

SUMMER 2015 VOL. 89 NO. 2

MISSOURI
S&T
MAGAZINE

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HOME

HASSELMANN

ALUMNI HOUSE



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JOIN THE CROWD

Thanks to the generosity and adventurous spirit of Miner alumni, friends, students, faculty and staff, the Missouri S&T Mars Rover Design Team raised nearly \$20,000 in the university's inaugural crowdfunding project.

The funds will send the team and its 2015 rover, *Horizon*, to Podzamcze, Poland, in September to compete in the European Rover Challenge.

See what's up next for crowdfunding at crowdfunding.mst.edu.

CROWDFUNDING AT S&T

crowdfunding.mst.edu is a new platform designed to help Missouri S&T community members raise money to support their ideas and passions. Crowdfunding S&T projects advance innovation, teaching and learning at the university. They include projects focused on student groups, student experience, athletics, the library or faculty-specific initiatives, and they allow us to showcase inventive ideas from across campus.



◀ ON THE COVER

Hasselmann Alumni House, the Miner Alumni Association's new home on Pine Street, opened its doors during St. Pat's Weekend to welcome Miners to its first official event. In this issue you'll get the grand tour and meet some of the people who made the dream a reality.

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Boonchai Songthumvat, MS EMgt'76.

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S&T Chem-E-Car's place in the American Institute of Chemical Engineers' 2015 Mid-America Regional Student Conference out of 11 other collegiate teams.

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Missouri S&T's rank among U.S. universities for best return on investment. PayScale Inc. compared total attendance cost for a bachelor's degree with a graduate's 20-year earning potential. S&T ranked fourth among public institutions.

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Years Missouri S&T has recognized a female tenured or tenure-track faculty member as Woman of the Year.

4841

Geology and Geophysics Field Study course number. Eight Missouri S&T students spent nine days in May studying the geology of San Salvador Island in the Bahamas as part of this course.

200
pounds

Weight of Missouri S&T's 2015 concrete canoe, dubbed Joebi-Wan Canoebe as a tribute to the *Star Wars* franchise.

1

Geological engineering senior **Nikia Champan's** place in the women's sprint competition during the 2015 Human-Powered Vehicle Challenge West, held in San Jose, Calif., in April. See page 15 for more on the team's East Coast win.

**MISSOURI
S&T
MAGAZINE**

Missouri S&T Magazine is written, edited and designed by the staff of the Missouri S&T Marketing and Communications Department and the Miner Alumni Association.

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Missouri S&T Magazine (ISSN 1084-6948) is issued three times per year (April, August, December) in the interest of the graduates and former students of the Missouri School of Mines and Metallurgy, the University of Missouri-Rolla and Missouri University of Science and Technology. *Missouri S&T Magazine* is published by the Miner Alumni Association, Missouri S&T, 1100 N. Pine St., Rolla, MO 65409-0650.

Missouri S&T Magazine is printed by R.R. Donnelley, Liberty, Mo. Covers are printed on 114 lb. - 7 pt. Sterling White; interior pages are printed on 60 lb. Sterling White.

Missouri S&T Magazine is printed using soy-based ink.

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EDITOR'S
TOP FIVE
PICKS

Dear Alumni and Friends,

It has been nearly 10 years since I attended the first committee meeting about building an alumni house on campus. Since that time, I have experienced a range of emotions — from terror to cautious optimism to euphoria — when thinking about the project.

I must admit that when the Miner Alumni Association launched the campaign to build Hasselmann Alumni House, I thought the project was too risky. But the skeptic in me turned out to be wrong.

After years of migrating around campus, alumni have a 12,500-square-foot home of our own, on the best corner in Rolla. Now we have a beautiful space for meetings, mingling, major events — and just hanging out. We needed this common ground for many reasons. The main reason, perhaps, is the strength of permanent roots.

This issue salutes the vision that laid the foundation for Hasselmann Alumni House and the generosity that built it. From the story behind our namesake, to the number of nails in the roof, to photos of the dedication, these pages celebrate a homecoming unlike any other.

The door is open, the light is on. Make yourselves at home!

With gratitude,

Darlene Ramsay

MetE'84

Assistant Vice Chancellor for Alumni Relations and Advancement Services

Executive Vice President of the Miner Alumni Association

- 1} After years of patience and hard work, Hasselmann Alumni House is now open to Miner alumni. Look inside and learn more on page 22.
- 2} Over 100,000 nails were used during construction — and that's just in the roof. Read more interesting facts and statistics about Hasselmann Alumni House on page 32.
- 3} **Matt Coco**, CE'66, managed the Hasselmann Alumni House project pro bono. He says it was a labor of love. Read his story on page 26.
- 4} Opening the windows in your house can lower levels of harmful chemicals. An environmental engineer at S&T is working to find out why and how. Read more on page 10.
- 5} The computer science department will celebrate 50 years at Missouri S&T during Homecoming. More information, including a complete schedule, starts on page 16.

CORRECTION

The name of **John Raley**, ChE'74, was misspelled on page 13 in the Spring 2015 issue. We regret the error.



What was your most memorable all-nighter?

At one time or another, nearly every Miner has pulled an all-nighter. Maybe you stayed up all night cramming for a calculus test. Maybe you road-tripped across the country with your fraternity or sorority pledge class. Maybe you just hung out with friends having a good time. We asked about your memorable all-nighter.

Here is what you told us.

Watch for the next question in your Miner Alumni Association eNewsletter.



In early March 1973, I was carving a snake head and body from a large oak limb to be mounted on Sigma Tau Gamma's entry in the St. Pat's cudgel contest. About 1 a.m. I sliced my left index finger to the bone, made my way to the infirmary and woke the night nurse. When she offered to sew it up I asked whether I would still be able to bend it for the remainder of the evening. I explained "I have a carving to finish, so our cudgel will win." Her answer being "No," I asked her to just disinfect it and wrap it up. I returned to the house and continued carving until dawn, making sure the occasional blood did not ruin the carving. I still have the snake head carving; it matches the snake on the winning 1973 St. Pat's sweatshirt design (mine, also). Our cudgel did win the 1973 competition, carried by **Mark "Tiny" Middendorf**, GGph'74.

Jim Martin, AE'75
Raytown, Mo.

I had to pass every final exam to graduate in January 1965. I spent nine all-nighters studying in the Kappa Alpha dining room. The study table stood in front of a coat closet, and for years I was known as "Keeper of the Closet."

Jay W. Alford, MetE'65
Miller, Mo.

Math came easy for me, and the logic behind it easily kept me awake during all-night sessions. (This may explain why after 50 years, I'm still a working structural engineer.) But if I had a reading assignment for literature or history, I ran into difficulty. I would hold my right arm vertical on the desk with a pen in my hand, and if I dozed off, I would drop the pen and wake myself up. I would then pick up the pen and start the process all over again, pushing myself through the reading assignment.

Dale Mueller, EE'62
St. Louis

It was St. Pat's 1948. We started a bridge game on the Sigma Nu front porch at about 10 p.m. It was a warm evening with no wind, and we had a good time. All of a sudden, we noticed the sun coming up. We had spent the whole night without ever getting tired. I still think about it with good memories.

Jim Fisher, CE'48
Lakewood, Colo.

I remember the time I spent in the Kelly Hall basement laundry room cramming for some long-forgotten test. I didn't want to disturb my roommate with the light and me talking to myself. When I finally gave up, I had just over an hour to sleep. I set two alarm clocks to make certain I did not oversleep. I woke up AFTER the second one went off — because it fell on me when I tried to turn it off while I was still in my sleepy grogginess.

Willard Sudduth, CE'66
Decatur, Ill.

Email your answers to alumni@mst.edu or respond via Facebook or Twitter.

Letter to the editor

I just received and read the Spring issue of Missouri S&T Magazine. I enjoy the articles and especially the notes about the old-timers of my generation and before.

However, I was disturbed by something in the article on page 38 titled "Reliving History." My hat is off to men like **Joseph Senne** (MS CE'51) who fought in that war and won it, but a phrase in the article stated "... the peace treaty with Japan" Joseph and others of the Greatest Generation won that war. Period. The U.S. did not negotiate a peace treaty. Japan signed an unconditional surrender. There is a difference.

In today's politically correct world we seem to have forgotten what winning is. Please don't forget that there was a generation that won. Completely, unconditionally. Sincerely,

Henry R. Atkinson, CE'56
Richmond, Va.

Editor's Note: Thank you very much for your note and for pointing out our error in using the phrase "peace treaty with Japan" to characterize the terms of Japan's surrender on Sept. 2, 1945, to mark the end of World War II. It would have been more accurate for us to have written that Senne was on Okinawa when "Japan surrendered" or "Japan signed the instruments of surrender" on that date.



@its_tara_beara

Tara Voyles, senior in biological sciences, Rolla, Mo.

Summer class exploring caves? Not too shabby.
#summerclass #cavebiology
#MissouriSandT @MissouriSandT



@OliviaLeyette

Olivia Louderman, Kirksville, Mo.

Had the pleasure of listening to an amazing speech tonight from @CondoleezzaRice! Thanks @MissouriSandT for the awesome opportunity!



@jrluispereira

Luis Pereira, senior in computer science, Sedalia, Mo.

Our @EWB_SandT outgoing president, Heather, is doing a great job surveying in #Honduras @MissouriSandT



@CeciliaElmore

Cecilia Elmore, EMgt'86, Rolla, Mo.

Thirty-one 7th/8th grade girls on campus learning about materials engineering careers #ThankyouSTEMWomen



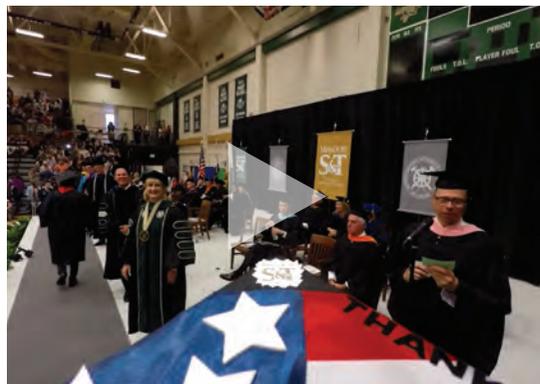
MissouriSandT



@minersinfrance

Managed by Audra Merfeld-Langston, associate professor of French at Missouri S&T, Rolla, Mo.

Look what Alex (Womack) found in a vintage clothing store. In Paris!!!



Missouri S&T Mortarboard Camera

What does it look and sound like to walk the stage at graduation and get your diploma? Follow Emma Johannes, a May 2015 information science and technology graduate of Missouri S&T, for a mortarboard's-eye view. Johannes landed a job in Google's information technology department in Ann Arbor, Mich.

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JACK WRIGHT: A GOLDEN YEAR FOR THE ARCH



Fifty years ago this October, the St. Louis skyline was changed forever by the construction of the Gateway Arch, built as a monument to U.S. westward expansion.

Jack Wright, CE'61, worked for MacDonald Construction, the company that was awarded the contract for construction of the Arch in March 1962. MacDonald Construction was the general contractor on the Arch and sub-contracted the steelwork to the Pittsburgh-Des Moines Steel Co.

The 630-foot-tall Arch is made up of 142 double-walled triangular sections that are covered in quarter-inch-thick stainless steel. The keystone triangular section that connects the north and south legs was put into place on Oct. 28, 1965. It opened to the public in June 1967.

Fresh out of school, Wright worked on surveying and helped ensure quality

control throughout the project. He says that the \$13 million project was not just a job, it was a learning experience for everyone involved.

"There was an overarching schedule," Wright says. "But, anytime you have a one-of-a-kind project, you schedule the best you can and you learn things as the project evolves. There's no template or past work that you can use to help you with a project like this."

Wright says everyone working on the project knew the Arch was special, but its significance wasn't clear.

"In that time, we were just happy to have jobs," he says. "It wasn't just another

project, but I don't think the workforce viewed it as the celebrity it's become."

Wright is proud of his work on the Arch, and he visits every year — on Builders' Day, which will be held on Oct. 28 this year.

"Once a year, everyone who worked on the Arch gets together to reminisce and we sign posters and talk with people," Wright says. "I feel like a rock star when I get to sign them."

Today, Wright, a member of the Missouri S&T Academy of Civil Engineers, owns Ladue Building and Engineering, a construction consulting firm. ■



BUGS ON A DIET CLEAN UP WASTEWATER

To clean wastewater, most municipal treatment plants try to maintain an oxygen concentration of 2 milligrams per liter in their aerated tanks. That seems ideal for the microorganisms that consume the waste; it's a level that "makes them happy" and well fed, says **Jianmin Wang**, professor of civil, architectural and environmental engineering at Missouri S&T.

But putting those bugs on a diet can save energy in those treatment plants and lead to cleaner water. It also makes slightly less happy microorganisms that live longer.

Research suggests that providing less than 2 milligrams per liter of oxygen would make the microorganisms "unhappy." But Wang says that if you feed them at a lower concentration, such as 0.5 milligram per liter, the bugs are only a little less happy but will live longer and enrich more. Plus, putting the bugs on that restricted diet uses 30 percent less energy during oxygen infusion to produce the same results.

That's the key to one of Wang's new wastewater treatment technologies to produce freshwater that is cleaner than wastewater treated using traditional methods and requires less maintenance and energy.

Wang says 0.8 percent of America's energy use is spent on wastewater treatment. Much of that energy is used to aerate the tanks where wastewater is treated. The energy is used to feed oxygen to the microorganisms that consume the waste.

Wang also developed a treatment system called an Alternating Anaerobic-Anoxic-Oxic process that can remove organic pollutants, nitrogen and phosphorous nutrients without chemicals, and a small-scale deployable baffled bioreactor that could treat wastewater in military battlefield camps.

S&T OCEAN PLUG-IN TAKES FIRST

A group of geophysics and petroleum engineering graduate students from Missouri S&T took first place in Schlumberger's North American Ocean Academic Competition in March. They earned \$15,000 for developing a plug-in for Schlumberger's Ocean Petrel software, which lets oil and gas companies easily incorporate science-based plug-ins into their projects instead of using multiple software solutions.

The software developed at S&T is being made available to Schlumberger customers on the company's website.

GOOD MEDICINE

This fall, S&T students interested in growing health care fields like biomaterials or genetic engineering can combine traditional engineering with biological sciences through a new biomedical engineering minor.

Open to students in both the College of Engineering and Computing and the College of Arts, Sciences, and Business, the major will help prepare biomedical engineers to find jobs in industry, hospitals, research facilities, academia and governmental agencies.

SNAKE INVASION — ARCADE STYLE

Every March, S&T students wield shillelaghs to rid the campus of rubber snakes to honor the legend of St. Patrick driving snakes from Ireland centuries ago. This year students, alumni and other visitors to the university's website could join in on the fun, thanks to an arcade-style video game housed on the university website. Visit rol.la/stpatsnakes to try it out.

IN PRINT

Larry Gragg, Curators' Teaching Professor of history and political science, is the author of *Benjamin 'Bugsy' Siegel: The Gangster, the Flamingo, and the Making of Modern Las Vegas*. Published in January by Praeger, the book examines Siegel's image in popular culture and dispels myths about his contribution to the founding of Las Vegas.

HONORING NEW ACADEMY MEMBERS

This year, 43 alumni and friends were inducted into Missouri S&T academies. Academy membership recognizes careers of distinction and invites members to share their wisdom, influence and resources with faculty and students. Some academies hold induction ceremonies in October, others in April.

ACADEMY OF MINER ATHLETICS

DENNIS DOERING, CSci'73, of Jefferson City, Mo., who works with Central Technology Systems

RICK LUX, ChE'81, of Chesterfield, Mo., sales manager at Holtec Gas Systems

TIM SCHOENECKER, EMgt'84, of Edwardsville, Ill., associate professor of management and marketing at Southern Illinois University Edwardsville

JOANNE STEINEMAN, CE'92, of Rolla, a project manager in the design and construction office at Missouri S&T

JOE STEMLER, AE'92, of St. Louis, an aerospace engineer in aerodynamics at Boeing

SCOTT STEPHENS, CE'85, of Chillicothe, Mo., a bridge engineer for the Missouri Department of Transportation's Northwest District

ACADEMY OF CHEMICAL ENGINEERS

MUTHANNA H. AL-DAHMAN, of Rolla, chair and professor of chemical and biochemical engineering at Missouri S&T

CARMA GIBLER, ChE'79, of Houston, a process engineering specialist for Kelly Scientific Resources and a contractor for Kraton Polymers

ALLAN HARVEY, ChE'83, of Boulder, Colo., a chemical engineer for the National Institute of Standards and Technology

KURT KOELLING, ChE'88, of Powell, Ohio, a professor of chemical engineering at The Ohio State University

LISA KRUEGER, ChE'86, of Phoenix, president and CEO of Essential Power

PHILIP LING, ChE'92, of Houston, portfolio manager for Royal Dutch Shell's Downstream Acquisitions and Divestments Group

MICHAEL MCGATH, ChE'70, of Gardena, Calif., retired manager of Newberry Plant and Hector Mine for Elementis

EVA MIRANDA, ChE'85, of Saratoga, Calif., co-founder of Sanctuary Conservation

ROBIN SHEPARD, ChE'84, of St. Peters, Mo., president and owner of Shepard Safety LLC and an adjunct professor of chemical engineering at Washington University in St. Louis

JOSEPH D. SMITH of Rolla, the Wayne and Gayle Laufer Chair of Energy, director of the Energy Research and Development Center, and executive director of the Small Nuclear Modular Reactor Research and Development Consortium at Missouri S&T

ACADEMY OF CIVIL ENGINEERS

RANDY DREILING, CE'81, of St. Louis, vice president and senior structural engineer for Design Nine Inc.

DIANE HECKEMEYER, CE'86, of St. Elizabeth, Mo., chair of construction and civil technology at the

State Technical College of Missouri in Linn

KARIN M. JACOBY, CE'85, of Kansas City, Mo., senior counsel at Husch Blackwell

STEVE MEYER, CE'75, of Springfield, Mo., director of environmental services for the city of Springfield

ALLEN G. MINKS, CE'81, MS CE'83, of St. Louis, geotechnical department manager for Terracon Consultants Inc.

CHARLES E. POWELL, CE'71, of Ozark, Mo., owner of CEPSCO LLC

DAVID RICHARDSON, CE'71, MS CE'73, PhD CE'84, of Rolla, associate professor of civil engineering at Missouri S&T

DAVE WISCH, CE'75, MS CE'77, of Houston, a Fellow at Chevron Corp.

ACADEMY OF COMPUTER SCIENCE

MICHAEL AGUILAR, CSci'76, of Verona, Wis., president and co-founder of Innocorp Ltd.

ACADEMY OF ELECTRICAL AND COMPUTER ENGINEERING

RAYMOND E. CATLETT, EE'77, of Collinsville, Ill., senior technical consultant for ABB Inc.

MICHAEL R. MATTHEW, EE'83, of Agoura Hills, Calif., an aerospace and defense business solutions specialist for IBM

BRENT MCKINNEY, EE'86, MS EE'87, of Springfield, Mo., director of electric transmission and

distribution for Springfield City Utilities

MARK J. NEALON, EE'81, of Ballwin, Mo., director of engineering design and project management for Ameren Missouri

KENNETH R. OWENS JR., EE'94, MS EE'01, of St. Louis, chief technical officer for Cisco Systems Cloud Services in San Jose, Calif.

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERING

DENNIS BELL, ME'80, of Steelville, Mo., president of Steelville Manufacturing Inc.

LAWRENCE O. BRASE JR., AE'86, of St. Louis, technical fellow in structures technology for Boeing

ALAN L. LASLEY, ME'64, of Redbud, Ill., retired adjunct assistant professor at Southern Illinois University Carbondale

DAWN J. MEYER, AE'87, of St. Charles, Mo., a senior manager of defense, space and security for Boeing

JAYANT RAMAKRISHNAN, MS ME'83, PhD ME'87, of Houston, chief operating officer for Bastion Technologies Inc.

BRECK WASHAM, ME'90, of Chesterfield, Mo., vice president of Burns & McDonnell Engineering Co. Inc.

ACADEMY OF MINES AND METALLURGY

RICK BOOTH, GeoE'86, MS GeoE'88, of St. Charles, Mo., principal and former member of the board of directors for Golder Associates

JOSE J. DONOSO, GGph'80, MS PetE'81, MS PetE'86, of Rio de Janeiro, Schlumberger SIS reservoir and production engineering domain for South America

WILLIAM M. MARTIN, GeoE'97, of Broken Arrow, Okla., vice president of reservoir engineering and owner's group member for Panther Energy II

TERRY PALISCH, PetE'86, of Richardson, Texas, global engineering advisor for CARBO Ceramics

KEVIN RENFRO, PetE'85, of Spring, Texas, manager of Gulf of Mexico compliance and regulatory affairs for Anadarko Petroleum Corp.

WILLIAM A. TEDESCO, GGph'97, of Magnolia, Texas, exploration manager, Eastern Gulf of Mexico and regional studies teams for Anadarko Petroleum Corp.

CHRIS J. UPP, MinE'96, of Springfield, Mo., vice president and general manager of Conco Quarries Inc.



EDUCATION LEADER ADDRESSES GRADUATES

“Students must develop effective problem-solving, critical-thinking, collaboration and communication skills — tools they need to compete and succeed in the global economy,” Vince M. Bertram told just over 1,200 graduates at two commencement ceremonies in May. Bertram is president and chief executive officer of Project Lead The Way, a nonprofit organization that develops K-12 curricula in science, technology, engineering and mathematics fields, and helps train instructors.

“Missouri S&T graduates, we need you,” Bertram said. “We need your intellectual gifts and your entrepreneurial spirit. We need your compassion and your courage. We need your leadership.”

GARMIN CO-FOUNDER RECEIVES HONORARY DEGREE

Min Kao, executive chair of Garmin Corp., was awarded the doctor of engineering, honoris causa, in absentia during commencement ceremonies at Missouri S&T in December.

Kao co-founded Garmin with Gary Burrell in October 1989 to integrate global positioning system (GPS) technology into navigation devices for multiple markets. Kao is credited with the breakthrough design and engineering of the GPS software technology that formed the foundation of the original Garmin product line.

In 2012, Garmin International Inc. expanded its engineering internship program through the opening of a new software engineering facility in Missouri S&T's Innovation Park.

PROFESSIONAL DEGREES

Missouri S&T honored the following 10 alumni with professional degrees to recognize career achievement.

- **Francisco M. “Frank” Benavides**, CE’70, of St. Louis, founder and executive director of PENTA Engineering Corp.
- **Paul Daniel Booher**, CE’80, MS CE’81, of Springfield, Mo., chief operating officer for Enactus
- **Seth Burgett**, ME’94, of Glen Carbon, Ill., vice president and general manager of the strategic business unit of Headphones and Wearables for HARMAN International
- **Gary Joseph Frossard**, EMgt’73, of St. Louis, president of Kadean Construction Co.
- **Linda Harrell**, CerE’88, of Washington, Ill., advanced materials technology research manager for Caterpillar Inc.
- **Margaret C. Montana**, ChE’76, of Houston, executive vice president for U.S. Pipeline and special projects in the Americas for Shell Downstream Inc. and CEO, president and board director for Shell Midstream Partners
- **Paul W. Niewald**, AE’85, of Lake Saint Louis, Mo., director and chief engineer for the T-X Program in Boeing Military Aircraft
- **Mitchell R. Roper**, PetE’82, of Southlake, Texas, president of BOPCO L.P.
- **Robert J. “Bob” Scanlon**, MetE’73, of St. Louis, assistant federal security director for mission support at St. Louis Lambert International Airport
- **Susan M. Simmons**, ChE’84, of St. Louis, senior resident engineer for the Anheuser-Busch Inc. St. Louis Brewery.

MINING PROFESSOR HELPS SEC IMPROVE MINING REGULATIONS

Kwame Awuah-Offei, professor of mining engineering at Missouri S&T, is spending 12 months with the Securities and Exchange Commission on an Intergovernmental Personnel Agreement (IPA) appointment to review publicly traded mining company disclosure requirements and help the SEC find ways to improve the regulations for mining companies and their investors.

"Someone from Missouri S&T gets to help shape how mining companies do business for the next 20 or 30 years," Awuah-Offei says. "That's an important endeavor. It reflects how strong Rolla mining engineering is and that good things are happening in Rolla, Missouri S&T has a long history of mining excellence."

IN PRINT

Tsegai Isaac, an associate professor of history and political science, co-edited and authored chapters in a book titled *African Civilization in the 20th Century*. Published in January by Nova Science Publishers, the book examines African civilization, analyzes the formidable roadblocks to its modernization and provides suggestions for African rejuvenation.



OPEN THE WINDOW, CLEAN THE AIR

Some people open the windows in their homes whether it's snowing or raining, in stifling heat or frigid cold. A Missouri S&T environmental engineering professor says that can have a positive effect on the air quality in your home.

With nearly \$1 million in funding from the Environmental Protection Agency, environmental engineering professor **Glenn Morrison** is studying how window-opening behavior can change indoor exposure to pollutants associated with oxidative chemistry. Dry-cleaned clothes, paints, personal care products and furniture all release chemicals that can cause indoor air pollution.

With a portion of the grant funds, Morrison will hire a polling company to compile data from all corners of the United States to compare the window-opening habits of people in several geographic locations. Data collected from the poll will be used in conjunction with prior studies to provide a more comprehensive view of window-opening, he says.

Morrison will also analyze indoor air quality in rented residences in Houston and St. Louis during the summer and winter months. He hopes the data will be used to make policy recommendations to lead building design that protects people who are sensitive to air pollution.

CLASSROOM ROLL CALL? THERE'S AN APP FOR THAT

A team of Missouri S&T researchers has developed an app that tracks classroom attendance using a smartphone camera.

The National Science Foundation Innovation Corps awarded **Zhaozheng Yin**, assistant professor of computer science, a \$50,000 grant for the project.

Yin and his Ph.D. student, **Yunxiang Mao**, developed the original facial recognition algorithms. Here's how it works: At the beginning of class, an instructor will sweep a smartphone camera across the room, taking a few seconds of video of all the students present. That initial video will be stored and then compared to subsequent classes, recording attendance automatically.



Courtney Fiebelman, a graduate student in applied and environmental biology, studies fruit flies in a Schrenk Hall laboratory.

FRUIT FLIES COULD UNLOCK ALZHEIMER'S SLEEP SECRETS

According to the Alzheimer's Association, people with Alzheimer's Disease often have sleep pattern changes, and sleep changes somehow result from the disease's impact on the brain.

Matt Thimgan, an assistant professor of biological sciences, is working with **V.A. Samaranayake**, a Curators' Teaching Professor of mathematics and statistics, and **Gayla Olbricht**, an assistant professor of mathematics and statistics, to develop a mathematical model of sleep in *Drosophila melanogaster* — the common fruit fly — to help figure out why. Their work is one project under way in S&T's Center for Statistical and Computational Modeling of Biological Complexity.

"If we fine-tune the ability to get sleep, we might mitigate the consequences of sleep deprivation," Thimgan says. "It's something that everyone can relate to; sleep deprivation affects a huge portion of the population."

Computational modeling exponentially speeds the process, the researchers say, because traditional methods of biological research could take weeks or months instead of the hours or days needed with computer modeling.

Samaranayake uses time-series modeling to find hidden cyclical behaviors that relate to biological mechanisms that drive the sleep-wake cycle.

The flies don't actually have age-related onset Alzheimer's disease. Using fly genetics, the researchers "induce the human proteins that are thought to be hallmarks of the disease in the fly brain to produce Alzheimer's-like characteristics in these flies," Thimgan says.

"We can induce different severities of Alzheimer's disease and determine if it affects the outcome of our mathematical modeling and how the severity might affect lifespan." ■

GOLDEN ALUMNI REUNION

On May 19–20, 35 members of the class of 1965 and their guests returned to their alma mater 50 years after graduation for the 2015 Golden Alumni Reunion. Pictured at right, **Bob**, CE'65, and **Carol Otto** dance to classic Beatles tunes in the Kinyon-Koeppel Grand Hall. Entertainment was provided by Ticket to the Beatles, a St. Louis-area tribute band. Pictured below on the front porch of Hasselmann Alumni House, the alumni and their guests gathered to celebrate and reminisce over luncheons, banquets and a campus update from Chancellor **Cheryl B. Schrader**. Alumni toured their departments and other interesting campus spots like the Kummer Student Design Center.



STUDENTS AND SATELLITES HEAD TOWARD THE STARS

A pair of microsattellites designed by a team of S&T students took first place in the U.S. Air Force's University Nanosat-8 Program. Plans call for the S&T projects to be launched into low orbit.

The collegiate competition, which spans over two years, challenges student teams to develop and construct a proto-flight satellite while participating in various design reviews and program-sponsored activities and workshops.

GIFT PROVIDES MATCHING FUND OPPORTUNITIES FOR NEW LAB



A \$3 million gift from the estate of **James A. Heidman**, CE'65, is providing an opportunity for donors to double their support for a new research initiative on campus.

The gift provides a dollar-for-dollar match for all gifts to the Advanced Construction and Materials Laboratory (ACML), a \$6 million project. The lab will bolster Missouri S&T's infrastructure research and serve as a hub for research initiatives conducted under the university's Advanced Materials for Sustainable Infrastructure signature area.

"Our strengths in sustainable infrastructure research and structural engineering are well-known, and with this additional investment we will be able to integrate significant improvements in advanced materials development and accelerated construction methods to achieve even greater prominence," says **John J. Myers**, associate dean of the College of Engineering and Computing.

"Thanks to Mr. Heidman's generous gift and the support of other alumni and industry partners, the ACML will help us realize our long-term vision of developing safer, longer-lasting civil infrastructure," adds **Kamal Khayat**, ACML director and the Vernon and Maralee Jones Professor of Civil Engineering.

Heidman was a retired lieutenant colonel in the Army and former staff engineer with the U.S. Environmental Protection Agency. He lived in Mountain Home, Ark., prior to his death on March 20, 2014.

For more information about the ACML or to take advantage of this matching gift opportunity, contact **Sue Wallace** at 573-466-3202 or email wallacesue@mst.edu.

HOLLOW CONCRETE IS STRONGER CONCRETE

Concrete columns used as the support structures of a bridge would be stronger if they were hollow, says **Mohamed ElGawady**, an associate professor of civil, architectural and environmental engineering at Missouri S&T. He says these hollow columns, the first of their kind in the United States, could extend the lifespan of a bridge beyond the current 50-years.

The columns feature a steel tube surrounded by 3 inches of concrete. They are covered by a fiberglass-reinforced polymer coating.

The columns use less concrete than current practice, but vehicle-crash simulations show that they can withstand the same amount of force as conventional concrete columns. Impact to these hollow pillars is transferred throughout the structure, minimizing damage to the overall column.

ADOBE PARTNERS WITH TECHNICAL COMMUNICATION

Through its University Outreach Program, Adobe Systems Inc. is partnering with Missouri S&T's technical communication program to give its students hands-on experience with industry-standard software, such as FrameMaker and Acrobat.

The \$52,000 agreement helps students develop fundamental skills and gives them access to online training materials, including seminars, videos and white papers.

GRADS CELEBRATE IN HASSELMANN ALUMNI HOUSE

On May 12, the Miner Alumni Association welcomed 171 graduating seniors to Hasselmann Alumni House for Grad Finale in honor of their graduation. Students celebrated with a free barbecue and door prizes. **Angela Swyers**, ChE'15, won a 39-inch VIZIO Smart HDTV during the event.



EASH JOINS S&T STAFF

In August, **John F. Eash**, AE'79, MS EMgt'90, former division director for Supplier Quality Regional Operations for The Boeing Co., joined the Missouri S&T staff as executive director of corporate relations.

Throughout his 36-year career with Boeing, Eash worked in manufacturing, engineering, supply chain management and quality in positions of increasing responsibility. He also spent eight years as Boeing's executive focal for the company's relationship with S&T.

TWO MINERS HAVE NFL HOPES

Two Miner football players have a chance to play for the NFL next season.

Forrestal Hickman, a senior in mechanical engineering, signed a free agent contract with the San Diego Chargers.

Will Brown, EMgt'15, tried out for the Tennessee Titans and the Chicago Bears. Both players took part in NFL minicamps in May.



MINERS GIVE BACK

April was Philanthropy Month at Missouri S&T. Events throughout the month recognized and thanked donors and volunteers for their support and raised awareness of the impact giving makes on all students.

On TAG (Thanking All Givers) Day, students, faculty and staff placed green tags bearing the message "Made Possible Thanks to our Generous Donors" on campus landmarks, offices, labs, equipment and other examples of generosity. University personnel and alumni handed out TAG Day T-shirts to students and then performed random acts of kindness — passing out gift cards to students spotted wearing their shirt.

Students Today, Alumni Tomorrow partnered with Blue Key to launch a campaign for the Spirit for Change to encourage students to give in support of student projects.

Donors joined faculty, staff and students in a dedication ceremony for 11 instructional labs that were upgraded with nearly \$2 million in public funding, grants and charitable contributions. And scholarship students and donors teamed up to raise money for student organizations during the third annual Battle of the Brains scholarship banquet and trivia night. The Habitat for Humanity team won the \$500 first-place prize.



Cynthia Tang, Econ'85 (left), and Chancellor Cheryl B. Schrader, right, present Dan Lin with the 2015 Woman of the Year Award.

WOMAN OF THE YEAR

Dan Lin, an assistant professor of computer science, was named the 19th Woman of the Year on April 15. Lin joined the Missouri S&T faculty in 2008. She teaches courses on cloud computing, pervasive computing, database systems, file structure and introduction to database systems. Her research focuses on the fields of database systems and information security.

The award recognizes efforts to improve the campus environment for women and minorities. As part of the award, Lin received a \$2,000 stipend funded by **Cynthia Tang**, Econ'85, founder and former chair of Insight Industries Inc.

FOLLOW THE PATH

Missouri S&T is one of 25 U.S. universities selected to participate in Epicenter's Pathways to Innovation program. Epicenter is funded by the National Science Foundation and directed by Stanford University and VentureWell.

The Pathways program leads teams of faculty and administrators through a two-year process to help institutions incorporate innovation and entrepreneurship into undergraduate engineering education.

Bonnie Bachman, a professor of economics at Missouri S&T, and **John Lovitt**, CSci'70, S&T's first entrepreneur-in-residence, are the Pathways team leaders.

This spring, Epicenter named **Josh Jetter**, a senior in computer science, electrical engineering and computer engineering, a University Innovation Fellow.

The University Innovation Fellows program is designed to help students become agents of change at their schools. The Fellows are students in engineering and related fields who help their fellow students gain entrepreneurial knowledge, skills and attitudes.

WOMEN'S MINING TEAM WINS WORLD CHAMPIONSHIP

The Women's Mining Team earned first place in its category at the 37th Intercollegiate Mining Competition held in March at the Western Australia School of Mines in Kalgoorlie, Australia.

The team defended its title as world champions in a competition designed to test skills in old-fashioned mining techniques known as "mucking." S&T's co-ed team took sixth place. The Men's A and B teams earned 12th and eighth place, respectively.

PEDALING TO A WIN



The Human Powered Vehicle Competition Team took first in the American Society of Mechanical Engineers 2015 Human-Powered Vehicle Challenge East Coast Competition held at the University of Florida in Gainesville in May.

The competition challenges students to design, build and operate a human-powered vehicle for practical use.

S&T placed first on the innovation report, third on the engineering report, first in women's and men's speed events, and first in the endurance event.

Come back to your Rolla home
Oct. 22-25 for an old-fashioned
weekend of fun, friends
and food.

Miner Fest

MINER HOMECOMING FALL FESTIVAL

Reunite
with friends,
explore today's campus
and celebrate your S&T pride as the
Miners take on the Bearcats from McKendree
University during Homecoming 2015.

Homecoming 2015 Schedule of Events

THURSDAY, OCT. 22

**ACADEMY OF COMPUTER
SCIENCE MEETING**
8 a.m.–2 p.m. Havener Center,
Carver/Turner Room

**CHEMICAL ENGINEERING
DEPARTMENT INDUSTRIAL
ADVISORY COUNCIL MEETING**
9 a.m.–3:30 p.m. Bertelsmeyer Hall,
Conference Room 110H

**ACADEMY OF MECHANICAL AND
AEROSPACE ENGINEERS BOARD
OF DIRECTORS MEETING**
1–4 p.m. Havener Center,
Silver and Gold Room

**ACADEMY OF COMPUTER
SCIENCE STUDENT FORUM**
3–4 p.m. Havener Center,
Carver/Turner Room

**ACADEMY OF MECHANICAL
AND AEROSPACE ENGINEERS
RECEPTION AND BANQUET**
5–11 p.m. Havener Center,
Miner Lounge and
St. Pat's Ballroom

**ARLAN DEKOCK RECOGNITION
DINNER AND ACADEMY OF
COMPUTER SCIENCE BANQUET**
5–9 p.m. Comfort Suites,
Banquet Room
Reception at 5 p.m. Dinner at 6 p.m.

**GEOLOGY AND
GEOPHYSICS BANQUET**
6–9 p.m. Havener Center,
Carver/Turner Room
*For additional information please
contact David Wronkiewicz at
wronk@mst.edu or Franca Oboh-
Ikuenobe at ikuenobe@mst.edu*

BOONCHAI SONGTHUMVAT: EDUCATING THAILAND



Boonchai Songthumvat, MS EMgt'76 (center back) serves breakfast to children at the Baan Wat Krasae School in Nakhon Phanom, Thailand. Photo by Nuboon Foundation Team

Boonchai Songthumvat, MS EMgt'76, is doing everything he can to make education possible for children in Thailand. Known as Boon, Songthumvat and his wife, Nuchanart, own Nuboon Co., a Bangkok-based manufacturer of fruit and vegetable juices, coffee and tea.

Nuboon is the first company of its kind in Thailand to pasteurize fruit juice. Boon and Nuchanart, a food scientist, got the idea to manufacture pasteurized juice as college students in the United States. The company opened in 1992, and today it supplies beverages throughout Thailand, Laos, Myanmar, Cambodia, the Middle East, the United States and South Africa.

"When the business was well-established, my wife and I thought that the best way to spend money would be to help children in need," he says. So seven years ago they formed Nuboon

Foundation. Its mission is simple — to help poor rural children stay in school.

"We think the most valuable social investment is in human education, particularly in children's education," Songthumvat says. "Children tend to quit school early if their families are poor and their parents lack education themselves."

The foundation provides financial support to rural families in exchange for a promise to keep their kids in school. Foundation staff and volunteers prepare and serve breakfast to children before school so they can focus on their studies with full stomachs. Songthumvat provides similar incentives to his own staff.

"We do believe education could bring people out of poverty, raise their children better and have better living standards," he says. "We not only support the employees' children to stay in school, but also grant their children college

scholarships and support the employees themselves if they wish to pursue higher education."

Songthumvat and Nuchanart have also extended their generosity to Missouri S&T, giving \$30,000 to the engineering management department. Songthumvat says he wanted to repay the kindness of those who helped him.

During his second year of grad school, Songthumvat ran out of money and planned to return to Thailand. **Bernard Sarchet**, then chair of engineering management, heard of his plight and offered him a scholarship to complete his degree.

"I always felt I was indebted to Missouri S&T," Songthumvat says. "The kindness of the chair and his staff were imprinted in my mind." ■

FRIDAY, OCT. 23

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS ANNUAL MEMBERSHIP MEETING

8 a.m.–1 p.m. Havener Center, Missouri/Ozark Room

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS SPOUSE AND GUEST EVENT

8 a.m.–1 p.m. Location TBD

ACADEMY OF COMPUTER SCIENCE MEETING

8 a.m.–noon Computer Science Building, Room 327
Continental breakfast followed by tour at 9 a.m. and review of strategic funding opportunities at 10 a.m.

ACADEMY OF MINES AND METALLURGY MEETING

8:30 a.m.–3 p.m. Havener Center, Turner Room
Continental breakfast followed by 9 a.m. meeting

MINER ALUMNI ASSOCIATION COMMITTEE MEETINGS

9 a.m.–4:30 p.m. Hasselmann Alumni House

ORDER OF THE GOLDEN SHILLELAGH EXECUTIVE COMMITTEE MEETING

10–11 a.m. Castleman Hall, Room 107

HOMECOMING REGISTRATION

10 a.m.–7 p.m. Hasselmann Alumni House

ALUMNI ASSOCIATION MINER LEGENDS LUNCHEON

Noon–1:30 p.m. Hasselmann Alumni House, Kinyon-Koeppel Grand Hall
Help us honor some of our most distinguished alumni as they receive Miner Alumni Association awards. Tickets for event: \$20 general admission. Complimentary for Miner Alumni Association board members and S&T academy members

MECHANICAL AND AEROSPACE STUDENT DESIGN TEAM PRESENTATIONS

1:30–3:30 p.m. Toomey Hall, Room 104

COMPUTER SCIENCE GOLDEN JUBILEE SPEAKER SERIES LAUNCH FEATURING KEYNOTE SPEAKER TAN LE

3 p.m. Castleman Hall, Leach Theatre
Doors open at 2:30 p.m.

DEPARTMENTAL OPEN HOUSES

3–4 p.m. See page 18

ACADEMY OF MINER ATHLETICS ANNUAL MEMBERSHIP MEETING

3–5 p.m. Gale Bullman Building, Hall of Fame Room

TOOMEY HALL OPEN HOUSE

3:30–5:30 p.m. Toomey Hall Atrium

HACKATHON FOR HUMANITY PROJECT VIDEO

4:15 p.m. Castleman Hall, Leach Theatre
Watch a video with highlights and results from the Hackathon for Humanity competition

SILVER AND GOLD GATHERING

5 p.m. Hasselmann Alumni House
*Reception 5 p.m.
Dinner buffet 6–8 p.m.
Tickets for event:
\$25 for adults. \$10 for children ages 6–12. Free for children under age 6*

JACKLING JOCKS DINNER – SILVER AND GOLD GATHERING

5 p.m. Hasselmann Alumni House

ACADEMY OF MINER ATHLETICS RECEPTION AND DINNER – SILVER AND GOLD GATHERING

5–7 p.m. Hasselmann Alumni House

CHANCELLOR'S ADVISORY COMMITTEE ON AFRICAN-AMERICAN RECRUITMENT AND RETENTION (CACAARR) ALUMNI AND STUDENT MIXER

6:30–9 p.m. Office of Student Diversity, Outreach and Women's Programs, 605 W. 11th St.

ACADEMY OF MINER ATHLETICS INDUCTION CEREMONY

7:30–9 p.m. Havener Center, Carver/Turner Room

2015 MINER ALUMNI ASSOCIATION AWARDS

ALUMNI ACHIEVEMENT



Ronald Epps, Phys'67, retired chief, Flight Design and Dynamics Division, NASA



Jesse T. "Tom" McMahan, EE'66, MS EMgt'73, co-founder and co-president, Modern Technology Solutions Inc.

ALUMNI MERIT



LaWanda Jones, CE'91, senior project engineer, ABNA

ROBERT V. WOLF ALUMNI SERVICE



Carl Schmitz, IST'10, IT project manager, The Boeing Co.

DISTINGUISHED YOUNG ALUMNI



Laura Agee, CerE'02, principal engineer, systems and integration engineering, Honeywell Federal Manufacturing and Technologies



Richard Szevery, MetE'02, manager, QA Primary, ArcelorMittal

FRANK H. MACKAMAN VOLUNTEER SERVICE



Piloo "Phil" Ilavia, PetE'70, consulting engineer, Chevron

CLASS OF '42 DISTINGUISHED TEACHING AWARD



Egemen K. Çetinkaya, MS EE'01, assistant professor, electrical and computer engineering, Missouri S&T



SATURDAY, OCT. 24

MINER ALUMNI ASSOCIATION BOARD OF DIRECTORS MEETING

8–11 a.m. Hasselmann Alumni House, Kinyon-Koeppel Grand Hall
The association's annual meeting will be held in conjunction with this event.

SLIDE RULE DEMONSTRATION AND TEAM COMPETITION

9 a.m. Havener Center
Dust off that antique slide rule and start practicing your calculations now.

HOMECOMING PARADE

10 a.m. Havener Center
Parade route available at homecoming.mst.edu

HOMECOMING PARENT MEETING AND RECEPTION

10 a.m. Havener Center, St. Pat's Ballroom

KUMMER STUDENT DESIGN CENTER OPEN HOUSE

10 a.m.–1 p.m. 1051 N. Bishop Ave.
Meet the director and tour the facility.

HOMECOMING REGISTRATION

10:30 a.m.–1 p.m. Alumni tent, Gale Bullman parking lot

MISSOURI S&T ATHLETIC HALL OF FAME ROOM OPEN TO VISITORS

11:30 a.m.–12:30 p.m.
Gale Bullman Building

KICK-OFF TAILGATE PARTY

11 a.m.–1 p.m. Alumni tent, Gale Bullman parking lot
Join us for an authentic tailgate party with grilled hot dogs and hamburgers, beverages and other tailgate goodies.

Tickets for event:

FREE for those who pre-register online or call by Oct. 16, 2015

Tickets purchased at the door: \$10 for adults. \$5 for children ages 6–12. Free for children under age 6

FOOTBALL GAME

1 p.m. Miners vs. McKendree University, Allgood-Bailey Stadium
Tickets for event: \$8 for adults. \$5 for students (K-college) and seniors age 65+. Free for children under age 6 and S&T students with a valid ID

CACAARR 30TH ANNIVERSARY CELEBRATION AND SCHOLARSHIP DINNER

5:30 p.m. Havener Center, St. Pat's Ballroom
Reception 5:30 p.m. Dinner 6 p.m.

MINER ALUMNI SOCIAL

6–8 p.m. Public House Brewing Co., 600 N. Rolla St.
Wrap up your Homecoming weekend with a pint and some down time with fellow alumni. We'll serve complimentary Alex's Pizza. Come and go as you please.

JACKLING JOCKS ANNUAL BANQUET AND BUSINESS MEETING

6–9 p.m. Havener Center, Carver Room

SUNDAY, OCT. 25

CACAARR MEETING

10:30 a.m.–3 p.m. Hasselmann Alumni House
*10:30 a.m. Inspiration Service
Noon Social Hour
1 p.m. Meeting*

SPECIAL CELEBRATIONS

JACKLING JOCKS 18TH ANNUAL REUNION

For more information contact Delbert Day: 573-364-5569 or day@mst.edu or Newton Wells: 979-690-3650 or mnwells1@verizon.net

30TH CHANCELLOR'S ADVISORY COMMITTEE ON AFRICAN AMERICAN RECRUITMENT AND RETENTION

For more information contact Cady Holmes: 573-341-6314 or holmescj@mst.edu

COMPUTER SCIENCE GOLDEN JUBILEE 50TH ANNIVERSARY CELEBRATION

For more information contact Rhonda Grayson: 573-341-4492 or rhondag@mst.edu

MINER FOOTBALL REUNION FOR TEAMS FROM 1977–83

For more information contact Todd Fizer: 618-795-2500 or todd@ncf-aiim.org

DEPARTMENT OPEN HOUSES 3–4 P.M. FRIDAY, OCT. 23

Some departments on campus will host open houses. For a current list of participating departments go to mineralumni.com/homecoming Those agreeing to host to date are:

- Chemical and biochemical engineering
- Curtis Laws Wilson Library
- Electrical and computer engineering
- Mechanical and aerospace engineering

Registration Information

Register online at mineralumni.com/homecoming or call 800-JOMINER (800-566-4637) alumni should pick up their registration packets at the Homecoming Welcome Table:

FRIDAY, OCT. 23

10 a.m.–7 p.m.
Hasselmann Alumni House

SATURDAY, OCT. 24

10:30 a.m.–1 p.m.
Alumni tent, Gale Bullman parking lot



The late Herb Alcorn, ME'62, MS Math'64 (left), and Ralph Lee, MS Phys'49 (right), with an early IBM 1620 in the early '60s, when the computer science department was located in Harris Hall.

COMPUTER SCIENCE TO LAUNCH GOLDEN JUBILEE CELEBRATION AT HOMECOMING

by Pam Leitnerman, Math'75, president of the Academy of Computer Science

This fall, Missouri S&T will kick off a celebration of the 50th anniversary of the computer science program — the first program of its kind in the state. The computer science department and the Academy of Computer Science are planning a series of special events during Homecoming. Alumni from math, electrical engineering, computer science, computer engineering, business, and information science and technology may find these events of particular interest, as they represent the ancestors, immediate family and descendants of computer science. All alumni are welcome to join the in-person and virtual celebration activities.

You don't have to be on campus to join the festivities. Before Homecoming, teams of students and alumni will compete in a Hackathon for Humanity. The goal is to develop mobile and web-based applications with societal benefits. Winning entries will be featured at the Arlan DeKock Recognition Dinner on Thursday, Oct. 22, and included with other entries in a video to be shown the following afternoon.

At right is an overview of the Computer Science Golden Jubilee Homecoming festivities. Mark your calendars. Some require advance registration, and others are free. Check cs.mst.edu/50years for details and more information on how to register for selected events.

COMPUTER SCIENCE GOLDEN JUBILEE FESTIVITIES

ARLAN DeKOCK RECOGNITION RECEPTION AND DINNER

5–9 p.m. Thursday, Oct. 22
 Comfort Suites Banquet Room
 Join us in recognizing **Arlan DeKock**, who served S&T from 1968 to 2006 as professor and chair of computer science and founding dean of the School of Management and Information Systems. Please send notes of appreciation for him by Sept. 22. Details at cs.mst.edu/50years.

COMPUTER SCIENCE BUILDING TOUR

9 a.m. Friday, Oct. 23

GOLDEN JUBILEE SPEAKER SERIES LAUNCH

“The Future Is Closer Than You Think”

presented by **Tan Le**

3 p.m. Friday, Oct. 23

Leach Theater, Castleman Hall

Doors open at 2:30 p.m.

Tan Le is a technology entrepreneur, business executive and sought-after keynote speaker. As founder and CEO of Emotiv Lifesciences, a bio-informatics company focused on identifying biomarkers in the brain for mental and other neurological conditions using electroencephalography (EEG), Le is pursuing the dream of widespread brain function screening to catch early signs of autism, epilepsy, learning disabilities, ADHD and other conditions.

HACKATHON FOR HUMANITY PROJECT VIDEO

4:15 p.m. Friday, Oct. 23

Leach Theatre, Castleman Hall

SLIDE RULE DEMONSTRATION AND TEAM COMPETITION

9 a.m. Saturday, Oct. 24

Havener Center

ADD YOUR PERSONAL TOUCH TO THE CELEBRATION

Share photographs, stories and computing artifacts before Homecoming. Visit cs.mst.edu/50years for specifics on how to contribute items.

2015 HONORARY KNIGHTS

In March, the St. Pat's Celebration Committee honored the following 2015 Honorary Knights of St. Patrick. **Delbert Day**, CerE'58, Curators' Professor emeritus of materials science and engineering, served as Honorary St. Pat and parade marshal.

- Dr. **Henry Antolak**, a Rolla dentist and former co-owner of the Cavern, now known as The Grotto
- **Henry C. "Hank" Foley** of Columbia, Mo., senior vice chancellor for research and graduate studies at the University of Missouri-Columbia and executive vice president for academic affairs, research and economic development at the University of Missouri System. Foley also holds a joint appointment in chemical and biochemical engineering at Missouri S&T
- **William J. "Bill" James** of Rolla, professor emeritus of chemistry at Missouri S&T
- **Cheryl McKay** of Rolla, manager of web and interactive marketing at Missouri S&T
- **Susan Hadley Rothschild**, CSci'74, of St. Louis, retired certified public accountant and former Miner Alumni Association president
- **Jesse Singleton** of St. James, Mo., manager of printing and mail services at Missouri S&T
- **Phil Whitefield** of Rolla, chair and professor of chemistry and director of the Center of Excellence for Aerospace Particulate Emissions Reduction Research at Missouri S&T.

SPORTS

BY THE NUMBERS



Titles Missouri S&T men's track and field team won at the Great Lakes Valley Conference Indoor Championships, which were captured by civil engineering junior **Trevor King**, petroleum engineering junior **Jaren Underwood** and civil engineering sophomore **Lucas Rosenbaum**.



School-record time nuclear engineering senior **Keith Sponsler** swam in the 100-yard freestyle at the GLVC Championships, where he was named the meet's top swimmer. Sponsler set a new school record in the 200-yard freestyle with a time of 1:36.57.



Number of Missouri S&T Capital One Academic All-America recipients in the program history. That ranks Missouri S&T fifth on the all-time Division II Academic All-America list.



Assists recorded by multidisciplinary studies sophomore **Danylo Zuikov** in the Miners' win over McKendree. It broke an S&T single-game record that stood for 19 years.



Three-point baskets made by biological sciences sophomore **Janie Arand** in S&T's win over McKendree on Feb. 5. Arand tied the record for the most in a game by a freshman in Lady Miner history. She shares the record with **Toni Knar**, BioS'14.

AYSEN MALONE: GUIDING THE NEXT GENERATION



Incoming junior engineering student **Aysen Malone** knows that a strong mentor can leave a lasting impression on a person. Inspired by her own first mentor, she returns to the high school she graduated from twice a week to help support its robotics teams.

The teams compete in the FIRST Tech Challenge (FTC), a nationwide robotics competition involving teams of up to 10 students between the ages of 14–18 in grades 9–12. Each team designs, builds and programs a robot for a tournament-style competition.

Malone, a three-year veteran of the robotics competition, joined the team during her sophomore year at Rolla High School.

During Malone's first year on the team, the group qualified for the FTC world championships. Once she experienced the fierce competition at a worldwide level, she was hooked on bettering the team's robot.

"When I first joined the team, I was shy and kind of intimidated by talking with the other members," recalls Malone. "But then **Philip Allen**, one of the team's mentors, walked up to me and asked me all about what I was interested in and helped introduce me to the team. He was a close friend to everyone on the team and was always willing to go the extra mile to help the students. He is also the main reason I chose to go to Missouri S&T."

During Malone's first semester at college, Allen, ME'94, died in a traffic collision on Oct. 10, 2014. The shock of losing a beloved mentor to the team was difficult for all past and current members.

In Allen's memory, Malone decided to continue his legacy of mentorship. Despite her busy schedule of classes, maintaining a job on the Missouri S&T campus and leading the Turkish Student Alliance as president, Malone insists on visiting the Rolla teams as often as she can.

"All of the volunteers work so hard and freely give of their time to help the students, no matter if they have other obligations," she says. "I will always be grateful for the footsteps that Phil left for me to follow." ■

HOME SWEET HOME

by Maridel Allinder | allinderm@mst.edu

After 141 years of makeshift meeting space and office migration, Miner alumni finally have a home of their own on campus. The dedication of Hasselmann Alumni House in March planted the permanent roots of home ownership for the first time in Miner Alumni Association history.

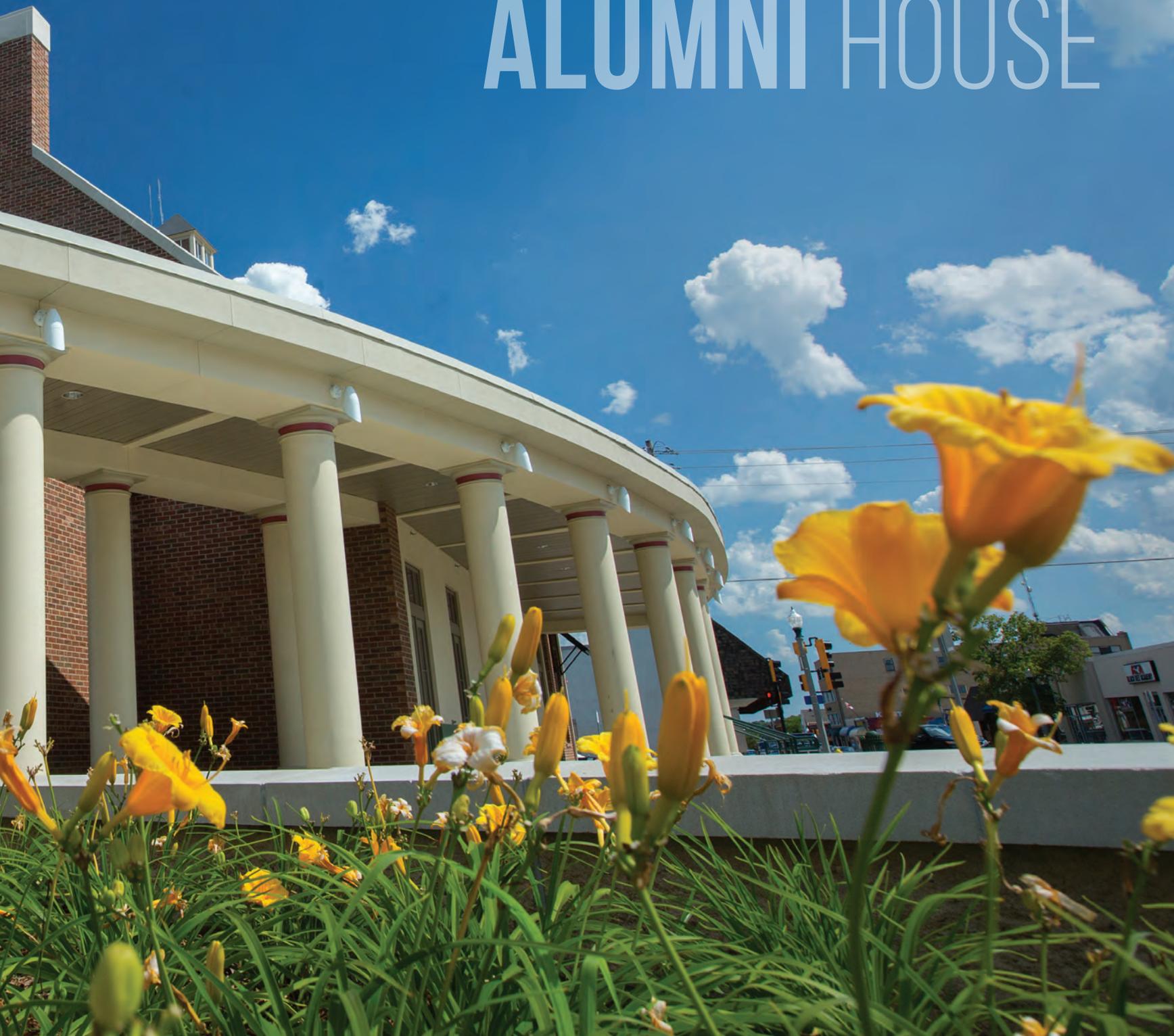
“Every family needs a place to call home,” says **Darlene Ramsay**, MetE’84, assistant vice chancellor for alumni relations and advancement services and executive vice president of the Miner Alumni Association. “Now, more than 57,000 Miners have a home for reunions, celebrations, meetings — and just plain taking it easy with friends.”

HAS



SELMANN

ALUMNI HOUSE



BUILDING A LEGACY

Miner alumni have been meeting — and making a difference — ever since **John Pack**, **John Gill** and **Gustavus Duncan** gathered in 1874 as the first graduates of the Missouri School of Mines.

MSM alumni began building a network in the late 19th century, but the alumni association was not officially established until 1921 — the 50th anniversary of the school's first classes. The association was entirely volunteer-run out of the homes of alumni for the first 25 years.

In 1946, the Miner Alumni Association celebrated two milestones: incorporation and its first campus office — on the third floor of "Old Met," the Metallurgy Building known today as the Interdisciplinary Engineering Building. Seven years later, **Francis "Ike" Edwards** became the association's first paid director, a position he held until 1975, when he was succeeded by **Frank Mackaman**.

Over the past 70 years, the alumni association office has had many temporary homes: Harris Hall, the second floor of a pool hall on 8th Street, Castleman Hall and the former

“ The association has celebrated many banner days, but this one is particularly meaningful because we are finally homeowners on the best corner in town. ”

— **Rich Eimer**, EE'71

home of Key Sport Shop (later the Student Health Services Center) — a temporary location while Hasselmann Alumni House was under construction. There were even rumors that the association operated out of a closet in Centennial Hall.

Now, for the first time in history, Miners have a permanent home. “We are here at last,” said Miner Alumni Association President **Rich Eimer**, EE'71, during the dedication ceremony. “The association has celebrated many banner days, but this one is particularly meaningful because we are finally homeowners on the best corner in town.”

SHAPING THE FUTURE

In 2006, a committee of current and former alumni association presidents met to discuss the feasibility of raising funds for an alumni house. Over the next nine years, their vision went from dream to drawing board to a dedication ceremony attended by hundreds of Miners in full St. Pat's regalia.

The alumni, friends, corporations and foundations that raised the roof on Hasselmann Alumni House are recognized on these pages. The Miner Alumni Association is also deeply grateful to the university and Chancellor **Cheryl B. Schrader** for supporting this project with funds from the estates of **Karl Hasselmann**, MinE'25, and **Beverly Koepfel**, EE'38.

“This morning we shine the spotlight on what built this house,” Schrader said at the dedication. “It was more than shovels, saws, hammers and hard work — although there was plenty of that. What built this house was the abiding power of friendship, the vision of dedicated leaders and the spirit of giving.”

Read on to learn more about the house that Miner pride built. □



Some of the memorabilia on display at Hasselmann Alumni House.

KARL HASSELMANN

by Maridel Allinder | allinderm@mst.edu

THE MAN BEHIND THE NAME



The story of how Hasselmann Alumni House got its name begins in 1921, when a tall Iowan enrolled at the Missouri School of Mines.

He excelled as a student, lettered in football and track, and got his first taste of the oil industry working one summer on an Oklahoma drilling rig.

After graduating, **Karl Hasselmann**, MinE'25, joined the California Co. as a field geologist and then became chief geologist for Sinclair Exploration Co., where he was responsible for oil prospecting in Austria, Hungary and Germany. While working in Europe, Hasselmann began researching how to use gravitational survey methods to locate offshore oil — and he met and married an American vacationing abroad, **Marjory Nell Meyer**.

Hasselmann returned to the United States in 1933, founded Houston-based Salt Dome Oil Corp. and began looking for oil in the Gulf of Mexico. After detecting a likely source in Galveston Bay, he drilled. In February 1938, Salt Dome Oil, in partnership with Standard Oil Co. of Texas, discovered one of the first oil pools in the Texas Gulf — a forerunner of the massive offshore developments to come.

John O. Farmer III, PetE'63, remembers the friendship between his father, **John O. Farmer II**, MinE'33, and Hasselmann. "My dad talked about Karl's collection of geologic maps, some from Europe before World War II," says Farmer. "Karl graduated from Rolla quite a few years earlier, so their paths crossed later. They were both in the oil business, and in those days the industry was like a fraternity."

Throughout his career, Hasselmann remained a loyal Miner. He served as president of the Houston Section, president of the Miner Alumni Association and co-chair of the 1964



Karl, MinE'25, and Marjory Hasselmann

centennial campaign. He was awarded a professional degree in 1945 and an honorary doctorate in 1966. His generous support included a gift establishing the Karl F. Hasselmann Chair in Geological Engineering.

But the contribution that made the greatest difference was an estate gift, including the continued proceeds from mineral rights and oil and gas leases. To date, this bequest has provided the university with more than \$20.4 million, including nearly \$1 million used to purchase land and establish a maintenance endowment for the alumni house. □



MATT COCO

STEPPING UP TO DELIVER A DREAM

by Maridel Allinder | allinderm@mst.edu

Matt Coco, CE'66, remembers the first meeting nearly a decade ago as if it were yesterday. He and other past presidents of the Miner Alumni Association had gathered to discuss a major project — a campus home for the association. “We talked about what a huge undertaking it would be,” Coco says. “Then they all looked at me because I was the only one in the construction business.”

Turns out, they were looking at the right man.

When the alumni association dedicated the 12,500-square-foot Hasselmann Alumni House this past March, all eyes were on Coco again, this time to recognize his leadership in overseeing construction of the largest project in association history.

“If there was ever the right person in the right place at the right time, it was Matt Coco,” says **Darlene Ramsay**, MetE'84, assistant vice chancellor for alumni relations and advancement services and executive vice president of the Miner Alumni Association. “Many individuals put their heart and soul into this project, but Matt made it his full-time job — without any compensation except our everlasting gratitude.”

An emeritus member of the Missouri S&T Board of Trustees and former alumni association president, Coco retired from St. Louis-based Alberici Constructors in 2006 as vice president of the building division after nearly four decades with the company. That same year, the steering committee for the new alumni house started meeting — and Coco was off and running on his next project.

Over the next nine years, he logged thousands of miles between St. Louis and Rolla, attended hundreds of meetings, and oversaw every detail of the project — “except selecting colors.” From site selection to contractor bids to 14 months of construction, he was at the helm of the project as the pro bono construction manager.



“ He was the visionary who never doubted what this house would mean to alumni. ”

— **Steve Rector**,
PetE'72, MS PetE'73

“Matt was a staunch supporter of this project from day one,” says **Steve Rector**, PetE'72, MS PetE'73, chair of the alumni association board's finance committee. “He was the visionary who never doubted what this house would mean to alumni.”

In recognition of his service, the alumni association contributed funding to name the Kathleen and Matteo Coco Great Room for Coco and his late wife. “I was very surprised and honored,” says Coco. “I had a strong personal interest in this project because it was so important to alumni. To be honest, it was almost like building my own house.”

“What Matt did for the alumni association, and by extension the university, cannot be overstated,” says **Joan Nesbitt**, vice chancellor for university advancement. “Against all odds, he kept the project moving forward, many times by sheer force of will. His level of service is rare, and the project could not have been completed without his devotion.”

So what does a man who just completed a major construction project do with his free time? He takes on another project. For the past year, this Phi Kappa Theta alumnus has been overseeing construction of the fraternity's new house, which was completed this summer with a projected mid-August move-in date.

“I guess you could call it my busman's holiday,” says Coco. □



Matt Coco, CE'66, socializes with fellow alumni in the Bauer Bar during the 2015 Battle of the Brains.



FURNISHED WITH GRATITUDE

by Joe McCune | mccunej@mst.edu

Bill, PetE'53, and June Patterson provided the baby grand piano in Hasselmann Alumni House, among other gifts to the Miner Alumni Association.

From its groundbreaking on April 23, 2010, to the grand opening in March 2015, Hasselmann Alumni House was conceived and built thanks to the support from our alumni — some 57,000 strong — and from friends who know what an asset Missouri S&T is to our region, our nation, our world.

The 12,500-square-foot alumni house built in the modern traditional style cost \$3.85 million. But filling the house with all the essentials required a special campaign, and that's where the gift registry came in.

Modeled after a wedding or baby registry, the registry campaign raised over \$40,000, in increments from \$25 to \$15,000. From tables and place settings to wine and water glasses, from tablecloths and napkins to arm chairs and couches, the registry brought out the best in our Miner family.

Bill Patterson, PetE'53, lives in Texas and doesn't get to the Missouri S&T campus very often, but a part of him will remain. Patterson heeded the call to provide items that will help make Hasselmann Alumni House a working home on campus. He and his wife made gifts for the William and June Patterson baby grand piano and two chairs — and he didn't have to think

too long about whether to give. They also made a gift that named an office through a separate campaign.

"I guess you might call it a combination of financial ability to reach those items, plus some connection to the school," Patterson said. "It kind of rang a bell from my own experience."

The same can be said for the dozens of other alumni from across the country who helped fill the house with items on the gift registry.

Tom Feger, CE'69, Lincolnland Section officer and a former alumni board member, made a gift that furnished a TV, an arm chair, a coffee table and beer mugs. "I figure when I come back I can sit down, turn on the TV and have a cold drink while I watch," he says.

“ I figure when I come back I can sit down, turn on the TV and have a cold drink while I watch. ”

— Tom Feger, CE'69

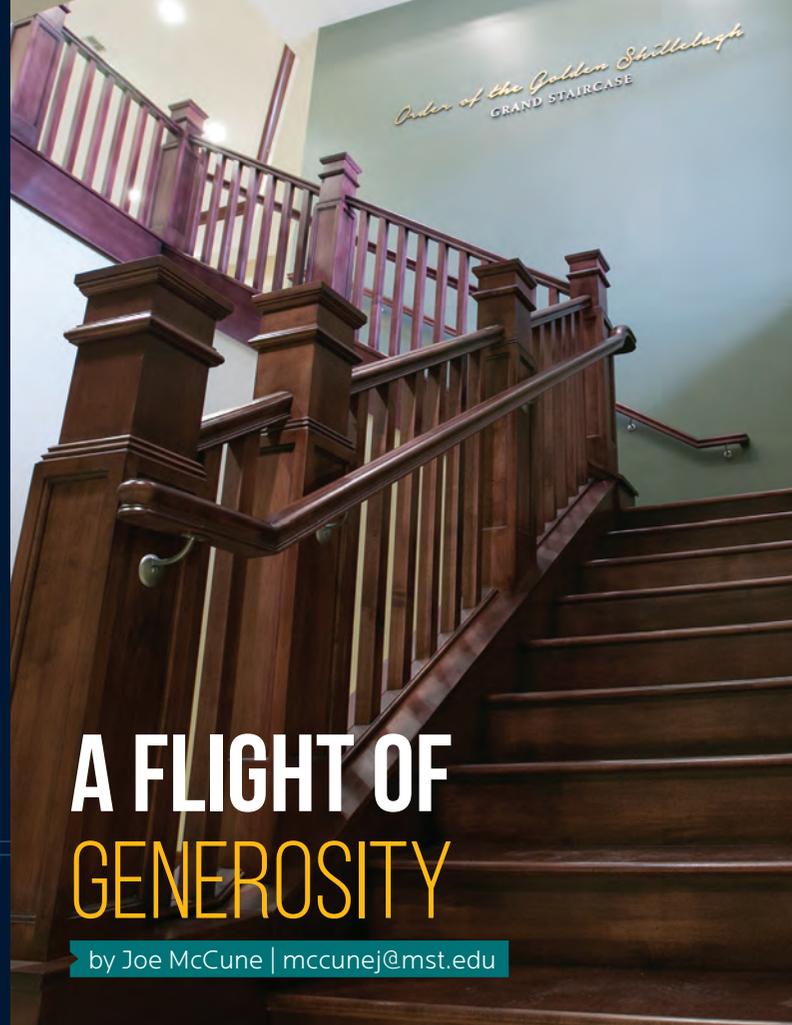
Seeing the house in person during the dedication was a revelation, Feger says. “I'd seen renderings and drawings ... but it's a lot bigger than you realize. It's really impressive,” he says. “Hopefully it'll draw some people back in for more events. To me, it's a great focal point between campus and downtown Rolla.”

For Patterson, buying gifts for Hasselmann Alumni House has brought him full circle, back to Rolla and back to Missouri S&T. He was the first in his family to go to college, and he picked his major because from an early age petroleum was in the blood. His father, William Keaton Patterson, was an oil rig driller, and Patterson wanted to make his dad proud. His education at Missouri S&T launched a 38-year career in exploration and production with Shell Oil Co.

He speaks for many proud alumni: “I appreciate everything the education allowed me to do,” he says. □



The Kinyon-Koeppel Grand Hall, pictured here during the 2015 Golden Alumni Reunion, can seat 230 guests.



A FLIGHT OF GENEROSITY

by Joe McCune | mccunej@mst.edu

Located just past the Miner Alumni Association's Berry Welcome Center, the Order of the Golden Shillelagh Grand Staircase has 19 steps — 20 if you count the landing halfway down. Its rich, dark finish and ornate newel posts make the staircase more than a functional element. It's a showcase of the craftsmanship present throughout Hasselmann Alumni House.

Early in the facility's planning stages, university leaders challenged alumni to help raise funds to construct an alumni house. Recognizing that the house would become a home for all alumni, **Rich Eimer**, EE'71, a member of the Order of the Golden Shillelagh and then president-elect of the Miner Alumni Association, called on fellow OGS members to join the effort.

They met that challenge — and then some.

To get the word out, Eimer launched a letter campaign in August 2013, urging OGS members to “pick up the shillelagh” to help make Hasselmann Alumni House a reality. Thanks to the generosity of its members, OGS will forever be recognized in this home away from home for all Miners.

“The Grand Staircase stands as a testament to the ongoing commitment of the Order of the Golden Shillelagh to the university and to the Miner Alumni Association,” Eimer says. “What better tribute to an organization that constantly steps up for the benefit of Missouri S&T, its students and its alumni?” □

VISION MAKES A HOUSE COME



IN GRATITUDE

The Miner Alumni Association gratefully recognizes the contributors whose generous support raised the roof on Hasselmann Alumni House.

Kiley Elizabeth Aasby, Bus'06

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William, CSci'73, and **Carolyn Brune**

Michael W. Bytnar, ME'68, MS EMgt'73

TO LIFE

by Joe McCune | mccunej@mst.edu



The central gathering place in Hasselmann Alumni House — the Kinyon-Koeppel Grand Hall — is named for two men with a vision for the future of the Miner Alumni Association. Although they're no longer with us, their generosity is a big reason why the house now stands as a welcoming destination for alumni and guests the world over.

Pete Kinyon, an honorary S&T alumnus and a graduate of the University of Michigan, believed that Rolla is strengthened by the presence of a great university. A proud Rolla resident and longtime supporter of Missouri S&T athletic teams as well as the Miner Alumni Association, he made a gift of stock that went toward the Grand Hall naming opportunity.

Beverly Koeppel, EE'38, made a bequest to Missouri S&T. And in 2012 Chancellor **Cheryl B. Schrader** designated that estate gift — Koeppel's contribution to the university — in support of Hasselmann Alumni House. Koeppel's bequest allowed the alumni association to offer matching funds on a one-to-two basis for naming donors.

"I am sorry that neither Mr. Kinyon nor Mr. Koeppel were able to see their gifts put to work," said **Joan Nesbitt**, Missouri S&T's vice chancellor for university advancement, during the dinner celebrating the home's grand opening. "I believe they would be thrilled to know their legacies will live on every single time we welcome a visitor to Hasselmann Alumni House." □

John F. Carney III
Preston Wade Carney, CE'02, MS CE'03
Egemen Kemal Çetinkaya, MS EE'01
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Earl, MinE'51, and **Lou Jackson**

A LOOK INSIDE



194

DONORS TO
HASSELMANN
ALUMNI HOUSE



14,368

MILES VOLUNTEER
PROJECT MANAGER
MATT COCO, CE'66,
DROVE DURING THE
PLANNING AND
CONSTRUCTION
PROCESS



“What built this house was the abiding power of friendship ... the vision of dedicated leaders and the spirit of giving.”

– Chancellor **Cheryl B. Schrader**

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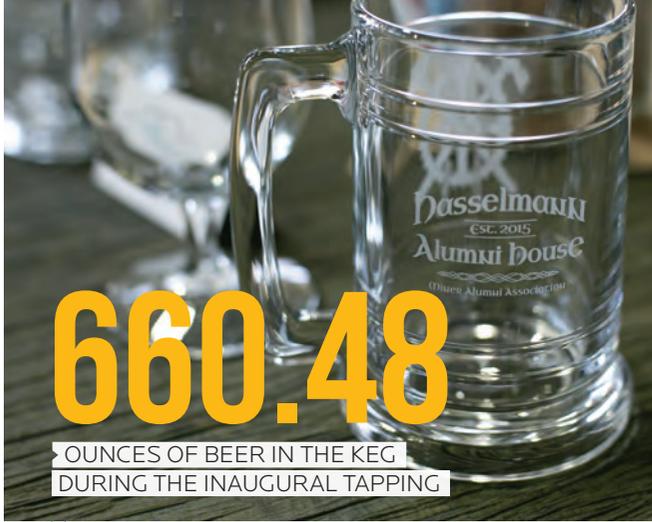
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Robert* and **Arlyne Roller**



660.48

OUNCES OF BEER IN THE KEG
DURING THE INAUGURAL TAPPING

“ After many years of fitting 35 STAT members into a 400-square-foot space, we are tremendously excited for our awesome new meeting space in this house. I know that many strong bonds will be formed in the days ahead as students and alumni share time under this roof.”

– Vince Matteucci, ChE'15

“ It took a great deal of dedication and fortitude to move this project forward. It also took the full and active partnership of the university — and the enduring generosity of **Karl**, MinE'25, and **Marjory Hasselmann**. But, ultimately, it took the support of many alumni and friends, who stepped up with contributions to make this home their own.”

– Darlene Ramsay, MetE'84, assistant vice chancellor for alumni relations and advancement services and executive vice president of the Miner Alumni Association



41 DEDICATED NAMING SPACES



GUESTS CAN BE SEATED IN THE GRAND HALL

133,000

NAILS USED TO CONSTRUCT THE ROOF

12,500 SQ. FT.

USABLE SPACE IN HASSELMANN ALUMNI HOUSE

1,012

PAVING STONES LINE THE FRONT WALK

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Paul, ChE'43, and
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Susan H., CSci'74, and
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Ashley Josephine Sacco, ArchE'12, CE'12
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James Woodard
Shirley Woodard
Christopher, CE'84, and
Debra (Manley), Econ'84, **Yarnell**
*Deceased



MINER ALUMNI ASSOCIATION

Representing more than 57,000 alumni worldwide

For more information about your representatives, go to mineralumni.com.

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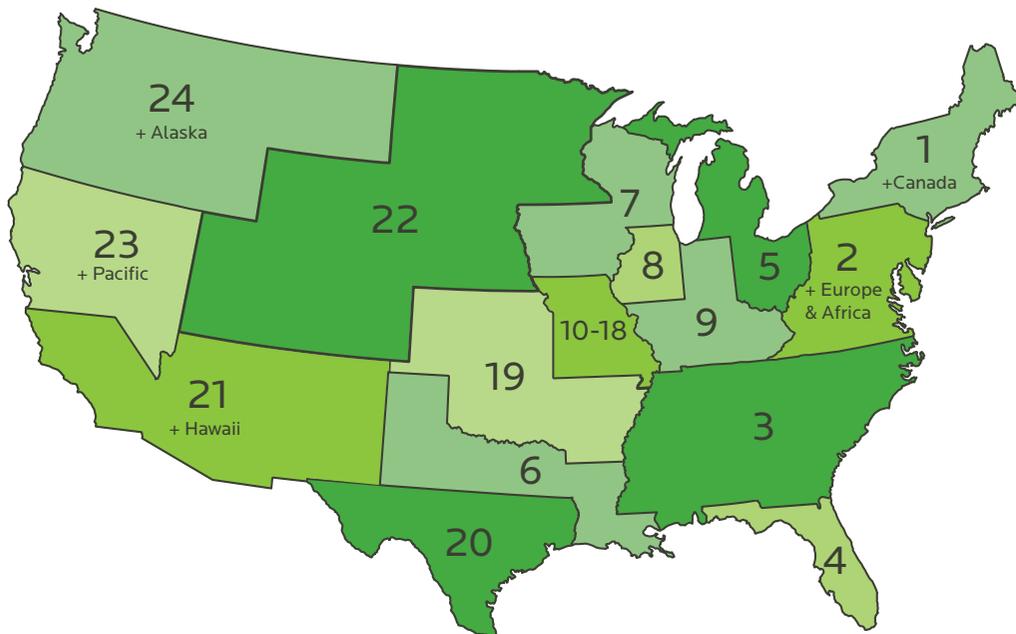
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ALUMNI AREAS

The Miner Alumni Association board of directors functions as the eyes, ears and voice of more than 57,000 living alumni. Please check the map at left and the "area directors" list above to identify your current area director. We encourage you to contact your area director.



KICKING OFF COLLEGE LIFE IN KC

At the end of the summer, incoming Missouri S&T freshmen, current students and their families living in the Kansas City area will join alumni and members of some of S&T's student design teams — complete with their creations — on Jim Foil's front lawn. For years Foil, CE'74, MS CE'75, has hosted one of the most successful Student Send-Off Picnics. Missouri S&T Magazine staff asked him why he does it.

Why is your picnic so popular?

"We have a really good group of alums and their families that help put the event on and the design teams turn out with great displays that go up in our yard and our neighbor's yard. Those displays attract lots of attention! The K.C. area also has a healthy population of incoming students, and we're distant enough from Rolla that the students and their families appreciate the connections they make with each other, the faculty and current students, and our alums."

Why is staying engaged with the alumni association important to you?

"Involvement and support of the alumni association is one of the best ways for me and my wife to give a little bit back to the school that gave me the tools to enjoy a great professional career and allowed our family to enjoy a good life. It gives us several ways to hopefully help the students that are coming to or are now attending S&T. We have made some great friendships, and we enjoy those connections immensely."

Anything else you would like to share with fellow Miners?

"If you haven't participated in an alumni event in your area or in Rolla, put it on your list of things to do. There are really cool things happening at Missouri S&T, and you might be surprised how much a little effort from you can contribute to current and future students."

KEEPING THE BOOKS

In 2012, the Miner Alumni Association board of directors consolidated its committees into five groups with broad goals that focus on alumni engagement, finances, student engagement, marketing and communications, and strengthening campus relations.

Tasked with managing and preserving the association's financial well-being, the Finance Committee's members consider Missouri S&T's long-term objectives and strategic plan initiatives while ensuring current needs are still met.

"The Miner Alumni Association has been around for nearly 100 years, and this committee is here to guarantee it stays around for over 100 more," says committee chair **Steve Rector**, PetE'72, MS PetE'73. "Our future efforts will focus on building unrestricted funds for student aid and supporting the university in every way possible."

Since the committee was formed, it has worked to overcome residual fundraising difficulties from the 2008–09 recession, supported current students through approximately \$350,000 in annual endowed scholarship funds and helped complete the goal of financing the recently opened Hasselmann Alumni House.

"Every single person who has helped make Hasselmann Alumni House a reality should be full of pride," says Rector. "It is a wonderful place for the association and all alumni to meet and work together. I attended the dedication ceremony for it and cannot say enough good things about the project."

SECTIONS BY THE NUMBERS

120

Active section officers

28 St. Pat's events around the country

1915

Founding of three oldest alumni sections – St. Louis, Kansas City and Springfield-Joplin

250+

Alumni in attendance at the largest section event this year – the St. Louis Send-off Picnic

50+

Alumni sections

Largest section outside Missouri – Houston with **1,746** members

Largest section – St. Louis with

Section that is farthest from Rolla – Anchorage, Alaska, at

3,745 driving miles

13,653 members

▶ MAKING A SPLASH

Missouri S&T sophomore **Garrett Wood** braces himself as he enters the water while teammate **Andy Naeger** clears the hurdle during the men's 3000-meter steeplechase at Allgood-Bailey Stadium on April 18, 2015. Wood would go on to finish in fourth place, Naeger in sixth.



MISSOURI
S&T

Miner Alumni Association
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CHANGE SERVICE REQUESTED

Parents: If this issue of Missouri S&T Magazine is addressed to your son or daughter who has established a separate permanent address, please notify us of the new address: 573-341-4145 or alumni@mst.edu.

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A PUBLICATION OF THE MINER ALUMNI
ASSOCIATION REPRESENTING AND
SERVING ALUMNI OF MSM, UMR AND
MISSOURI S&T

HOME SWEET HOME – HASSELMANN
ALUMNI HOUSE

SUMMER 2015 VOL. 89 NO. 2
MAGAZINE.MST.EDU

*Come back to your Rolla home
Oct. 22-25 for an old-fashioned
weekend of fun, friends
and food.*

Miner Fest

MINER HOMECOMING FALL FESTIVAL

Alumni Association 
Miner Legends Luncheon

Silver and Gold Gathering 

Kick-Off Tailgate Party 

Miner Alumni Social 

Computer Science Golden Jubilee 
50th Anniversary Celebration