 2014, he was a National Institutes of Health postdoctoral fellow working with Luay Nakhleh in the Department of Computer Science, and Michael H. Kohn in the Department of Ecology and Evolutionary Biology, at Rice University.

Awards & Honors

Jain Appointed to New Forensic Science Standards Board

The National Institute of Standards and Technology, in partnership with the U.S. Department of Justice, has named CSE University Distinguished Professor **Anil Jain** among the first 17 appointments to the Forensic Science Standards Board. The newly developed organization is dedicated to identifying and fostering development and adoption of standards and guidelines for the nation's forensic science community. Jain has extensive experience in biometric recognition, computer vision, and fingerprint-matching technology.

Withrow Award Honors Excellence and Service

Abdol-Hossein Esfahanian received a 2015 Withrow Teaching Excellence Award during the 25th annual College of Engineering Awards Luncheon in March. The associate professor is considered a dedicated and passionate teacher to students of wide-ranging backgrounds, including students who require basic, introductory materials as well as those with advanced skills. As one nominator said, he "gives students a broad set of problem-solving skills and new ways of thinking about difficult problems."

Withrow Teaching Excellence Awards are based on nominations from students. Criteria include a faculty member's command of course content, creation of an effective learning environment, delivery of course materials, availability to students, and effective advising and mentoring.

Abdol-Hossein Esfahanian (*left*) and chair Matt Mulka

Ross Earns International Award

Associate professor **Arun Ross** received the J.K. Aggarwal Prize from the International Association for Pattern Recognition (IAPR) in Sweden in 2014. The prize is given to a scientist under the age of 40 who has brought a substantial contribution and impact to the pattern recognition field. The Aggarwal Prize acknowledges Ross's research contributions on biometric fusion, fingerprint analysis, iris recognition, and biometric privacy.

Owen Honored at AT&T Faculty-Staff Competition

Associate professor **Charles Owen** received an honorable mention at the 2015 AT&T Faculty-Staff Awards program. His recognition is based on the course CSE 335: Object-Oriented Software Design, a four-credit course where students immediately apply what they learn. Read more at *http://attawards.msu.edu/winners/2015/cse-335*.

Two Named Fellows of MSU Academy for Global Engagement

Two CSE assistant professors are participating in an initiative at MSU that is catching the attention of the national higher education community.

The MSU Academy for Global Engagement helps early- to mid-career faculty members strengthen their international research efforts by teaching them how to pitch their scientific ideas to new and traditional funding sources. The academy is now in its second year of operation. It has already seen 22 new partnerships and $5 million in new funding sources. New resources include investments from Spain and the Netherlands, with private company involvement.

Xiaoming Liu was in the academy's inaugural class in 2014 and was joined in January 2015 by **Yanni Sun**.

Dillon Receives MSU Excellence in Diversity Award

Professor **Laura Dillon** is the recipient of an MSU Excellence in Diversity Award. She was recognized in the individual category for Sustained Effort Toward Excellence in Diversity and received the award during the 2015 All-University Excellence in Diversity Awards Ceremony at MSU's Kellogg Center.

WHAT'S NEW IN CSE RESEARCH? find out at **www.cse.msu.edu/Research/Groups.php**

MSU Women in Computing Are Programming Success

It almost takes a software program to keep up with the MSU Women in Computing (WIC) these days. They received both national recognition and $1,000 from the National Center for Women & Information Technology (NCWIT) in January when MSU became one of only 10 universities in the country to receive a 2015 NCWIT Student Seed Fund Award.

The award funds student-run programs designed to increase both the number and meaningful participation of women and minority students in computing at K–12 or collegiate education levels.

MSU used the award to host a tech workshop for female students in grades 6–8 at the Lansing STEM Academy in April. The project was supervised by **Teresa VanderSloot**, director of Women in Engineering Recruitment and K–12 Outreach, and CSE Professor **Laura Dillon**.

MSU's WIC also received a Google IgniteCS award of $8,500 for a collaboration with ITECH and Michigan Council of Women in Technology in which 17 MSU students served as mentors in the 2020 Girls Clubs at four Lansing schools during spring semester.

Other WIC News

WIC's Eboard performed significant fundraising to support about 19 MSU students to attend the Grace Hopper Celebration of Women in Computing in the fall and several dozen MSU students to attend the Michigan Celebration of Women in Computing this spring. The Eboard also provided a series of professional development and social activities, all aimed at building a community for women in computing at MSU and in the region.

Among WIC's incoming Eboard officers are president Neha Gupta and vice president Meghan Huyhn.

CSE Patent List Grows

- Patent issued to associate professors **Alex Liu** and **Eric Torng**, along with Chad Meiners, a member of the technical staff at MIT Lincoln Labs, for a "Systematic Framework for Application Protocol Field Extraction."

- **Alex Liu**, along with former CSE PhD student Amir Khakpour, received another patent for a method for computing network reachability in a computer network

- Patent issued to professor and CSE chair **Matt Mutka**, **Feng Zhu** (PhD '06), and former MSU faculty member Lionel Ni for "Private Entity Authentication for Pervasive Computing Environments."

- Patent issued to professor and CSE chair **Matt Mutka**, CSE associate professor **Li Xiao**, Electrical and Computer Engineering University Distinguished Professor **Ning Xi**, and ECE graduate students Jianguo Zhou, Bingtuan Gao, and Jing Xu for "Jumping Robot."

Hemond-Wilson Presented with the 2015 CSE Distinguished Alumni Award

The MSU College of Engineering 2015 Computer Science and Engineering Distinguished Alumni Award went to **Louise Hemond-Wilson**, the IBM Distinguished Engineer and Chief Technology Officer for IBM's Systems Lab Services group. She works in IBM's global relationship based services organization that helps accelerate client adoption of new technology.

She has been a guest lecturer for MSU freshman computer science courses for more than a decade. She regularly serves as a judge for MSU's College of Engineering Design Day and as adjudicator for graduate research poster competitions.

She is a member of the computer science department's Strategic Partner Council and regularly speaks to campus organizations such as the Society of Women Engineers and Women in Computing. She helped create the Michigan Celebration of Women in Computing conference and continues her involvement with this group.

Following her 2013 IT strategy and planning work with the government of Rwanda, she recruited MSU personnel to help her create and run a technology camp for Rwandan teachers and girls in 2014 (see page 3). The camp became a collaborative effort across many organizations including IBM, MSU, the Peace Corps, and the Rwanda government. Efforts are underway to expand and perpetuate the camp.

Zongker Recognized in 2014 as CSE Distinguished Alumnus

Doug Zongker was the recipient of the MSU College of Engineering's 2014 Computer Science and Engineering Distinguished Alumni Award.

After graduating from MSU, Zongker earned a doctoral degree at the University of Washington in Seattle in 2003 and joined Google. He was an early engineer on the Gmail email service, and worked on its first spam-detection system, systems to manage the service's rapidly expanding production deployment, and other internal infrastructure.

In February 2011, he established the Doug Zongker Endowed Discretionary Fund for Computer Science and Engineering at MSU. It has funded the purchase of devices for the department's new mobile applications development class, which began in spring 2013. Students use the devices for the course's programming projects.

Dorai is Named 2015 IBM Fellow

Chitra Dorai (PhD '96) was recently named an IBM Fellow, the company's most prestigious technical honor.

Dorai is a leader in financial industry analytics for IBM Global Business Services in Yorktown Heights, N.Y. Her achievements include innovations in machine learning, multimedia content analysis, unstructured data mining, and computer vision.

Her recent work is focused on transforming mortgage services in the banking industry. The goal is to reduce the potential for mortgage-driven market crises while enabling people to fulfill their dreams of home ownership.

At MSU, she worked with University Distinguished Professor Anil Jain in the Pattern Recognition and Image Processing Laboratory. Her thesis was on 3D Object Recognition.

ALUMNI NOTES

Tyler Best (BS '90) was appointed executive vice president and chief information officer of Hertz Global Holdings, Inc., in January. He will oversee the company's global information technology (IT) functions. Best previously held senior IT roles at Vanguard Car Rental (Alamo and National brands) and at Budget Rent-a-Car. He has also served in senior executive IT roles at YP (formerly Yellow Pages) and Ally Financial Inc. (formerly General Motors Acceptance Corporation or GMAC).

Bob Kerner (BS Computer Egr '96, BS Elec Egr '96) was named executive vice president of global operations at Globant in January 2014. He is in charge of managing Globant's operations team, and supervising its delivery processes, operations governance, and client satisfaction. Globant is the Latin American leader in the creation of innovative software products that appeal to global audiences.

Kurt Rothhaar (BS '04), who works as a software engineer for Boeing Co. in St. Louis, Mo., received the Michigan State University Distinguished Young Alumni Award during the annual Grand Awards Gala in September 2014 at MSU's Kellogg Hotel and Conference Center. The award is given annually to candidates who have distinguished themselves by obtaining a high level of professional accomplishment and who possess high standards of integrity and character to positively reflect and enhance the prestige of MSU.

Alexander Shen (BS '86) was appointed president of Ranor, a wholly owned subsidiary division of TechPrecision Corp., in July 2014. He has 31 years of demonstrated success in a broad range of industries including metal fabrication, automotive, contract manufacturing, safety and security, and industrial distribution. He previously served as CEO of Ryerson Mexico and vice president–International for Ryerson, Inc.; and division general manager and COO at Sumitomo Electric Group.

Jason Teshuba (BS '00) was named to the list of "30 in their 30s" by Detroit business journal *dBusiness* in October. He is CEO of Mango Languages in Farmington Hills, which has 60 employees and revenue of $9 million a year. In 2002, Jason and Michael Teshuba launched a web development firm, investing in the digital business by offering a variety of subscription-based language classes and programs to individuals, libraries, schools, government, and corporations. Offering 12 languages at first, the portfolio now has more than 65 listings, including Greek, Hebrew, Portuguese, Japanese, Dutch, and French. Last year, the pair launched Mango Premiere, a language-learning service using foreign films.

Mitchell Walsh (BS '86) was recently named director of strategy and operations at Accident Fund Holdings Inc. of Lansing. He will lead the strategic efforts of the holding company and its brands to identify business solutions and execute revenue-generating initiatives and innovations in the workers' compensation insurance marketplace. He previously was vice president of Insurance Services at Texas Mutual Insurance Company.

To read obituaries, go to *http://www.egr.msu.edu/alumni/class-notes-obituaries.*

Students Benefit from Another Urban Science Donation

A gift of $30,000 from Urban Science was celebrated in March with a ribbon-cutting ceremony in the Computer Science and Engineering Capstone Lab. The contribution allowed the purchase of 12 Apple 27-inch iMacs.

Urban Science previously had donated $30,000 in 2011 for an initial set of 12 Apple 27-inch iMacs for the lab. The machines are powerful Apple desktop computers that are able to use virtualization and run Apple's OS X operating system simultaneously with various versions of Microsoft Windows and Linux.

Since fall of 2009, Urban Science has sponsored 13 CSE capstone projects. The fall 2014 project, titled "HR Matters," is a software tool that enables automobile dealers to assess the key behavioral competencies of their employees to help them develop in their role such as a salesperson or service advisor.

CSE professor Wayne Dyksen is the CSE capstone course professor. Dyksen noted, "Our partnership with Urban Science helps us provide our students with outstanding computing facilities. In return, MSU provides Urban Science with outstanding computer science graduates."

Thanks to Urban Science, students have access to 24 Apple 27-inch iMacs in the CSE Capstone Lab.

Students Glean Top Prizes at Hackathons

David Kircos, a CSE senior, along with fellow intern Hunter Rosenblume, a computer science major at Georgia Tech from Syosset, N.Y., won the $5,000 grand prize at #hack-DPL, a 24-hour hackathon competition in July 2014 to benefit the Detroit Public Library.

Both Kircos and Rosenblume were interning at the time at Detroit Venture Partners, a Detroit-based early stage venture capital firm that invests exclusively in technology. They won the hackathon by developing a mobile application for easier access to DPL's expansive operation, which includes 23 locations and is the 20th largest library in the United States.

The hackathon was hosted at the Detroit offices of Automation Alley, a technology business association and business accelerator dedicated to growing the economy of Southeast Michigan and enhancing the region's reputation around the world.

In September, more than 21 students represented MSU at the MHacks-IV in Ann Arbor. The hackathon, organized by the University of Michigan, attracted 1,100 students from universities and high schools across the country.

Erin Hoffman and **Caitlin McDonald**, then CSE seniors, walked away with four awards for Goalkeeper—described as "a social platform for holding yourself accountable, whether you want to get in shape, establish good study habits, or write the next great American novel."

DrinkNoDrive, an app that prevents drinking and driving by monitoring a person's alcohol use, earned an award for the team that included **Chris Mcgrath** and **Drew Laske**, then CSE sophomores.

In October, Hoffman and McDonald received second place at the Massachusetts Institute of Technology's hackathon (HackMIT) for their project, Hopscotch. The hackathon at MIT attracts more than 1,000 students to create, innovate, and build software and hardware projects over a 24-hour period. The MSU team received an award of $2,000.

FOUR GENERATIONS OF SPARTAN WOMEN. Erin Hoffman, who earned a computer science degree at commencement May 10, became the family's fourth generation of women to graduate from MSU. Her late great-grandmother Thelma Swenson ('37, liberal arts) started the legacy trail, followed by grandmother Jeanette Reeves ('60, elementary education), and mother April Hoffman ('90, zoology, MS in microbiology, and doctorate in osteopathic medicine). Hoffman, who is from Indianapolis, is past president of MSU Women in Computing. She will begin a PhD in human-centered design and engineering at the University of Washington in the fall.

CSE Students at the Biggest Design Day Ever!

CSE was well represented at Design Day on May 1, the largest Design Day ever hosted by the college. Teams of students solved real-world problems for companies. For example, CSE team (*from left*) Ben Taylor, Carl Johnson, Johnny Zheng, Luke Pritchett, and Max Goovaerts created "SIFT: Seller-Forums Information Filtering Tool" for Amazon. SIFT analyzes seller forums using natural language processing to classify posts around common themes.

Please fill out both sections when making a gift or pledge.

keeping in touch

NAME

STREET ADDRESS

CITY / STATE / ZIP IS THIS A NEW ADDRESS? ☐ YES ☐ NO

OFFICE TELEPHONE HOME TELEPHONE

E-MAIL

GRADUATION YEAR DEGREE

CURRENT OCCUPATION

EMPLOYER LOCATION

News of recent accomplishments, awards, or promotions (attach separate sheet if needed):

LET US KNOW WHAT'S HAPPENING WITH YOU! Update us by mail at MSU Engineering Publications, 428 S. Shaw Lane, Room 3415, East Lansing, MI 48824; or by e-mail at *mroczekp@egr.msu.edu*.

gift information

☐ I/we wish to make a gift/pledge in the amount of $_____ designated for:_____

My/our total gift will be paid as indicated:

☐ Check payable to "Michigan State University"

☐ Credit card: ☐ MasterCard ☐ Visa ☐ Discover ☐ AmEx

CARD NUMBER EXP. DATE

NAME AS IT APPEARS ON CARD

SIGNATURE

☐ A pledge of the following duration (maximum 5 years): _____

Enclosed is my first payment of $_____

Send pledge reminders: ☐ Annually ☐ Quarterly ☐ Semiannually beginning: _____ (MONTH) _____ (YEAR)

☐ This pledge replaces all other outstanding pledges.

☐ This is a joint gift with my spouse: _____ (SPOUSE'S NAME)

☐ I or ☐ my spouse (check one) work for a matching gift company:

EMPLOYER(S)

PLEASE RETURN TO: MSU Engineering Development, 428 S. Shaw Lane, Room 3536, East Lansing, MI 48824, or make your gift online at *www.givingtomsu.edu*

FOR OFFICE USE ONLY

APPEAL CODE: **A1500** STAFF RESP: ALLOCATION:

MICHIGAN STATE UNIVERSITY | College of Engineering
www.egr.msu.edu

Nonprofit Org.
U.S. Postage
PAID
East Lansing, MI
Permit No. 21

Computer Science & Engineering
Michigan State University
Engineering Building
428 S. Shaw Lane, Room 3115
East Lansing, MI 48824

CHAIRPERSON
Matt Mutka
(517) 353-3148
cse@egr.msu.edu
www.cse.msu.edu

EDITORS
Patricia Mroczek, Laura Luptowski Seeley

LAYOUT/DESIGN
Charlie Sharp, Sharp Des!gns

SPARTAN ENGINEERS WILL.

EMPOWER EXTRAORDINARY

THE CAMPAIGN *for* MICHIGAN STATE UNIVERSITY

The MSU Board of Trustees approved a $1.5 billion capital campaign intended to build on Michigan State's traditions while empowering critical initiatives for the 21st century. The theme of the campaign is Empower Extraordinary.

A major goal of the campaign will be to double MSU's number of endowed chairs and professorships, which, currently at 100, is among the smallest in the Big Ten. Endowed chairs and professorships are the gold standard of faculty distinction and recognition for academic institutions.

"The tremendous support we have received over the past three years has positioned us perfectly for the public launch of the university-wide capital campaign, which in turn will empower MSU to make unimaginable discoveries that impact all our lives while also preparing new generations of game-changing Spartans," said MSU President Lou Anna K. Simon.

The College of Engineering plans to raise $80 million as part of the Empower Extraordinary campaign, and its priorities will dovetail with those of the university. "We will create real-world engineering solutions that will solve global problems," Dean Leo Kempel said. "Our job is not just to prepare students to ride the wave of change, but to actually cause that wave to occur." Read more on the college's campaign funding priorities at *http://bit.ly/1yatkp7.*