



Missouri S&T Magazine Summer 2013

Missouri S&T Marketing and Communications Department

Miner Alumni Association

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MISSOURI S&T MAGAZINE

MINER MADE

Miners have a hand in things we use every day,
from beauty products to bed springs.

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AEROSPACE TEAM
ROCKETS TO A WIN

14

HOMECOMING
2013

48

SILVER AND GOLD
DONORS

While you're out, would you pick up a few things for us?



SHOPPING LIST:

- KMST natural-gas-powered generator (to use during a power outage) \$25K
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- Industrial washing machine for athletics uniforms \$8,000
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- Clousing 20-inch drill press for mechanical \$4,300
- and aerospace engineering ~~\$8,000/ each~~
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◀ ON THE COVER

Miners are taught to push beyond theory to tinker with what could be. Many of the everyday items we rely on have a connection to a Missouri S&T graduate. Things like bleach, bed springs, shampoo bottles and trains, to name a few. Our favorites begin on page 22.

IN YOUR WORDS

Q & A, Letters & Tweets
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AROUND THE PUCK

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BRIEFLY { BY THE NUMBERS }

7,512

Students enrolled at Missouri S&T during the Spring 2013 semester. This is the highest spring enrollment since 1983.

S&T students who presented their research results to Missouri legislators during Undergraduate Research Day at the Capitol.

11

100

Missouri S&T freshmen who participated in FIRST robotics programs in high school. S&T will continue to host the FIRST Tech Challenge regional championship for three more years.



2

S&T Women's Mucking Team's place in the 35th International Intercollegiate Mining Competition held in Golden, Colo., in March. The Men's A Team placed third. Alumni teams placed first and third in their respective divisions and the Co-ed Team placed 10th out of 13 teams. S&T will host the competition in 2014.

530

Individual recruiters at the Spring 2013 Career Fair.

81

S&T's rank among the nation's best graduate engineering programs as reported in *U.S. News & World Report's* "America's Best Grad Schools" listing.

1

The Advanced Aero Vehicle Group's place in the advanced class at the Society of Automotive Engineers' annual Aero Design East competition held in Fort Worth, Texas, in March. See story on page 12.

MISSOURI
S&T
MAGAZINE

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

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S&T alumni touch everyday life.

This issue features Miners who craft and design the items we depend on every day — from the time you shampoo your hair in the morning until the moment you relax on your bed at night. Your fellow alumni, employed by companies like L’Oreal and Leggett & Platt, are the people who make these everyday items what they are — examples of innovative simplicity. A Missouri S&T education fuels creation and development of the essential goods and services that characterize our daily lives.

Issac Newton said, “If I have seen further it is by standing on the shoulders of giants.” Bearing in mind this apt



sentiment, I invite you to imagine all of the ways you are lifted up by fellow alumni each day. Whether you consider the knowledge and experience gained on campus or the well-known items we use every day, Missouri S&T has allowed you to do more and live better.

Katie Jackson

**associate editor and assistant director,
alumni and constituent relations**

5

**FACTS ABOUT
KATIE**

1. Finished with her coursework, Katie recently began her dissertation for a doctoral degree in education leadership and policy analysis from the University of Missouri-Columbia.
2. She moved to Rolla from Minnesota almost five years ago.
3. Her husband, Joe, works in the registrar’s office and is enrolled in S&T’s MBA program. Joe and Katie have two cats, Stella and Carl.
4. When Katie’s not working or going to school, she’s running. She has finished three half-marathons and a handful of 5- and 10-kilometer races.
5. Katie is faculty advisor to Zeta Tau Alpha sorority and is a member of the Chancellor’s Retention Committee.

CORRECTION

The picture that ran with the memorial for **Gary L Reynolds**, ME’73, in the Fall/Winter 2012 issue was actually **Kurt R. Seidinger**, ME’74, who lives in Drury, Mo. Their pictures were reversed in the 1974 *Rollamo*. The memorial notice and correct picture of **Gary L Reynolds** is on page 46 of this issue.

**EDITOR’S
TOP FIVE
PICKS**

- 1 } An S&T microbiologist discovered an extreme microbe that can make biofuel production cheaper and reduce the need for fossil fuels. Learn more about this patented process on page 10.
- 2 } **Dianna Meyers**, CerE’09, donned sneakers and ran daily for 365 days in 2012. Read about her drive and energy — and her job at Accenture — on page 6.
- 3 } S&T senior **Jonathan Sanders** wants to travel to Mars and plans to help design a space vehicle to get him there. Read about his adventures as a SpaceX intern on page 21.
- 4 } Did you know that 3M, the company that makes Post-It Notes, began as a mining engineering company? Read about **Layland Watson**, MinE’96, plant manager in 3M’s Decatur, Ala., plant on page 23.
- 5 } **Breenae Washington**, EMgt’12, says MasterCard is more than a payment company. It’s a technology company that helps make the payment industry more secure. Read more on page 25.



What was your best (or worst) summer job?

Maybe it was the coolest job ever or maybe it was so bad you counted the seconds until summer ended. Either way, we asked about your summer jobs and you told us.

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



In the summer of 1979, I worked for Fiat-Allis' heavy equipment proving grounds south of Phoenix testing bulldozers, scrapers, loaders, etc., in high-temperature desert conditions. It was just like all those Tonka toys I played with as a kid, but in real life! It was our job to treat the machinery rough to see what we could cause to fail before it was commercialized for clients. The engineering manager seemed happy when I would come back to the shop with broken equipment, but then I would have to write up a failure report before I left for the day. Each morning, the plant manager would come out with the daily list of equipment we would operate that day. I usually got something fun, but one day I was assigned to the FL-1 (Front Loader-1), which I soon found out was a shovel. The full-time operators had a good laugh at the "college boy." It was a great summer job that combined testing and engineering in real-life conditions.

Jim Marfice, ME'80
Gainesville, Texas

My best summer internship was at Microsoft in 1999. Got thrown into the code, learned that I didn't really know anything, and got to ship a feature in Internet Explorer that people revile and ridicule to this day.

Jeff Davis, CSci'00
San Francisco

My best summer job was working at the S&T Rock Mechanics Lab. It was a fun summer and I learned so much, too! I learned how to weld while helping build an experimental waterjet contraption for recycling old tires. I'm thankful for patient instructors. I also learned how to drive a four-speed-on-the-column pickup truck, a diesel flatbed we picked up from Army surplus, and a skid steer loader with manual shift and leaky hydraulics. Good times, LOL!

Greg Messler, EMgt'99
Denver, N.C.

I was a blasting engineering intern at Newmont Mining at the open pit Twin Creeks Mine. That summer I designed pattern, worked with blasters and engineers, and got to photograph the blast every day.

Maggie Hettinger, MinE'10
Elko, Nev.

I worked at Bear River Ranch Science Camp and got to bottle-feed baby wallabies and feed snakes.

Rexann Whorton, Psyc'11
Ava, Mo.

Last summer, I interned at American Geosciences Institute in Washington, D.C., and absolutely loved it! It was a great learning experience on the interactions of science and public policy, which is benefiting me now as I work on my master's degree back here in Rolla.

Krista Rybacki, GGph'12
Nashville, Ill.

Submit your answers to alumni@mst.edu, or respond via Facebook or Twitter, by Nov. 12, 2013.



The Spring 2013 magazine is outstanding. The range of coverage: cataract prevention, Benton art, 40 years of public radio, prostate cancer, personalities and computer science. Referring to the latter, I remember the large air-conditioned room with disks of tapes and the monitors outside. Even then, UMR as we proudly called it, was pioneering computer science courses and advancement. I believe I was the oldest undergraduate on campus at that time — 1972–75. Commencement came far too soon, but I remained connected with the university by coordinating its program at Fort Leonard Wood and with university support, initiating The University of the Third Age, holding classes in senior centers and retirement complexes in surrounding central and southern Missouri. Being a Missouri University of Science and Technology alumna is truly a status symbol.

Barbara Clayton, Engl'75
Port Townsend, Wash.

Dear Editor,
I would like to take this opportunity to thank you and all of the MSM, UMR and Missouri S&T alumni for so generously responding to the call for slide rules for the University Archives' collection! Since the magazine reached the homes of our thousands of alumni last March, I have received dozens of phone calls and emails, all offering to send us marvelous things! Our alumni sent slide rules (even a 4-foot one), a class ring (a gift to the alumnus from his mom), Rollamo yearbooks, photos of St. Pat's celebrations dating back to 1910, and on and on.

These are TREASURES to our archives! Please keep us in mind for your MSM/UMR/S&T goodies. Before you throw it away, call us at 573-341-4817 or email us at ahmadd@mst.edu. And next time you're on campus, stop by Curtis Laws Wilson Library and check out our display case outside Room G-2. We change the display every quarter.

THANK YOU!
Sincerely,

Diana L. Ahmad
University Archivist



Some of the items that alumni recently donated to the University Archives.



@Marsha_gesualdi

Marissa Gesualdi, senior, business and management systems, Rolla, Mo.

Changing your St. Pat's sweatshirt means it's a new outfit. Right? #105thbestever

@UMPrez

Tim Wolfe, president of the University of Missouri System, Columbia, Mo.

What a great weekend it has been celebrating #stpat's #bestever @MissouriSandT! Grateful to be a 2013 Honorary Knight.

@Notleks21

Joseph Skelton, Bus'13, Potosi, Mo.

Pumped to be going to the Grad Fair today. :) Got my cap and gown, need I say more? Haha #Senioritis

@DamonGuthrie

Damon Guthrie, junior, engineering management, St. Louis

Time to go recruit the future of @MissouriSandT!!! #MinerDay

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DIANNA MEYERS: IN IT FOR THE LONG RUN

As a consultant for Accenture, Dianna Meyers spends a lot of time on the road. But that hectic pace doesn't keep her from hitting the pavement in her running shoes.

Meyers, CerE'09, ran daily for 365 days in 2012 — missing only one day due to illness (2012 was a leap year). She jogged along the streets of Paris, on hotel gym treadmills from Peoria, Ill., to Beaverton, Ore., and, when no gym was available, up and down flights of hotel stairs. She even ran in place once in the far stall of a women's restroom in London's Heathrow Airport.

While she loves her work, the demanding travel schedule leaves little time for exercise. Meyers spends more time in hotels, airports and corporate meeting rooms than in her Kansas City, Mo., apartment or Accenture's office in Overland Park, Kan.

"Sleep goes by the wayside, fast food can become the norm, and then there

are client dinners at restaurants," says Meyers, who joined Accenture in October 2009. "Only being home around three days on the weekend doesn't give me much time to run to the grocery store to pick up fresh produce."

Inspired by a cousin who ran every day of 2011, Meyers decided to follow in her footsteps. "What I learned was that if I made it a priority, it would happen."

For Accenture, Meyers' priority is to help Fortune 500 companies clean up their data and improve the way they manage all their information and databases. She helps corporations tackle "data governance" issues by "pulling people together to discuss who the owners of the data are and what the quality rules are. We ask, 'Does everything need to be

checked? How are they keeping track of customer information and what are the relationships of the data?'"

It may seem like an odd career choice for a ceramic engineering major. Accenture, a global consulting and technology management company, hires many S&T graduates, ranging from information systems and technology and business majors to mechanical and electrical engineers.

But Meyers thinks her choice of major prepared her well for the job. "Ceramic engineering is about solving real-world issues," she says, "and that's what I get to do every day and I love it.

"I'm in it for the long run now until I stop learning," she says. ■



Ilene Morgan (right) with *Jeopardy!* host Alex Trebek. (Photo courtesy of Jeopardy Productions Inc.)

PROFS ON TV FOR \$1,000, ALEX

It took three tries, but Ilene Morgan finally succeeded in landing a spot on the game show Jeopardy! in 2012.

Morgan, an associate professor of mathematics and statistics, is well-known around campus and in the Rolla community for her expertise at trivia. Members of the Missouri S&T community gathered for a watch party for her *Jeopardy!* debut on March 5. She finished in second place.

Morgan's pursuit of an appearance on the program has been anything but trivial. Her quest began online, where she played the official version of the game all would-be contestants must complete. In 2007 and again in 2009, her score on the 50-question quiz was high enough to qualify her for a tryout.

That in itself is no small feat. According to Morgan, each year about 100,000 people take the online test and 2,000 to 3,000 are selected for an in-person audition. Of those, 300 to 400 will be selected annually as contestants on the show, which is now in its 29th season. Read more about her *Jeopardy!* experience at rol.la/whatismorgan.

ENGINEERING EDUCATION CENTER RELOCATES

The Engineering Education Center (EEC) has relocated to a new facility at a central location in St. Louis, sharing space with the University of Missouri-St. Louis West County Continuing Education Center. The EEC delivers 20 to 25 courses each semester, serving 400 to 500 students in Missouri and elsewhere.

"The facility can now simultaneously deliver up to four lectures to distance students as well as to the students on the Rolla campus and local students in St. Louis," says **Victor Birman**, professor of mechanical engineering and EEC director. "New equipment makes it possible to pre-record distance classes and archive them for students who can't attend real-time live lectures or who need repeated access to the lectures."

CHANGING OF THE COACHING GUARD

Two S&T athletic programs announced coaching changes in March.

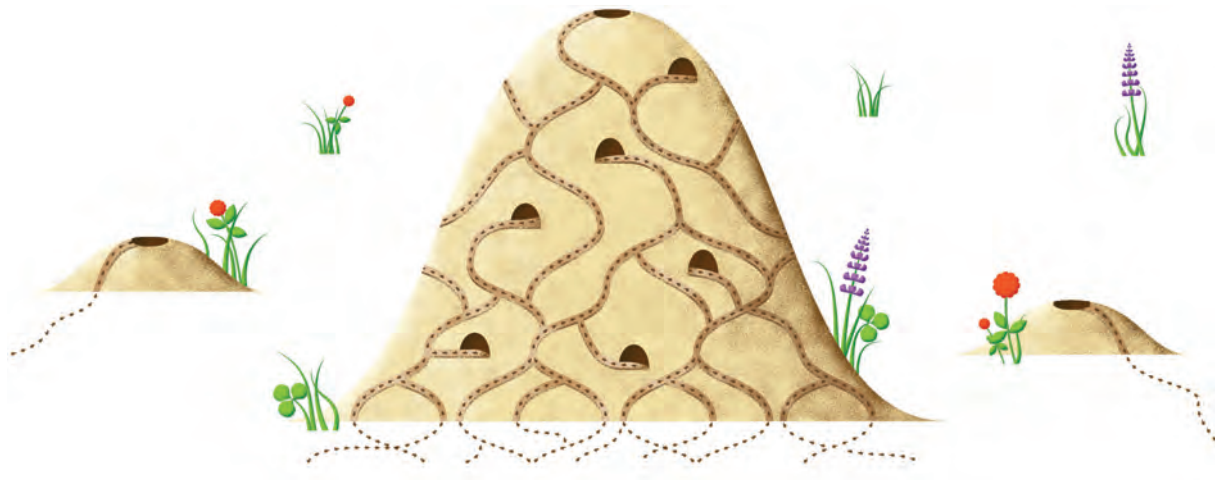
Tyler Fenwick, who served as offensive coordinator at Missouri Western State University for the past six seasons, was named head football coach. He replaces David Brown, who joined the coaching staff at Fresno State University.

Gabe Hall, an assistant coach at the University of Dayton for the past two seasons and a former assistant at two schools in the Great Lakes Valley Conference, was named head coach of the men's soccer program. He replaces Joe Ahearn, who is now an assistant coach at Northwestern University.

Read more about them at minerathletics.com.

IN PRINT

Larry Gragg, Curators' Teaching Professor and Chair of history and political science, is the author of a book on Las Vegas in popular culture titled *Bright Lights City: Las Vegas in Popular Culture*, published in April.



Model predicts growth of

‘SUPER-ORGANISM’ ANT COLONIES

Assistant professor Chen Hou has developed a mathematical model that can predict the survival, growth and life span of ant colonies. According to Hou, smaller colonies — and the ants that inhabit them — tend to live faster, die younger and burn up more energy than larger colonies.

A HORSE MAY
BE 10,000 TIMES
HEAVIER THAN
A MOUSE, BUT
IT DOESN'T
CONSUME
10,000 TIMES
MORE ENERGY.

Hou compares the way ants act in a colony to how cells function in the body. He calls the colonies “superorganisms.”

His study, in the journal *Biology Letters*, compared the rates of metabolism, growth, reproduction and longevity of individual ants with those same traits for entire colonies. He based his models on Kleiber’s Law, also known as “quarter-power scaling.”

As Hou explains it, a horse may be 10,000 times heavier than a mouse, but it doesn’t consume 10,000 times more energy. Applying quarter-power scaling, researchers can determine that a horse only consumes 1,000 times more energy.

Hou combined data from actual ant colonies with mathematical predictions and found that body mass and metabolic rates increased at a consistent, nearly three-quarter-power scaling rate for

worker ants and queen ants alike, as well as for their colonies.

Based on these findings, Hou and his colleagues then developed a mathematical model to predict colony lifespan by linking it with colony size, or mass.

Quarter-power scaling could also be applied to entire cities to see if they also function as “superorganisms.” Energy usage in a city, for example the number of gas stations or the total length of electrical cables, correlates to the size of the city, Hou says.

Comparing two similar people, the one living in the bigger city is more energy-efficient, Hou says. “As you can imagine, the number of gas stations per capita is smaller in New York than in St. Louis, and smaller in St. Louis than Rolla, which means more people share one gas station in New York than in St. Louis, than in Rolla.” ■

MAPPING THE ROUTE TO STUDENT SUCCESS

A group of Missouri S&T students is helping Garmin International Inc. develop new GPS products and technologies through an internship program at a new software engineering facility established on campus last fall.

The facility supports semester-long part-time internships throughout the school year, says **Robert Buehler**, CSci'05, MS CSci'09, a software engineering team leader with Garmin and manager of the facility.

"The facility first opened in December and we're up to nine undergraduates so far," Buehler says. "They spend their days working on a variety of tasks for our aviation and automotive products, including embedded software, verification testing and internal tools."

Students work side-by-side with Garmin engineers and get hands-on experience developing future GPS products and technologies.

"We are open to providing internships to any qualified S&T students," Buehler says. "The software engineering focus lends itself most easily to computer science and computer engineering majors, but that hasn't stopped us from picking from others as well. These opportunities are going to be filled by the best fit for the company."

Garmin worked closely with S&T's office of technology transfer and economic development (TTED) to open the new facility, which is located in the Technology Development Center, a 22,000-square-foot building in Missouri S&T's Innovation Park.

"Students are given a lot of flexibility in their hours to compensate for the unique schedule of a full-time student, with many needing to work outside of standard business hours," Buehler explains. "We are very impressed with the caliber of students that S&T produces, and seeing how well they work with so little supervision reinforces that."

"We plan to be up to 20 interns by September and continue to expand here at Missouri S&T," Buehler says. ■



Robert Buehler, CSci'05, MS CSci'09, manages the Garmin facility located in Innovation Park.

UNIVERSITY OF MISSOURI LEGISLATIVE DAY 2013

On April 3, Missouri S&T alumni and friends visited with lawmakers in Jefferson City to garner support for the four-campus University of Missouri System as part of Legislative Day at the Capitol. Attendees included: **Jim Foil**, CE'74; **Dan O'Sullivan**, Phil'82; **Matt Coco**, CE'66; **Bob Bay**, CE'49; and **Michael McMenus**, LSci'81. Missouri S&T representatives included: Chancellor **Cheryl B. Schrader**, **Darlene Ramsay**, **Katie Jackson**, **Nancy Zamazanuk**, **Katie Machovsky**, **Steve Tupper**, **Eric Bohannon**, **Edna Grover-Bisker**, **Glenn Morrison**, **Matt Limmer**, **Randy Stoll** and **Mike Bassett**.

MISSOURI S&T CAREER FAIR

Career opportunities and employer relations hosted its Spring 2013 Career Fair on Feb. 19 with 197 employers in attendance, including 22 new employers. S&T students and alumni visited with 530 recruiters in hopes of landing a full-time job, internship or co-op opportunity.

STAT HOSTS BREAKFAST FOR ALUMNI

Before the Spring Career Fair began, alumni recruiters were treated to a continental breakfast hosted by the student alumni association, Students Today, Alumni Tomorrow (STAT), and S&T's Engineers Without Borders.

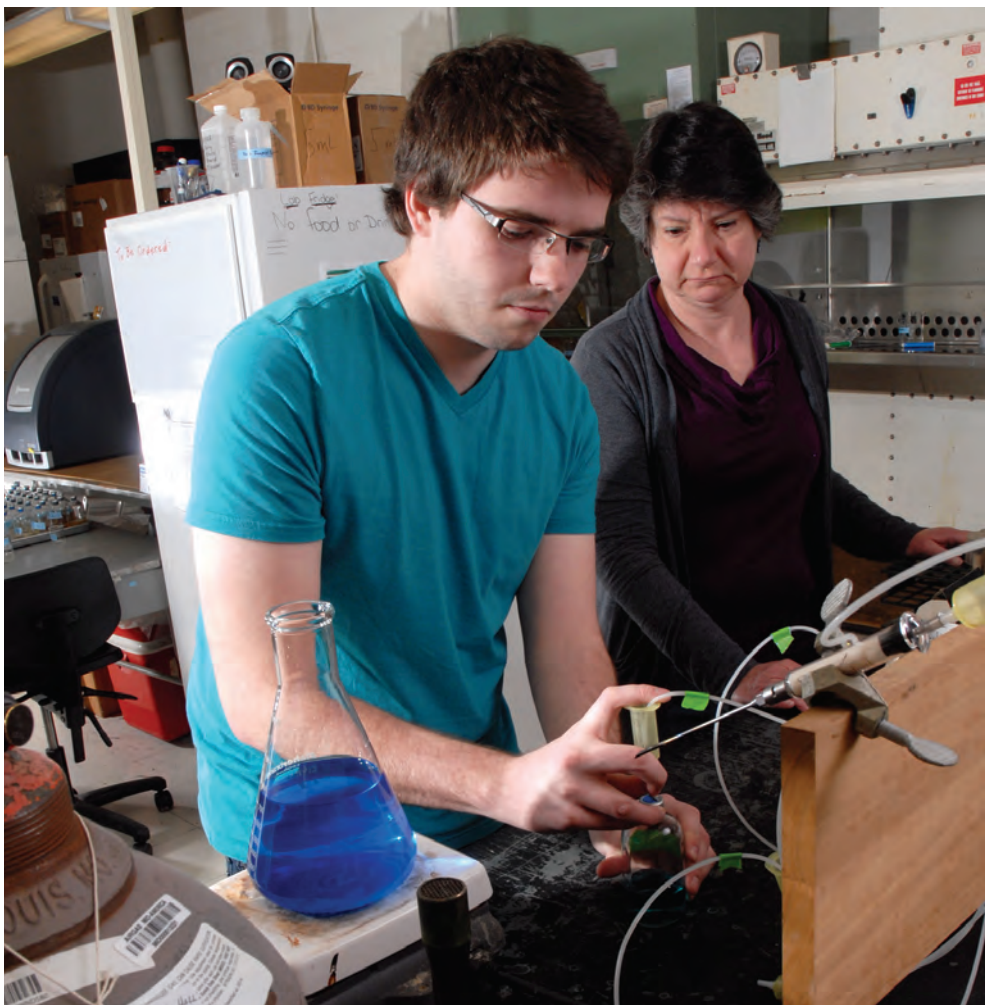
Dylan Courtney, a senior in chemical engineering, helped microbiologist Melanie Mormile patent a process to improve biofuel production using bacteria.

EXTREME BUG BOOSTS BIOFUEL PRODUCTION

Using a microbe that thrives in extreme conditions, Melanie Mormile patented a process that could streamline biofuel production, making it less costly and reducing the reliance on fossil fuels.

Mormile, a professor of biological sciences, discovered a particular bacterium, called *Halanaerobium hydrogeniformans*, that thrives in high-alkaline, high-salt conditions. The bacterium can eliminate the need to neutralize the pH of the biomass, a step required in the alkali treatment of biomass to produce hydrogen fuel and other biofuels. Mormile and her fellow researchers have been awarded two patents for developing a biofuel production process that uses the microbe.

The conventional method of biofuel production involves the steam-blasting of switchgrass and straw to separate lignin, an unnecessary byproduct, from



the cellulose that is needed to create the biofuel. The process requires electricity, usually produced by either coal or natural gas, to generate the steam. That process releases considerable amounts of carbon dioxide while burning fossil fuels. The breakdown of the lignin produces compounds that inhibit fermentation and lead to lower hydrogen yields.

Treating the switchgrass and straw with an alkaline substance removes the lignin with limited formation of the harmful compounds, but the resulting slurry is highly alkaline and very salty. Before the discovery of *Halanaerobium hydrogeniformans*, a neutralization step was required before the fermentation process could begin. Using Mormile's bacterium, that step can be eliminated.

"We realize this isn't going to solve all the transportation fuel problems, but we'd like to see this develop into regionalized solutions," Mormile explains. "Farm communities could take agricultural waste, perform the alkaline pretreatment, feed it to an onsite reactor and produce hydrogen fuel directly for use on the farm."

Mormile studies extremophiles — life forms that exist in extreme conditions. The *Halanaerobium hydrogeniformans* bacterium used in Mormile's hydrogen fuel production study came from Washington's Soap Lake, which is unique in that it has not turned over in more than 2,000 years because of its high salinity. Its water has the same pH as ammonia and is 10 times saltier than seawater. ■



◀ BATTLE OF THE BRAINS

Scholarship donors and the students who benefit from their generosity pooled their brain power on April 19 to vie for the title of "Smartest Miners" as part of the Battle of the Brains trivia challenge during MinerFest. The evening, which included a casual picnic dinner, was filled with recognition and fellowship.

CELEBRATING THE CLASS OF 2013

On May 14, the Miner Alumni Association hosted its biannual Grad Finale celebration for graduating seniors. Students celebrated their graduation with a free barbecue outside the alumni office. The association welcomed about 170 graduates into the Miner alumni family at this event.



KNIGHTS OF ST. PATRICK

Eight alumni and friends of Missouri S&T were dubbed Honorary Knights of St. Patrick during the 105th Best Ever St. Pat's Celebration in March. Retired Rolla Police Chief **Stan Spadoni** was named Honorary St. Pat and served as marshal of the St. Pat's parade.

2013 HONORARY KNIGHTS

- **Roger Dorf**, ME'65, chair of the board of Airwalk Communications and member of the board of the National Chamber Foundation of the U.S. Chamber of Commerce
- **Mark Fitch**, associate professor and assistant chair of environmental engineering at Missouri S&T
- **Steve Hargis**, director of public works for the city of Rolla
- **Shenethia Manuel**, associate vice chancellor of human resource services, affirmative action, diversity and inclusion at Missouri S&T
- **Jason Smith**, 8th District U.S. representative
- **Don Sparlin**, professor emeritus of physics at Missouri S&T
- **Timothy Wolfe**, president of the University of Missouri System
- **Joan Woodard**, Math'73, a consultant and retired executive vice president at Sandia National Laboratories.



Daiki Nuiki (left) and Justin Nichols work on the team's plane. (Photo by Bob Phelan)

AEROSPACE TEAM ROCKETS TO A WIN

Despite crashing its first plane during testing, Missouri S&T's Advanced Aero Vehicle Group won the Society of Automotive Engineer's 2013 Aero Design East competition. Sponsored by Lockheed Martin, the competition was held in Texas in March at the Fort Worth Thunderbirds Flying Field.

The competition required the students to design and build an 8-pound aircraft capable of carrying a 15-pound static payload and a 3-pound "humanitarian aid package," a sandbag that was to be dropped on a target from 100 feet in the air. Scoring was based on the sandbag's proximity to the specified target.

S&T's team earned first place in the presentation portion of the competition and third place in design. The team was in first place overall at the end of the first day.

No team in S&T's class was able to successfully complete the flight portion of the competition. Teams struggled in the strong Texas winds and even after achieving liftoff, many vehicles crashed or failed to target the designated drop zone. With no points being awarded for the flight aspects, the Miners remained in first place. ■



OPEN SKIES

\$90B Projected global spending on unmanned aircraft by 2023

1,428 Number of drone permits FAA has issued since 2007

2015 Year U.S. government is expected to begin issuing commercial drone permits

Global spending data is from Teal Group. Drone permit information is from the Federal Aviation Administration.

◀ Computer engineering sophomore Chris Seto controls this “multicopter,” designed to inspect bridges safely and efficiently by remote control.

REMOTE-CONTROLLED BRIDGE MONITORING

The current method of inspecting bridges for structural damage is labor-intensive and, in some instances, dangerous to all involved. But Zhaozheng Yin is developing a safer, more efficient solution dubbed the “multicopter.”

The system monitors the health of bridges by collecting data autonomously and then detecting patterns that provide clues about the structures’ integrity.

The “multicopter” gets its name from its appearance. The radio-controlled mini-helicopter has multiple propellers to lift it into the sky and is loaded with an assortment of cameras, sensors and other technology that help it to maneuver and hover. Yin’s group has created several versions of the machine, including a hexacopter (six propellers) and a quadcopter (four propellers).

While the flying machine may not be groundbreaking, it is incredibly practical, says Yin, an assistant professor of computer science at S&T.

“Imagine you need to perform a check-up on a bridge that is over an extremely fast-flowing river, or even spans a section of the ocean,” says Yin. “The standard procedures are extremely labor-intensive and time-consuming. With a multicopter, you have a feasible solution to a dangerous problem.”

Yin’s research is funded by Lockheed Martin and sponsored by the Mid-America Transportation Center, a consortium of Midwestern universities based in Lincoln, Neb.; Missouri S&T is a member of the group. The finishing touches of this project are set to be completed by December 2013. **Chris Seto**, a sophomore in computer engineering, and **Yunxiang**

Mao, a Ph.D. candidate in computer science, work with Yin.

“These aircraft can be very precisely flown, so even in sensitive environments, such as those with many obstacles, the aircraft can still be successfully maneuvered,” Seto says.

“In the future, besides its initial intentions for bridge structure monitoring, this technology could be incorporated into military or corporate use,” Yin says. “Similar to drone uses, auto-detection and tracking is going to be important. Or even something like farming. If you have 60 acres of corn, you can monitor which areas need attention or irrigation, or find where the cows are on a very large farm.” ■



**SUMMONING ALL
SUPER MINERS TO
RETURN!
REUNITE!
RECONNECT!
IN ROLLA!**

LIKE OUR MIRACULOUS MINER METALS, SILVER AND GOLD, THE PECULIAR, PRETERNATURAL POWERS OF MINERS PAST AND PRESENT WERE FORGED IN THE FURNACE OF PERSEVERANCE AND PERSISTENCE. NOW, WE'RE CALLING ON YOU TO JOIN HUNDREDS OF YOUR FELLOW MINERS IN ROLLA THIS FALL TO REDISCOVER THE SOURCE OF YOUR SUPER POWER. THE GREATER OUR NUMBERS, THE STRONGER OUR POWERS. JOIN US FOR A HOMECOMING OF HEROIC PROPORTIONS.

UNCOVER A HOMECOMING OF HEROIC PROPORTIONS...

FRIDAY, OCT. 18

ALUMNI ASSOCIATION MINER LEGENDS LUNCHEON

Noon–1:30 p.m.

Havener Center, St. Pat's Ballroom

Help us honor our Miner superheroes at the Miner Legends Luncheon.

Tickets for event: \$20

SILVER AND GOLD GATHERING

5–8 p.m.

Alumni Patio, Castleman Hall

Social Time: 5–8 p.m.

Dinner Buffet: 6–7:30 p.m.

Tickets for event

- \$25 for adults
- \$10 for children ages 6 to 12
- Free for children under age 6

Kick back and relax with family and friends for a casual buffet dinner on the patio. Meet the Super Miners, including our 2013 Miner Alumni Association awardees and student design team members.

SATURDAY, OCT. 19

SUPER MINER 5K

9 a.m.

Allgood-Bailey Track

Join the Central Ozarks Section for a beautiful run, jog or walk through the S&T campus. All alumni, friends, faculty, staff and students are welcome.

Registration fee

\$15 for students (K–college)

\$20 for alumni

FOOTBALL GAME, MINERS VS. ST. JOSEPH'S COLLEGE

1 p.m.

Allgood-Bailey Stadium

Tickets for event

- \$8 for adults
- \$6 for students (K–college) and seniors age 65+
- Free for children under age 6 and S&T students with a valid student ID

KICK-OFF TAILGATE PARTY

11 a.m.–1 p.m.

Alumni Tent, Gale Bullman

Multi-Purpose Building parking lot

Join us for a tailgate party with grilled hot dogs and hamburgers, \$1 beer and other tailgate goodies.

Tickets for event

- FREE for those who pre-register online or call by Oct. 11, 2013

Tickets purchased at the door:

- \$10 for adults
- \$5 for children ages 6 to 12
- Free for children under age 6

REGISTER TODAY

Register online at mineralumni.com/homecoming or call 800-JOMINER

WHEN YOU ARRIVE ...

All alumni should pick up their registration packets at the Homecoming Welcome Desk:

- 1–7 p.m. Friday, Oct. 18, in Castleman Hall
- 10:30 a.m.–1 p.m. Saturday, Oct. 19, at the Alumni Tent in the Gale Bullman Multi-Purpose Building parking lot



LEAGUE OF SUPER MINERS

A HOMECOMING OF HEROIC PROPORTIONS

THURSDAY, OCT. 17

GEOLOGY AND GEOPHYSICS ADVISORY BOARD MEETING

10–11:30 a.m.
Havener Center, Mark Twain Room

ACADEMY OF ENGINEERING MANAGEMENT PICNIC

11:30 a.m.–1 p.m.
Schuman Park, lower pavilion

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS BOARD OF DIRECTORS MEETING

12:30–4:30 p.m.
Havener Center, Silver and Gold Room

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS INDUCTION DINNER

5–10 p.m.
Matt's Steakhouse, 12200 Dillon Outer Road, Rolla

ACADEMY OF COMPUTER SCIENCE BANQUET

Reception: 6 p.m. Dinner: 7 p.m.
Matt's Steakhouse, 12200 Dillon Outer Road, Rolla

GEOLOGY AND GEOPHYSICS HOMECOMING BANQUET

6–9 p.m.
Havener Center, Carver-Turner Room
Cost \$25

RSVP to Patty Robertson at patty@rst.edu or call
573-341-4616 and indicate if vegetarian meal is desired.

FRIDAY, OCT. 18

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS ANNUAL MEMBERSHIP MEETING

7:45 a.m.–2 p.m.
Matt's Steakhouse, 12200 Dillon Outer Road, Rolla

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS SPOUSE AND GUEST EVENT

8 a.m.–2:30 p.m.
Location TBD

SOUVENIR REPRINTS OF YEARBOOK PHOTOS

8 a.m.–4 p.m.
Provided by Curtis Laws Wilson Library,
Havener Center atrium

ACADEMY OF COMPUTER SCIENCE MEETING

8:30 a.m.
Room 327 Computer Science Building

ACADEMY OF ENGINEERING MANAGEMENT BUSINESS MEETING

8:30 a.m.–noon
Engineering Management Conference Room
Room 226 Engineering Management Building

MINER ALUMNI ASSOCIATION COMMITTEE MEETINGS

9 a.m.–4:30 p.m.
Havener Center

ACADEMY OF MINES AND METALLURGY MEETING

9:30 a.m.–3 p.m.
Havener Center, Silver and Gold Room

ORDER OF THE GOLDEN SHILLELAGH EXECUTIVE MEETING

10–11 a.m.
Room 107 Castleman Hall

ALUMNI ASSOCIATION MINER LEGENDS LUNCHEON *

Noon–1:30 p.m.
Havener Center, St. Pat's Ballroom

ACADEMY OF MINER ATHLETICS COMMITTEE MEETINGS

Noon–4 p.m.
Hall of Fame Room, Gale Bullman
Multi-Purpose Building

HOMECOMING REGISTRATION

1–7 p.m.
Castleman Hall

BIOLOGICAL SCIENCES DEPARTMENT HOMECOMING PICNIC

2:30–4 p.m.
Schrenk Hall, front lawn

JACKLING JOCKS DINNER

5 p.m.
Castleman Hall

SILVER AND GOLD GATHERING *

5–8 p.m.
Alumni Patio, Castleman Hall

ACADEMY OF MINER ATHLETICS BANQUET AND INDUCTION CEREMONY

5–8:30 p.m.
Castleman Hall

SATURDAY, OCT. 19

SUPER MINER 5K *

9 a.m.
Allgood-Bailey Track

ALUMNI ASSOCIATION BOARD AND ANNUAL MEETING

8–11 a.m.
Havener Center

HOMECOMING PARENT MEETING AND RECEPTION

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

HOMECOMING REGISTRATION

10:30 a.m.–1 p.m.
Alumni Tent, Gale Bullman Multi-Purpose Building
parking lot

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

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

KICK-OFF TAILGATE PARTY *

11 a.m.–1 p.m.
Alumni Tent, Gale Bullman Multi-Purpose Building
parking lot

FOOTBALL GAME, MINERS VS. ST. JOSEPH'S COLLEGE *

1 p.m.
Allgood-Bailey Stadium

* SEE PAGE 15 FOR DETAILS.

REGISTRATION:

FRIDAY

1-7 P.M.

UNIVERSITY ADVANCEMENT OFFICE
IN CASTLEMAN HALL

SATURDAY

10:30 A.M.-1 P.M.

ALUMNI TENT AT GALE BULLMAN
PARKING LOT

REUNION OF ELECTRICAL ENGINEERING GRADUATES OF '62, '63 AND '64

2-5 p.m.

Faculty Lounge, Emerson Hall

RSVP to Tom VanDoren at vandoren@mst.edu

JACKLING JOCKS ANNUAL BANQUET AND BUSINESS MEETING

6-9 p.m.

Location TBD

SUPER MINER ALUMNI SOCIAL

7-10 p.m.

Public House Brewing Company
600 N. Rolla St., Ste. B

Drop in for a pint and enjoy some local music. Come and go as you please. Payment may be made directly to the brewery.

SUNDAY, OCT. 20

CHANCELLOR'S ADVISORY COMMITTEE ON AFRICAN AMERICAN RECRUITMENT AND RETENTION MEETING

1-3 p.m.

Location TBD

SPECIAL CELEBRATIONS

SIGMA NU 110TH ANNIVERSARY

For more information contact Darren Peeler at darrendpeeler@gmail.com

JACKLING JOCKS 16TH ANNUAL REUNION

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

ROLLA CATHOLIC NEWMAN CENTER 60TH ANNIVERSARY

Time TBD, Sunday, Oct. 20

For more information contact Don Bagat at 573-364-2133 or campusminister@rollanewman.org.

DEPARTMENT OPEN HOUSES

3-4 p.m. Friday, Oct. 18

To find out if your department is hosting an open house, visit mineralumni.com/homecoming

Those planning to host to date are:

- Business and Information Technology
- Chemical and Biochemical Engineering
- Economics and Finance
- Electrical and Computer Engineering
- Mechanical and Aerospace Engineering
- Mining and Nuclear Engineering

MEET OUR HEROES!

Illustrations by Dave Bryant

ALUMNI ACHIEVEMENT

- Col. John Pierre Powell, AE'87, president, PAMCO Investments Corp.
- LeRoy E. Thompson, CE'56, MS CE'65, retired principal and vice president, C3TS, and emeritus professor, Florida International University

ALUMNI MERIT

- Kathryn A. Walker, MS EMgt'82, managing director, OPENAIR Ventures

ROBERT V. WOLF ALUMNI SERVICE

- Bradley H. Hornburg, CE'69, CEO, Landmark Contract Management Inc.

DISTINGUISHED YOUNG ALUMNI

- Daniel P. Ellis, CE'99, vice president, Crafton Tull and Associates
- Karlynn Sievers, Engl'96, LSci'96, physician and clinical assistant professor, University of Wyoming

FRANK H. MACKAMAN ALUMNI VOLUNTEER SERVICE

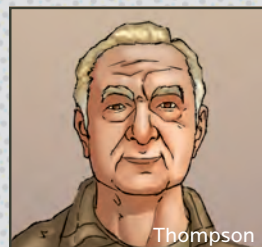
- Jerry D. Parsons, CE'70, retired materials engineer, Illinois Department of Transportation

CLASS OF 1942 EXCELLENCE IN TEACHING

- Jennifer Pattershall, assistant professor of psychological science at Missouri S&T



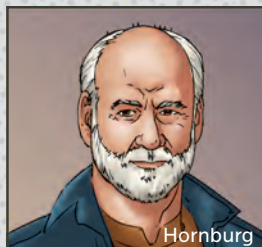
Powell



Thompson



Walker



Hornburg



Ellis



Sievers



Parsons



Pattershall

SEE THEIR SECRET IDENTITIES AT MINERALUMNI.COM ...

A NEW OLD TRADITION

St. Pat's arrival in downtown Rolla aboard a railroad handcar on March 13 marked the revival of an old tradition. In the early days, St. Pat arrived in Rolla by rail, but that tradition was derailed in 1996 because of safety concerns. In recent years, he arrived on a custom manure spreader. **Robert Hribar**, a senior lab mechanic in mechanical and aerospace engineering and a 2012 Honorary Knight of St. Patrick, worked with St. Pat's Board members to modify the handcar for street travel.



HONORING A GEOLOGY LEGEND

The late **A.C. Spreng** was passionate about rocks and passed that enthusiasm on to generations of S&T geology and geophysics students. In January, local artist Lynn Grannemann donated her mixed-media painting "Exploring Missouri's Past" to Missouri S&T in Spreng's memory. "I contacted Dr. Spreng when I needed fossils and rocks for this piece," says Grannemann.

"He was so helpful and kind. I continually needed more and more samples and he graciously allowed me to borrow them."

Pictured with Grannemann (right) are **Ralph Flori**, PetE'79, MS PetE'81, PhD PetE'87, associate professor and chair of geological sciences and engineering, and **Francisca Oboh-Ikuenobe**, professor of geological sciences and engineering.





Jie Gao (left) and Xiaodong Yang report that a new class of nanoscale slot waveguides pack 100 to 1,000 times more transverse optical force than conventional silicon slot waveguides.

GIANT FORCES IN SUPER-STRONG NANOMATERIALS

In a study that could lead to advances in the emerging fields of optical computing and nanomaterials, Jie Gao and Xiaodong Yang, both assistant professors of mechanical engineering, report that a new class of nanoscale slot waveguides pack 100 to 1,000 times more transverse optical force than conventional silicon slot waveguides.

The findings, which were published in the Sept. 24 issue of the journal *Optics Express*, could lead to advances in developing optical computers, sensors or lasers.

Gao and Yang describe the unusual optical and mechanical properties of nanometer-scale metal-dielectric structures called metamaterials. Using computers, they simulated nanometer-scale models of metamaterial slot waveguides, which are structures designed to channel beams of light from one area to another. Waveguides function like tiny filaments or the wires of an integrated circuit, but on a much smaller scale.

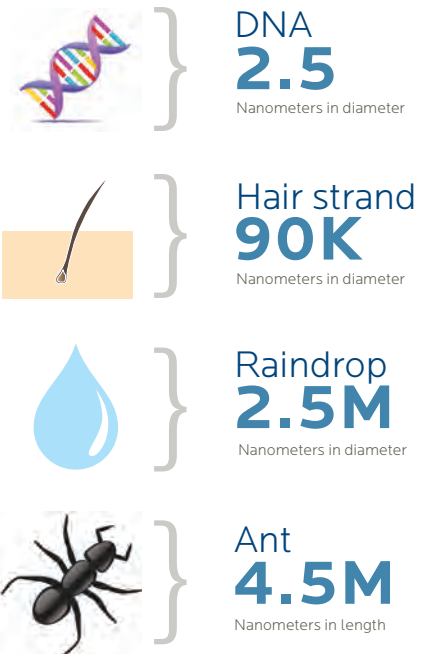
For their study, the Missouri S&T researchers simulated slot waveguides made of layered structures of silver and a dielectric material arranged like the alternating bread and meat in a club sandwich. A nanometer — visible only with the aid of a high-power electron microscope — is one billionth of a meter, and some nanomaterials are only a few atoms in size.

Gao and Yang simulated what would happen with modeled identical waveguides stacked with a tiny air gap between them. They then measured the transverse optical force between the waveguides. Optical force refers to the way beams of light can be made to attract or repel each other, as magnets do.

They found that “the transverse optical forces in slot waveguides of hyperbolic metamaterials can be more than two orders of magnitude stronger than that in conventional dielectric slot waveguides.” For this reason, Gao and Yang describe the magnitude as “giant” in the title of their *Optics Express* article, “Giant transverse optical forces in nanoscale slot waveguides of hyperbolic metamaterials.” ■

JUST HOW SMALL IS NANO?

One nanometer is one-billionth of a meter. It's difficult to imagine just how small that is, so here are some examples according to the National Nanotechnology Initiative:



RESEARCH UPDATE

In a process comparable to squeezing an elephant through a pinhole, **Jie Gao** and **Xiaodong Yang** have designed a way to engineer atoms capable of funneling light through ultra-small channels. Their research is the first to demonstrate that the material — a specially designed “meta-atom” of gold and silicon oxide — can transmit light through a wide bandwidth and at a speed approaching infinity.

SPORTS BY THE NUMBERS

Total points scored by **Mary Ann Bradshaw** in the indoor pentathlon at a February 2013 Illinois Wesleyan meet. This is a new school record.

3,224

7

Consecutive New South Intercollegiate Swimming Championships titles Missouri S&T has won. Next year, the Miner swimming team will compete in the Great Lakes Valley Conference.

Total career pitching wins by starters **Kyle Robertson**, **Chris Bowe** and **John Auble** heading into the 2013 season.

25

139

Toni Knar's career three-point total, second on Missouri S&T's all-time list.

5

Capital One Academic All-America selections at Missouri S&T for the 2012–2013 season as of the end of May. They are **Adam Stensland**, NucE'13, and **Caleb Collier** in men's soccer, **Brian Peterson**, ChE'11, in football, **Jennifer Costello**, ChE'13, in volleyball and **Kaylea Smith** in softball.

24

Kaylea Smith's career home runs — the fifth most in school history. Smith was named to the Capital One Academic All-American second team for Division II Softball.

169

Hits in **Will Morrison's** baseball career — a total that ranks sixth on S&T's all-time best list.

7.9

Rebounding average for Miner basketball player **Mudi Eruteya**, who ranked fourth in the Great Lakes Valley Conference.

Jonathan Sanders

ROCKET MAN



Jonathan Sanders wants to be involved in the next great space race — and not just as an engineer helping design future space vehicles. He also wants to fly to Mars.

“Duct-tape me to a rocket — I’m ready,” says Sanders, a senior aerospace engineering major from Webb City, Mo.

Sanders got a head start on his dream last summer as an intern for SpaceX, the California-based rocket manufacturer. Working in the company’s manufacturing and engineering area, a division of the structures department, Sanders helped develop the heat shield for SpaceX’s Dragon spacecraft. Last August, the Dragon successfully attached and delivered cargo to the International Space Station, becoming the first commercial spacecraft to do so.

Being a part of that historic achievement fueled Sanders’ desire to pursue space

exploration. He is again interning this summer at SpaceX (Space Exploration Technologies Corp.). “My contributions were relatively small,” he says, “but I’ve always wanted to work with something that goes into space.”

His plans for the future are much more ambitious.

“I would like to put people on Mars,” says Sanders. “Putting people on another planet and extending as far as we can — that’s science fiction becoming reality. What could be cooler?”

Sanders took an unconventional route to his internship. After speaking at S&T’s Alumni of Influence event in November

2011, he met one of the evening’s honorees, **Brian Matthews**, ME’81, founder of River City Internet Group in St. Louis. Intrigued by Sanders’ interest in SpaceX, Matthews contacted some of his connections at the company. From there, Sanders “got a call from a recruiter, and after that I got a call for an interview.”

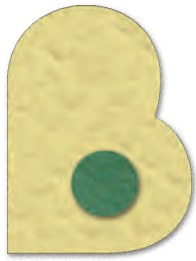
So launched Sanders’ career as a SpaceX intern.

“We’re involved in a space race again,” he says. “It’s a different kind of space race because it’s based on private competition, which drives the price to go into space. It’s very exciting.” ■

BEYOND

MINING

by Mindy Limback | limbackm@mst.edu



By the time **Layland Watson** left Rolla in 1996, he knew how to drive a haul truck, design a mine, and work in open pit copper mines

and underground coal mines — tasks a mining engineer would normally expect to have acquired after some time on the job.

“I truly believe the co-op opportunities in Rolla prepare you to go to work,” Watson says. “You work a regular schedule and it prepares you for real life. It gives you instant credibility with prospective employers.”

With four co-ops under his belt, Watson, MinE’96, joined 3M as a process engineer for an open-pit quarry in Little Rock, Ark. The facility produced roofing granules — the small, coated pieces of rock found on roofing shingles.

People don’t always associate 3M with mining, but the company was founded in 1902 as the Minnesota Mining and Manufacturing Co., Watson says.

Mining has been part of Watson’s whole life. He was born in a gold-mining town in Western Australia and grew up in Rolla under the watchful eye of his father, former metallurgical engineering chair **John Watson**.

After leaving Arkansas, Watson worked at a number of 3M facilities across the United States. While working as a product manager at a multi-technology plant in Cumberland, Wis., he was asked to help lead the micro-finishing film business. He enrolled in the University of Minnesota’s Carlson School of Management and spent every Friday and Saturday night in class for two straight years to earn his MBA.

“I was in Cumberland for three years before I left to work at the headquarters in St. Paul,” Watson says. “It was a project management assignment, known within the company as a black belt position that let me lead projects for Scotch Brite products and window films. I then went on to a plant manager role in Northern California at an optical film manufacturing facility.”

Today, Watson is the plant manager at a facility in Decatur, Ala. The plant manufactures specialty resins and films that serve as the base for many finished products.

“The great thing about 3M is we’re so diverse that even a guy in mining engineering can advance,” Watson says. “You aren’t pigeonholed. You can progress to be what you want to be.”



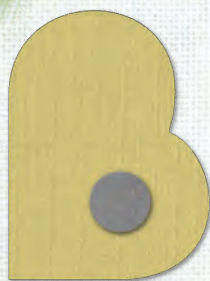
Photo by Lauren Tomasella Photography

“I TRULY BELIEVE THE CO-OP OPPORTUNITIES IN ROLLA PREPARE YOU TO GO TO WORK.”

IT'S ABOUT

quality

by Mindy Limback | limbackm@mst.edu



Brad Lind, EMgt'96, is a quality guy. To him, quality — the continuous improvement of products and services — is a key driver in improving consumers' lives.

A member of The Clorox Co.'s corporate quality assurance team, Lind focuses on reducing risks and increasing consumer value with new and existing products.

A 16-year veteran of the company, Lind and other members of his team do that by examining the several different data streams available from all the business units — from its namesake bleach and cleaning products unit to Kingsford charcoal. He takes a systematic approach to driving out waste at the plant.

"We are the guardians for the consumer," he says of his team. "We have the right processes, tools and systems to build great brands for customers and consumers."

After graduation, Lind joined First Brands Corp. in Rogers, Ark., as a production supervisor at a Glad manufacturing plant. It was a typical entry-level position for an engineer with the company.

"During the interview process, I went on site to the plant," he says. "If you had told me before I went that it would have been a good fit, I would never have believed it. But it truly was a great fit for me personally and professionally."

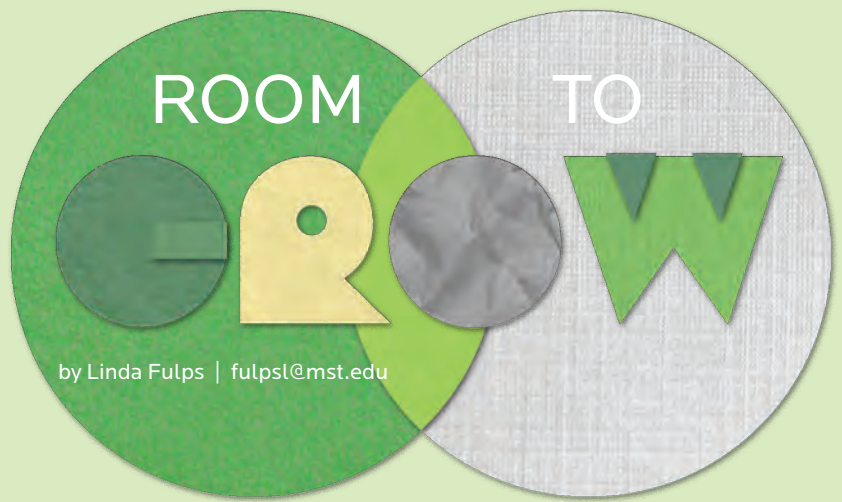
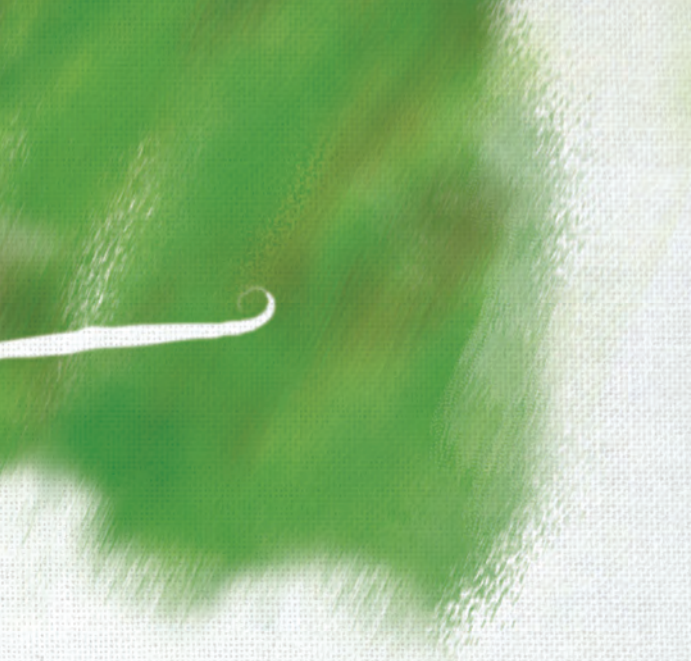
Lind liked that Clorox Co. is a true manufacturing facility and over time, he says, he got to see it move from manual processes to automation. The company now embraces technology, Lind says.

Lind had the opportunity to take on different roles after Clorox acquired First Brands in 1999.

"After the acquisition, Clorox was nearly twice the size of the former First Brands Corp.," he says. "It's been great."

Photo by Michael's Photography





After leaving Arkansas, Lind joined the leadership teams at a Glad manufacturing plant in Amherst, Va., and then later at Forest Park, Ga. At that time, due to supply chain needs, the company closed a couple of plants and shifted its operation to the Atlanta area.

For the last three years, Lind has worked in a satellite office in Kennesaw, Ga., where operation services and R&D teams are housed.

"If you've been around manufacturing long enough, and doing enough, you develop an invaluable lens," he says. "Getting experiences in the plant is a great place to get started for anyone who's going to get in the world of manufacturing. You understand how critical people, processes and technology are to drive out waste and achieve your goals."

Outside of work, Lind enjoys spending quality time with his family. He and his wife, Angela, have a 10-year-old son and an 8-year-old daughter. A former Miner football player, Lind now finds himself on the sidelines, coaching his son's football and basketball teams or cheering on his daughter's competitive gymnastics team.

As Clorox celebrates its 100th anniversary this year, Lind credits the company's success to its emphasis on finding the right people.

"We're relatively small and competing with giants, but we're boxing above our weight," he says. "We have great people who work together, understand business and consumer needs, and understand how to get product to market quickly."

Breenae Washington, EMgt'12, didn't know what to expect when she started her first job after graduation.

"I thought I'd be treated like an intern, but I'm not," she says of her project management position with MasterCard in O'Fallon, Mo. "Although there's a steep learning curve, I'm learning as I go."

Washington says she's discovered there's a big misperception about the company. "We're not a payments company — we're actually a technology company that works on solutions to make the payment industry more safe and secure," she says. "We don't issue cards or control interest rates."

As a member of the global project management office, Washington helps manage the financial aspects, plans and team schedules for projects.

"I get a lot of exposure to different things here," she says. "I worked on the environment testing phase of Priceless Cities, a unique program that gives holders one-of-a-kind experiences around the world, including fine dining, world-class sporting events and indulgent shopping experiences. It started in New York and has expanded to 20 cities around the globe."

She's also part of a team that is working to help MasterCard better market itself to top talent.

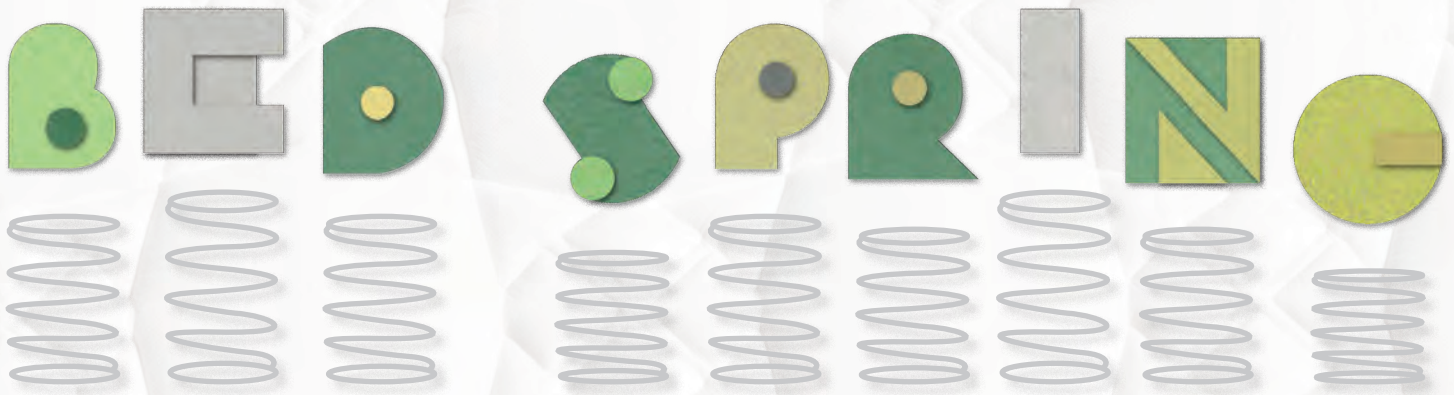
"It's easy to find the positives about working here," she says. "MasterCard cares about its employees' development and job satisfaction, and it promotes from within. I can set my own path here."



Photo by Tim Parker Photography

IT STARTED WITH A

by Mary Helen Stoltz | mhstoltz@mst.edu



arthage, Mo.-based Leggett & Platt manufactures a broad array of products, so it's only fitting that one of the company's staff vice presidents has an equally broad resume of experience.

transfer in the engines of F-16 aircraft. He left GE to pursue a Ph.D. from the University of Missouri-Columbia to "get closer to manufacturing," he says.

While finishing his Ph.D. dissertation, Wood took a job at Joplin, Mo., based Able Body Corp., designing sleeper cabs for the heavy truck industry. After a product launch, he took on a lean manufacturing role in the company that expanded his business expertise.

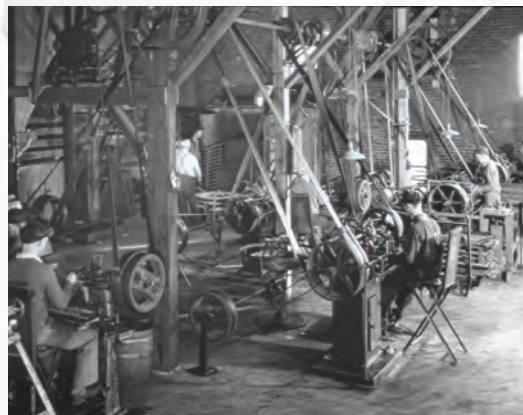
Wood then took a job managing a Vermeer plant in Iowa that made stump grinders, brush chippers and large tub grinders. After a short stint as a stay-at-home dad, Wood joined Simpler Consulting to provide lean manufacturing solutions to companies like Lockheed Martin and Snap On Tool.

Randall Wood, ME'85, MS ME'87, began work at Leggett & Platt as a director of operations optimization nine years ago. He moved into a leadership role and then took his current position. Today, a typical workday begins before 6:30 a.m. Wood says the early hour

gives him time to prepare for the day's meetings and planning sessions.

Wood credits his broad experience prior to joining Leggett & Platt with his career success.

After graduation he began work for General Electric analyzing heat



Randall Wood, ME'85, MS ME'87 right, a staff vice president, leads Leggett and Platt's business system office. The photos on page 26 show some of the company's 130-year history. The photos below show some of Leggett and Platt's current operations.

"My broad experience both prior to Leggett & Platt, and with L&P, has prepared me for this career," Wood says. "I have seen a variety of businesses and manufacturing processes and been involved in virtually every aspect of manufacturing."

Leggett & Platt itself has a broad manufacturing footprint. The company began 130 years ago with a partnership of ideas and know-how that produced the first commercially viable bed spring. The company has come a long way since J.P. Leggett and C.B. Platt first shook hands.

"Our bedding components are found in most sleep products in the United States, including fasteners, fabrics, bed frames, foundations, sheets and pillows," Wood says. The company then expanded into home and office furniture and carpet padding and underlay.

The company also diversified into automotive seating, retail fixtures, and steel wire and tubing industries. It manufactures wire and tubing for its own components as well as those produced by other companies. It also provides lumbar support in automotive

vehicle seats and engineered tubing components for the aerospace industry.

Today Leggett & Platt has grown to more than 130 manufacturing operations in 20 countries with 19,000 employees.

"I help our partners around the globe achieve success in their business and in their careers," Wood says. "I enjoy developing the strategy for our business process development and the supporting technology, and then executing that strategy."

Wood has a longstanding connection to S&T and the Rolla community. While he was in college, his father, **Richard Wood**, ME'64, and his mother, Betty, lived in Rolla. Betty worked at the old Foster's Bakery. Today, Wood's son, **Ryan**, is studying computer science and computer engineering at S&T.

"I thoroughly enjoyed my time at Missouri S&T and certainly gained a great education that has propelled my career," Wood says.



Photo by Greg Hall/Leggett & Platt



Dambach says her daughter gives her an invaluable perspective on her career.

“Not only am I a producer, I’m a consumer. Therefore, I really understand the need for the quality checks and all that goes into producing the diapers,” she says. “They have to be perfect because they are going on our most prized possessions — our babies.”

The amount of pride and dedication Dambach puts into her work is a direct reflection of what P&G puts into their employees.

“Our employees are our number one asset,” says Dambach. “Without them, there is nothing. P&G

builds leaders and invests in their employees — they really care.”

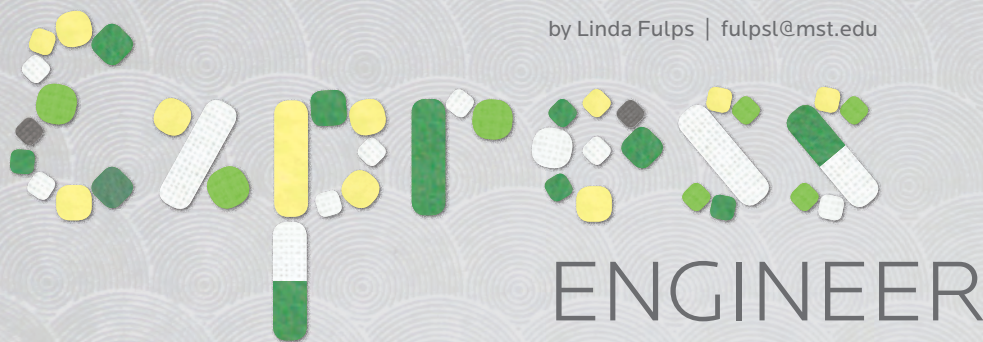
For example, Dambach recalls running into the plant manager who hired her seven years earlier. He had since become a vice president, working in Cincinnati. “He came up to me and said, ‘Hi, Katie! How are you doing? How’s Travis?’”

P&G strives to maintain the family-friendly feel it was built upon more than 175 years ago. Headquartered in Cincinnati, P&G has production plants in more than 80 countries and consumers in more than 180 countries. The company now manufactures more

“P&G BUILDS LEADERS AND INVESTS IN THEIR EMPLOYEES — THEY REALLY CARE.”

than 300 products, from Crest to Tide, and at least one product is found in nearly every American household, according to a recent *Wall Street Journal* report.

“I love knowing that what we make improves our consumer’s lives every day,” says Dambach. “It’s pretty cool to be part of that.”



by Linda Fulps | fulpsl@mst.edu

“I thrive under pressure,” says **Patrick Dippel**, EMgt’04. “I was looking for a company that was aggressive in improving itself, and I found it. I have never seen such strong passion and alignment across all segments of a business and through the efforts of every individual employee.”

Dippel is talking about Express Scripts Inc. in St. Louis, where he is senior manager of operations. His group manages the order intake channels for the company’s home delivery operations.

“We’re involved in the entire home delivery process, so we interact with all areas — from the home delivery technicians, the pharmacists who communicate with both the patient and the doctor’s offices, and the people who fill the orders and send them out,” he says.

Dippel is also a member of the strategy and continuous improvement group, which helps shape the vision for home delivery operations and looks for ways to drive out waste.

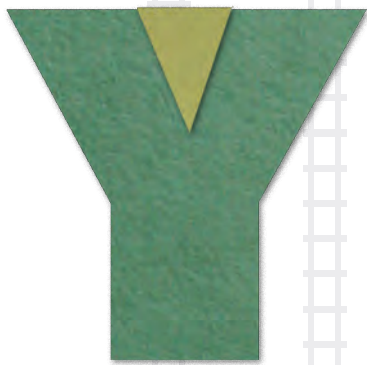
The company recently acquired another large prescription benefit management company, Medco Health Solutions. Dippel has had a large role in helping the companies integrate.

“Merging two different business models is pretty challenging,” he says. “But both sides are committed to being flexible and transparent. We’re working together to get the merger done successfully so all of our patients and clients benefit.”



Photo by B.A. Rupert/Missouri S&T

ON THE RIGHT



es, it's an old company. It's been a fixture in the transportation industry since Abraham Lincoln signed the Pacific Railway Act of 1862 to create a transcontinental railroad. But that doesn't mean Union Pacific is out-of-date.

"Most people look at us and think, 'You're a railroad, you must use a lot of old technology,'" says **Travis Duncan**, BAdm'08, IST'08. "And while it's true that Union Pacific has been around for 150 years, we are a leader in developing and applying cutting-edge technology in transportation."

The nation's largest railroad covers 23 states across the western two-thirds of the United States and employs about 45,000 people.

Based in Omaha, Neb., Duncan is manager of "MyUP," Union Pacific's internal company portal. "It's a place where our various departments (operations, marketing, sales, etc.) have access to the information and applications they need to do their jobs. Our goal is to be a one-stop shop that brings together what they need on a daily basis," he says.

"Because MyUP touches all departments, I get to interact with a lot of people throughout the company and learn about all the different pieces of the business," he says.

Duncan says he was initially drawn to UP because of its technology aspect, not from a fascination with trains as many other employees have. But he's a fan now. "I've developed a real appreciation for trains since I've been with Union Pacific," he says. "We get things from one place to another in ways trucks just can't. A single train can carry as much as 300 trucks can. And we're really efficient too, with less impact to the environment."

Union Pacific moves freight, not people, but Duncan plans to get out in the field soon and take a ride on one of the trains himself.

He encourages new graduates and others to consider Union Pacific for a career. "A lot of baby boomers will be retiring in the next few years, creating tremendous career opportunities for younger employees," he says.

"It's the diversity in both the technology and people that makes Union Pacific a fun, challenging and rewarding place to work," he says.

**"WE ARE A LEADER
IN DEVELOPING AND
APPLYING CUTTING-
EDGE TECHNOLOGY IN
TRANSPORTATION."**



Photo by Bob Ervin/Ervin Photography. Photos courtesy Union Pacific





Photo by Timothy Hughes Photographics

MAKING TALL GRASS

SHORT

by Mary Helen Stoltz | mhstoltz@mst.edu

am Patterson is one of the voices of John Deere.

A design engineer in John Deere's rotary mower group, Patterson, ME'06, is passionate about his work — making lawn mowing easy — and it shows in the company's latest "How We Run John Deere" video, which features Patterson.

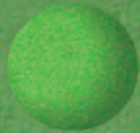
Patterson designed the two new high-capacity mower decks on John Deere's updated X700 tractor. He followed the project all the way through production, working on everything from computer modeling to performance and reliability testing. That breadth of knowledge made him a natural fit for the video.

"Aside from making tall grass short, my main job is to make it very easy for the customer to attach the mower deck to the tractor," Patterson says.

There is one latch to flip in the front of the tractor, but the majority



Find out what Sam thinks about the X700 mower deck. Scan the QR code with your smart phone or visit rol.la/samx700. Scroll down or click on the Deck link to watch the video.



of the connection to the vehicle is automatic, which makes maintenance and cleaning simple. Patterson says the technology was first developed for large commercial tractors.

"John Deere first developed this feature for our commercial customers on larger tractors, but it is very exciting to give this flexibility to residential customers," Patterson says. "It allows customers to mow very tall and thick grass while still leaving a manicured look, and gives them tremendous mulching capability."

Patterson is now working on Deere's new EZtrack mowers. When he isn't fine-tuning a mower deck, he travels with his wife, **Amy (Edwards) Patterson**, Engl'07, and plays guitar in a garage band near their Beaver Dam, Wis., home. He says the problem-solving skills he developed at Missouri S&T were the foundation of his success.

"Missouri S&T gave me the skills, attitude and discipline necessary to work at an innovative company like John Deere," Patterson says. "The faculty understand exactly what it takes to be an engineer in today's rapidly changing workplace, and they provided me with the tools I needed to succeed."

OUTSIDE-THE-BOX



by Mary Helen Stoltz | mhstoltz@mst.edu

Anita Heinzke, ChE'10, thinks outside the shampoo bottle.

That creative thinking earned Heinzke, a project engineer in L'Oreal's Florence, Ky., hair care facility, a \$5,000 Beauty Shakers award from the company. Her suggestion — to use corn plastic in L'Oreal shampoo packaging — took third place out of more than 900 submissions in the company's annual ideas competition.

"Corn plastic is a 100 percent biodegradable material that has a lot of environmental benefits," says Heinzke, who works with the lines that fill bottles with shampoo. "Most plastic is made from oil, but this type is made from corn. It could potentially save hundreds of thousands of barrels of oil annually by switching our products alone to this material."

Heinzke is helping the company with its recent launch of the new restage of the L'Oreal shampoo line, Advanced Haircare. It required the purchase of \$6 million in new equipment and the installation of four packaging lines that were modified to handle the capacity.

"L'Oreal is a company that gives its employees a lot of opportunity and freedom to be creative," Heinzke says. "The company has a strong passion for promoting women in science. Every day there is something new and challenging."



Photo by Brad Smith/Photosmith

"L'OREAL IS A COMPANY THAT GIVES ITS EMPLOYEES A LOT OF OPPORTUNITY AND FREEDOM TO BE CREATIVE."

MISSION, GOALS AND BENEFITS

MISSION

The association proactively strives to create an environment — embodying communication with and participation by Miner alumni and friends — to foster strong loyalty to the university and growth of the association. The association increases its financial strength and provides aid and support to deserving students, faculty and alumni.

GOALS

- Increase alumni pride in their association with Missouri S&T and the Miner Alumni Association
- Increase alumni involvement, especially that of young alumni
- Increase alumni contributions, both in the number of alumni making a financial commitment and in the dollars raised to benefit Missouri S&T and the Miner Alumni Association
- Strengthen relationships with faculty, staff and students on behalf of the alumni association.

The officers and other members of the association's board of directors provide leadership and personal participation to achieve these goals and fulfill this mission. For their efforts to be a success, they need YOUR active participation as well, in whatever alumni activities you choose.

BENEFITS

CAREER ASSISTANCE

Missouri S&T's career opportunities and employer relations will help you in your job search. For information, call 573-341-4343.

SERVICES

Online Community

including searchable directory at mineralumni.com

Access to alumni office

via email (alumni@mst.edu)

Address update service

so you don't miss your Missouri S&T mail

Insurance discounts

Travel opportunities

MINER MERCHANDISE

Chairs, license plates (for Missouri residents) and the official Missouri S&T ring.

GET MORE INFORMATION

Want to know who else is planning to attend a section event in your area? Need more details about an upcoming event? Register online at mineralumni.com, click on the events tab, select the events you want to attend then click registration.



MINER ALUMNI ASSOCIATION

Representing more than 50,000 alumni worldwide

For more information about your representatives, go to alumni.mst.edu/groups/boardofdirectors.

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CELEBRATE OKTOBERFEST WITH THE BAY AREA SECTION

San Francisco Bay area Miners will connect with their fellow alumni as they celebrate fall and enjoy fine German dining at the Bay Area Section's Oktoberfest event.

The group will meet for beer and cocktails at 5 p.m. Saturday, Oct. 26, at Teske's Germania Restaurant and Beer Garden. Dinner will follow at 6:30 p.m.

To register online for this event or to see who is attending, go to mineralumni.com. Click on the "Events" tab, select Oct. 26 from the calendar on the right, select the Oktoberfest event listing, and click the "Registration" button. If you do not have access to register online, please RSVP to **Dennis Leitterman**, EE'76, MS EE'77, at 408-249-6959

Last year, more than 30 alumni and friends celebrated Oktoberfest with the Bay Area Section at this annual event.



Teske's Germania Restaurant and Beer Garden
255 N. First Street and Devine
San Jose, Calif.
408-292-0291
teskes-germania.com

UPCOMING SECTION EVENTS

Central Ozarks

Shrimp Feed
Saturday, Aug. 24
5 p.m. Social Hour
6 p.m. Dinner

Lions Club Park
Highway 63 South, Rolla
Pavilion 5

Coastal SC-GA

Homecoming Celebration
Saturday, Oct. 19
Time TBD

Golf outing followed by dinner at the home of Kraig Gordon, EMgt'76
201 Summerton Drive
Bluffton, S.C.

Bay Area

Oktoberfest
Saturday, Oct. 26
5 p.m. Beer and Cocktails
6:30 p.m. Dinner

Teske's Germania Restaurant
and Beer Garden
255 N. First St.
San Jose, Calif.

Falls of the Ohio

Bowling night
6:45 p.m. Friday, Aug. 16

Vernon Lanes
1575 Story Ave.
Louisville, Ky.

Bluegrass and Burgoo
5-11 p.m. Sunday, Sept. 7

The Watertower
Intersection of River Road
and Zorn Avenue
Louisville, Ky.
Kentuckybluegrassfestival.com

Day at the Races
Noon Friday, Oct. 4

Keeneland
4201 Versailles Road
Lexington, Ky.

Dinner at Captain's Quarters
7 p.m. Friday, Nov. 7

Captains Quarters
5700 Captain Quarters Road
Harrods Creek, Ky.

Houston

Oktoberfest
Saturday, Sept. 28
Time TBD

Rudi Lechner Restaurant and Bar
2503 S. Gessner Road
Houston
Hosted by Lori Crocker, AE'88
loricrocker@sbcglobal.net

Alumni Road Trip to Missouri
S&T Homecoming
Friday, Oct. 18-20

Contact Lori Crocker, AE'88
loricrocker@sbcglobal.net

Lincolland

Student Send-Off
3-8 p.m. Sunday, Aug. 4

The home of Rich CE'69
and Carolyn Berning
10 Beach View Lane
Springfield, Ill.

Fall Dinner
Wednesday, Oct. 30
Time TBD

Springfield Motor Boat Club
17 W. Club Area
Springfield, Ill.

Motor City

Student Send-Off
6-8 p.m. Saturday, July 27

The home of Andrew, EE'04, and
Tessa, ME'04, MS ME'06, Baughman
37845 Meadowhill Drive
Northville, Mich.

Society of Petroleum Engineers

Alumni Reception
5:30-7 p.m. Monday, Sept. 30

Hilton Hotel Riverside,
Oak Alley Room
2 Poydras St.
New Orleans

SECTION WRAP-UP: ST. LOUIS SHOWS OFF ITS GREEN



A steady stream of alumni and their families joined the St. Louis Section for its annual St. Pat's celebration on March 23 at Bruno's American Grill. The gathering began at noon and continued into the night.

During the celebration, awards were presented for the oldest St. Pat's jacket that still fits, the oldest garter, the oldest button, the newest sweatshirt, the organization with the most members represented, the newest and oldest alumnus, and the youngest future Miner, among others.

The St. Louis section holds informal gatherings at Bruno's throughout the year. For more information about these events, please contact **Bob Buechel** at sanibel1985@hotmail.com and ask to be added to his mailing list.

CLASS NOTES

PUBLICATION POLICY

We publish information submitted by alumni, news submitted by employers of alumni, and selected news stories that mention alumni and their affiliation with Missouri S&T. We are happy to announce weddings, births, promotions and other happy occasions after they have occurred. We will print addresses if specifically requested to do so by the alumnus/alumna submitting the note and will mention a spouse's name if it is specifically included in the submission. We reserve the right to edit alumni notes and will use submitted photos as space permits. Due to the production time required for each issue, submissions may take up to six months to appear. Your patience is appreciated.

SULLIVAN REVEALS A NEW BREW

A new beer developed by **Bryan Sullivan**, EE'01, a brewmaster with Anheuser-Busch InBev, was unveiled in a commercial aired during the Super Bowl in February. Sullivan told the *St. Louis Post-Dispatch* that his team's Budweiser Black Crown has a more pronounced hops character than Budweiser. He and his team participated in A-B's recent Project 12 series, where A-B brewmasters around the country created variations of the original Budweiser formula that consumers sampled last year. Black Crown was one of two new beers the brewery chose to promote.

SHARE A CLASS NOTE

Let your classmates know what you've been doing. Send us information about your professional and personal accomplishments — career changes or promotions, weddings, births and other news — and we will publish it in an upcoming issue. Email your update and a high-resolution photo (if available) to alumni@mst.edu.

Deadline: Spring issue — Feb. 15

1941

Nathan David Jaffe, MetE: "Lots of fun gardening. Call me when you're 'I-Spying' in L.A. and we'll take a (slow) walk to show you the hideaways and indigenous people of L.A."

1943

H.W. "Bill" Flood, ChE: "I recently celebrated my 90th birthday and my seven kids gave me a great party — we must have had

60-70 people drop by. My wife, Jeanne, and I celebrated our 66th anniversary on Nov. 2. I'm grateful for my four years at MSM and have had a wonderful, interesting life."

1949

Charles W. "Bill" Bennett, ME, lost his wife Margie last year. He started dating her after a Sigma Nu tea dance. While editor of *The Missouri Miner*, he

"was arrested as being a leader of a riot in 1945 in which a group of Miners broke into the Rolla jail and liberated a Miner who had been arrested for turning on the town's lone stoplight at 8th and Pine after it had been turned off at 10 p.m. Charges were later dropped under the condition that *The Miner* stop making snide comments about local police." He retired in 1983 as an executive at TRW and lives in southern

PACKING HORSEPOWER



Joe Gray GGph'54

"My wife and I live on a small ranch with a few 'horses,' but when my two sons and one son-in-law arrive we have lots of horses."

California. His email is cwbenet@aol.com.

John E. Stein, PetE: "Dorothy and I are still enjoying colorful Colorado. No foreign travels this year."

1950

Melih Durusan, MS CE: "I live in Istanbul, Turkey, with my wife, daughter and grandson. I retired from Mobil Oil Turk Co. after 30 years. I am happy I can still communicate with one of my classmates in the U.S. Thanks to the Miner Alumni Association for its efforts to keep us informed about S&T news."

Arthur G. Gore, CE: "Still enjoy retirement. Just walk slower."

1951

Earl E. Jackson, MinE: "Sailed to Europe on the *Queen Mary II* and spent six weeks traveling by rail through the Scandinavian countries. Then spent two weeks in Switzerland seeing the Alps with our daughter, who lives in Geneva. My wife of 65 years, Lou, kept the trip under control. Europe's rail system is far superior to ours. I continue to volunteer for several organizations in the Lehigh Valley."

George L. Knight, MetE: "My wife of 54 years died on Sept. 21, 2012."

1954

Harold A. Koelling, MetE, MS MetE'61, retired from Mississippi State University after teaching metallurgical engineering for 44 years.

1956

Bruce R. Doe, MS GGph: "My novella *Swell Country* is available as an eBook and in paperback from Amazon.com. It takes place during the great uranium boom of the 1950s, now almost forgotten even though it was the greatest mineral boom ever. The novel is set in the San Rafael Swell of central Utah. There are free apps for downloading it onto desktops and most tablets."

1957

James D. Carl, GGph: "I retired 11 years ago from decades of college teaching and geological research in the Adirondack Mountains. I now write articles for the *Quarterly Magazine* of the St. Lawrence County (New York) Historical Association. One of our three sons became a petroleum geologist and works for Shell Oil at its headquarters in the Netherlands."

Charles A. "Al" Wentz Jr., ChE, MS ChE'59, was named to the board of directors of the Lessie

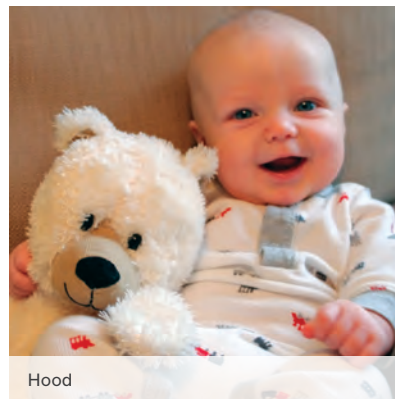
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FUTURE MINERS

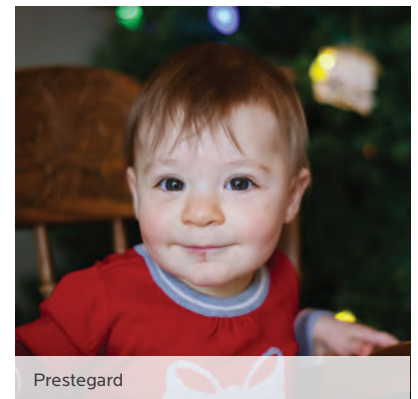
A – Si



Arole Vilas



Hood



Prestegard

Vishal Arole Vilas, MS EMgt'00, and his wife, Dhanashree Arole Vishal, had a girl, Annika, on Feb. 2, 2008. The family lives in Orlando, Fla.

Scott Hood, ME'07, and his wife, Amanda, had a boy, Henry Scott, on Sept. 24, 2012.

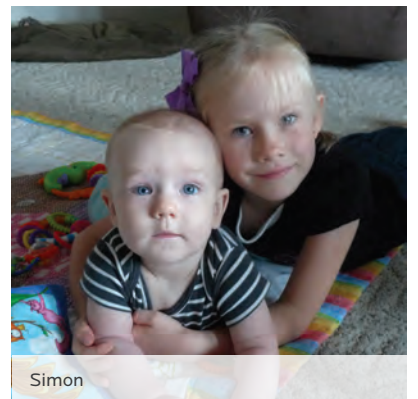
Louis Jearls III, EMgt'04, MS SysE'07, MS ME'10, and **Erin (Wohlrab) Jearls**, CE'03, had a girl, Evalynn Marie, on July 26, 2012.

Mike Knittel, EMgt'03, and **Nancy (Harms) Knittel**, ChE'00, had a boy, Grant Michael, on Aug. 20, 2012. He joins Joseph, 4, and Shelby, 2. Their aunt is **Lisa (Knittel) Douglas**, GeoE'88.

Garrett Prestegard, EnvE'07, and **Meagan (Boyd) Prestegard**, EnvE'06, had a girl, Eleanor May, on Jan. 31, 2012.

Paul Simon, CE'02, MS CE'04, and **Sarah (Hellmann) Simon**, CE'03, had a boy, Eli David, on Feb. 29, 2012. He joins sister River, 5.

(continued on page39)



Simon

OH BABY!

Did you welcome a little Miner to your family this year? If so, we want to see the cutie! Email a photo of your new little one to alumni@mst.edu and we'll include the photo in an upcoming issue of the magazine.

MAGNUS NAMED TO NCAA DIVISION II ANNIVERSARY TEAM

Miner Athletics Hall of Famer **Sandra Magnus**, Phys'86, MS EE'90, a former NASA astronaut, was one of 48 former student athletes to be named to the NCAA Division II 40th Anniversary Tribute Team. The tribute team highlights one male and one female from each of NCAA Division II's 23 current conferences, plus two at-large members.

A member of S&T's first women's soccer program from 1982-85, Magnus made three trips in the space shuttle program during her career with NASA, spending more than 150 days in space. She is now the executive director of the American Institute of Aeronautics and Astronautics in Reston, Va.

WIEBERG SELECTED FOR GLVC HALL OF FAME



Former S&T softball standout **Kandi (Wieberg) Spraggs**, CE'08, MS CE'10, was inducted into the Great Lakes Valley Conference's Hall of Fame this spring. She is the first Miner to be chosen for the honor since Missouri S&T joined the GLVC in 2005.

Bates Davis Neighborhood House in East St. Louis, Ill. This United Methodist community center's mission is to empower people to move out of poverty and achieve self-sufficiency, and to give children community support. Wentz also led his church's efforts to create a mission vegetable garden to benefit area

food pantries, producing more than 16,000 pounds of vegetables for low-income families in 2012.

1960

Don J. Gunther, CE, was appointed to the board of directors of Pernix Group Inc., a global construction and power infrastructure company.

1961

Farouk El-Baz, MS GGph, PhD GGph'64, received the 2013 Ireland Visiting Scholar Award from the University of Alabama at Birmingham.

William E. Mathews, CE: "We continued with our Space A Adventures (military flights) in 2012. Our March trip was to both



Gary White, co-founder of Water.org, with school water committee in Tamil Nadu, India. The school's garden is watered by the waste from the pump. (Photo from Water.org)

WATER.ORG FEATURED ON CNN

Water.org, an organization founded by **Gary White**, CE'85, MS CE'87, and actor Matt Damon, was featured in "Big Stars, Big Giving," a special aired by CNN in December that highlighted three celebrities and their causes. Founded in 2009, Water.org works with certified local partners and is committed to sustainability through rigorous monitoring, evaluation and research. The nonprofit developed and launched a water credit program to help people in developing countries obtain small loans so they can address their own water needs. White was also listed with Damon on CNN's 2012 list of celebrities who are making the world a better place.

of our father's locations during the wars. We visited many towns in the Normandy, France, area, where Judy's father was stationed in World War II. We found his quarters in Charleville-Mezieres, France. We also visited Oudenaarde, Belgium, and Flanders Field, where my dad served toward the end of World War I, in 1918."

John F. Merritt, CE: "I celebrated my 75th birthday on Feb. 8, 2013. My wonderful wife went to heaven on Sept. 23, 2011."

1965

Walter C. Mulyca, MetE: "I retired from Alcoa's Massena, N.Y., operation in 2005. I spend much of my time participating in local and district Rotary International activities as an assistant governor."

Bob Saxer, CE, MS CE'62: "I'm a member of local Experimental Aircraft Association Chapter 241 in DeKalb, Ill., and I'm helping a friend build a Van's RV9A airplane. Two years down and another to go. We're taking a good, low-time engine from an older Beech Musketeer and this puppy should cruise at 180 mph."

1966

Dave Bufalo, CE, wrote an article about his GTO that was published in the February 2013 issue of *The Legends*, the monthly

newsletter of the GTO Association of America.

1967

Paul Inman, CerE, retired this year from Spirit AeroSystems (formerly Boeing Commercial Airplanes) in Wichita, Kan. He worked in the glass industry with PPG Industries and Safelite Glass Corp. before joining Boeing in 1991. He also served 28 years in the active Army and Army Reserve. "Both of my children (Paul Jr. and Jill) and their families live in St. Louis. My wife, Delores, and I plan to continue extensive international travel and spend more time with our grandkids."

1968

Bobby T. Cox, MetE: "Sandy and I are still not retired. Our company, Acorn Stamping, is going strong and keeping us busy. The four grandkids are growing so fast. All are in school from kindergarten through fourth grade."

1969

Wayne C. Harvey, CE, was named general counsel for Alpha Phi Alpha Fraternity Inc. An active member of the St. Louis graduate chapter, Epsilon Lambda, Harvey serves on the fraternity's national board of directors and runs the law firm Wayne C.

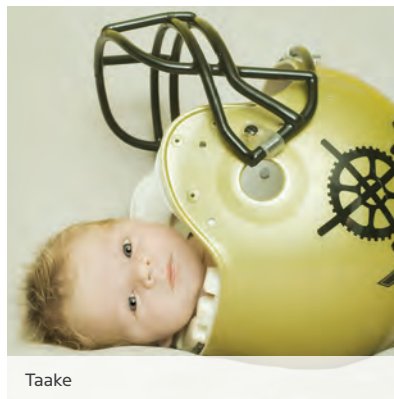
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FUTURE MINERS

St - V



Stafford



Taake



Voss

Geoff Stafford, PetE'08, and his wife, Steffanie, had a boy, Lakeyn Gregory, on Dec. 11, 2012.

Benjamin Swoboda, NucE'06, and **Hannah (Yount) Swoboda, NucE'04,** had a girl, Margaret Alice (Allie), on May 9, 2012. She joins sisters Madeline Jean (Mattie), 2, and Cecilia Jo (Celia), 3.

Chad Taake, ChE'03, MS EMgt'04, and his wife, Natalie, had a boy, Bode Kyle, on Sept. 9, 2012. Bode is pictured in dad's helmet from his days as a Miner defensive lineman.

Brian Vaughn, EE'03, and his wife, Amanda, had a boy, Stanford James, on Oct. 22, 2012.

Patrick Vogt, AE'03 MS EMgt'09, and **Elizabeth (Pankau) Vogt, EMgt'03,** had a boy, Christopher David, on Sept. 25, 2012. He joins Samantha, 3. Relatives include grandfather **Rick Pankau, PetE'73,** and uncle **Richard Pankau, EMgt'12.**

Katie (Fluchel) Voss, EMgt'04, MS SysE'06, and her husband, Andy, had a girl, Whitney Diane, on March 15, 2012. She is the first granddaughter of **Don Fluchel, ME'72.** ■

MINERS RULE AT ROLLA FIRM



Archer-Elgin Engineering, Surveying and Architecture was created in 2012 when CM Archer Group PC of St. James, Mo., purchased Elgin Surveying & Engineering Inc. Located in Rolla, the new firm is housed in the newly renovated and expanded former home of Elgin Surveying. S&T alumni and current and former students employed by the firm include, from left: Alissha Feeler, CE'00, MS CE'04; Sylvester Furse; Ron Heimbaugh; Ken Campbell, CE'00, MS CE'02; Richard Elgin, CE'74, MS CE'76; owner and president Jeff Medows, CE'94; Cameron Schweiss, Arch'06, CE'06; Ric Palmer, MS EE'09; Hugh Parsons, Hist'98; Travis Hernandez; Robert Conaway, CE'99; and Jess Moss, CE'01 (not pictured).

Harvey and Associates. He also mentors younger members of the organization.

1970

David D. Beardsley, CE: "I retired in 2012 after six years with the old McDonnell Douglas Corp. as a co-op student and employee, followed by a 40-year career in bridge design and inspection with Sverdrup and Parcel/Jacobs Engineering in St. Louis. I now spend time playing with my four grandkids, playing the oboe in two community symphonic orchestras and doing volunteer work at the National Museum of Transport in Kirkwood, Mo."

Larry J. Oliver, CE, MS CE'76, MS EMgt'83: "Doing well in Tucson, Ariz. Inducted

into the 2012 class of the Academy of Miner Athletics on Oct. 12, 2012."

1971

Richard E. Carver, ME: "Enjoying retirement — fishing and playing with our grandchildren."

Terry W. Donze, GeoE, won first place in the current events/political category of the 2012 Christian Choice Book Awards for his book titled *Climate Realism: Alarmism Exposed*. The awards are sponsored by Xulon Press.



◀ **Mark Goldstein** ChE'71

Mark Goldstein joined Barge, Waggoner, Sumner and Cannon Inc. as manager for controls and automation design in its industrial and buildings services business unit.



◀ **Michael A. Fritz** MS GeoE'83, MS EMgt'96

Michael A. Fritz joined GeoEngineers Inc. as a senior geotechnical engineer in the company's Springfield, Mo., office.



◀ **Jeffrey Litherland** CE'86

Jeffrey Litherland recently celebrated five years of service at Hanson Professional Services Inc. He is a senior aviation engineer in Hanson's Carbondale, Ill., office.

1972

Don Fluchel, ME: see “Future Miners,” page 39.

1973

Rick Pankau, PetE: see “Future Miners,” page 39.

1974

Stephen Hall, ChE: “After 37 years with Hercules/Ashland, my plant shut down and I was forced to retire. I took this opportunity to return to Missouri S&T to work on a master’s degree in explosives engineering, where I also teach fireworks manufacturing in the mining engineering department.”

Michael J. Miller, AE: “Grandkids are great. Makes having kids worthwhile. Try it ... you’ll like it.”

Dave Rice, GeoE: “Last August I led an American Hiking Society hike team that volunteered to work with National Park Service workers to build the Savage Alpine Trail in Denali National Park and Preserve. The sight of Mount McKinley on a clear day was awesome along with moose, pika, grizzly bear, caribou and golden eagles.”

1976

Charles A. Lane, MS GGph: “Valerie and I have been married for 35 years now. Our three

kids are grown and live in Nevada, Oklahoma and Maryland. We will retire next summer and move to Reno where we bought a house last year. I expect to keep busy flying, biking and fly fishing the Truckee River and enjoying every minute of it.”

1977

Larry McNary, MinE: “I retired from the Rock Island Arsenal in 2009 and returned to the family farm in central Illinois. I’m doing very well. My email is lmcnary3@gmail.com.”

David L. Perry, EE: “Greetings to fellow Miners from Beavercreek, Ohio. I’m currently employed by the Air Force and General Dynamics as an electro-optical physicist/engineer.”

1978

Mark R. White, MinE: “Enjoyed new Kappa Sigma house dedication. Hope to bring grandson to see S&T.”

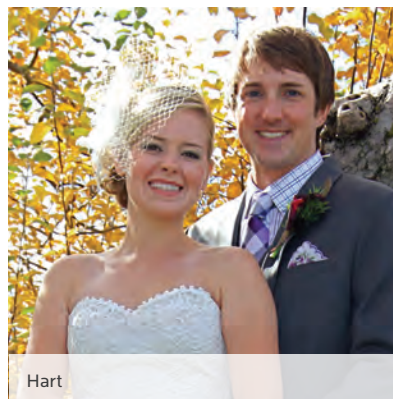
1980

Dean P. Heneghan, CE, reported that he, his late father (**Sherald Heneghan**, ME’43) and his daughter (**Bernadette Heneghan**, CE’13) graduated during different school names — MSM, UMR and Missouri S&T.

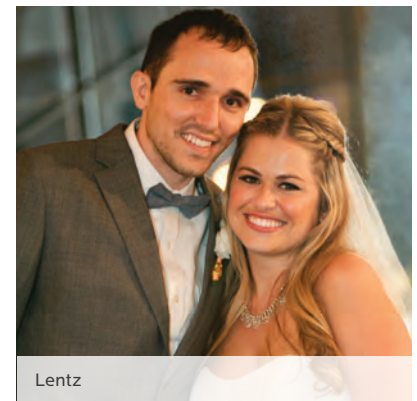
MINER UNIONS



Eglinton-Tedford



Hart



Lentz

Robert Eglinton, ME’12, and **Natalie Tedford**, PetE’11, were married on Oct. 12, 2012, in St. Louis. The couple lives in Denver.

Andy Hart, MinE’02, married Erin Gray on Oct. 20, 2012, in Lake Geneva, Wis. The couple lives in Winnemucca, Nev.

Jeff Lentz, MS ME’08, married Ashleigh Farrar on Sept. 1, 2012. The couple lives in Atlanta. ■

PHILLIPS COMPLETES FULBRIGHT SPECIALISTS PROJECT

Dr. **Robert Phillips**, LSci’90, recently completed a Fulbright Specialists project at Radboud University in the Netherlands where he helped identify opportunities for mutual learning about primary care innovations. Phillips, who is vice president for research and policy with the American Board of Family Medicine, is one of more than 400 U.S. faculty and professionals who will travel abroad this academic year through the program. S&T awarded him a professional degree in May 2013.

(continued on next page)

HAWTHORNE RECEIVES NATIONAL MEDAL OF SCIENCE



Photo by Shane Epping

Chemist **M. Frederick Hawthorne** recently received the National Medal of Science award, the nation's highest honor for scientists, in a White House ceremony. Although he completed his higher education elsewhere, Hawthorne audited a chemistry lecture at MSM when he was just 15 and got some help from Professor R. Nelson Smith with his homemade polymer lab. After retiring from teaching at UCLA in 2006, Hawthorne founded the International Institute of Nano and Molecular Medicine at the University of Missouri-Columbia, where he is a Curators' Distinguished Professor of chemistry and radiology.

1982

Vicki Sue Johnson, AE: "I completed eight years at Cessna in October and got my Six Sigma Master Black Belt certification in June 2012. I'm about to finish a role as principal investigator in the NASA contract protective skins for composite airliners and recently joined the new development assurance team at Cessna."

1983

Timothy Hagan, EE: "I was elected treasurer of the Libertarian Party, America's third largest political party."

Stanley Hatfield, MS GGph, received a 2012 Emerson Excellence in Teaching Award on Nov. 11 in St. Louis. He teaches geology and earth science at Southwestern Illinois College.

Nannette Irene (Bert) Musgrave, NDD: "My husband of 29 years, John, has contracted a rare brain disease, Multiple Systems Atrophy. Our son William, 24, attends University of Texas Southwestern Medical School in Dallas. Our son Michael, 22, graduated from Washington University in St. Louis in economics Summa Cum Laude in three years. My step-daughter, Vanessa, practices law in Knoxville, Tenn. She has a 5-year-old named Barrett."

1985

Tim Decker, ME, was promoted to president and chief operations officer of C&R Mechanical Co. in Bridgeton, Mo.

1986

Joel Addison Brand, ChE, MS Math'94, PhD Phys'94: "We are enjoying our new southern Colorado alumni section. Please contact us if you live in the area."

1987

Luis Cruz Baja, MS ME, MS EMgt'90: "Living in St. Louis and enjoying my new job in healthcare as performance improvement engineer. Son, Gregory, is now a senior in mechanical engineering."

1991

James Edward DeVaney Jr., AE: "Just reached 20 years of service in the Air Force and was thinking about retiring and getting a real job, but the Air Force invited me to go live in Germany for a few years. How could I say no?"

John Kozlowski, ME, received a 2012 Emerson Excellence in Teaching Award on Nov. 11. He teaches chemistry at Francis Howell Central High School in St. Louis.

Mark Sautman, NucE, received the 2012 John W. Crawford Jr. Award for Staff Excellence from the Defense Nuclear Facilities Safety Board.

1995

Robert L. Hormell III, ChE: "Our eldest daughter, **Allissa Pickerill** (GGph'12), recently graduated from S&T. Her mother, Suzann, and I are very proud of her accomplishment. I am pleased that she chose Rolla, because it is my alma mater and I know that she has received a quality education."

Joseph Skiljan, ME, was promoted to director of pre-construction for the heavy industrial group at Murphy Co., a mechanical contractor in St. Louis.

1996

Trevor Wiggins, ME, joined Holley Performance Products as vice president of sales in the company's headquarters in Bowling Green, Ky. Prior to this, he spent 18 years with DuPont Performance Coatings.

2000

Vishal Arole Vilas, MS EMgt: see "Future Miners," page 37.

Nancy (Harms) Knittel, ChE: see "Future Miners," page 37.

Alan Levy, ChE, was selected as the 2013 Young Engineer of the Year by the Engineers' Club of Philadelphia. He is a project manager for Javan Engineering and executive board secretary for the International Society of Pharmaceutical Engineers, Delaware Valley chapter.

Sarah L. Wiszkon, GeoE, passed the professional engineering exam in June 2012. "In addition to my regular Illinois Department of Transportation duties, I also teach a basic class in technical writing. My husband recently was promoted to a position within WellsTrade and our daughter is bringing home perfect report cards in the second grade. Life is good."

2001

Kevin Michael Hunt, GGph, PetE, is working as a senior directional driller for Schlumberger — Pathfinder in Houston.

2002

Andy Hart, MinE: see "Miner Unions," page 41.

Paul Simon, CE, MS CE'04: see "Future Miners," page 37.

2003

Erin (Wohlrab) Jearls, CE: see "Future Miners," page 37.

Mike Knittel, EMgt: see "Future Miners," page 37.

Sarah (Hellmann)

Simon, CE: see "Future Miners," page 37.

Chad Taake, ChE, MS EMgt'04: see "Future Miners," page 39.

Brian Vaughn, EE: "I'm excited to work on a new venture at Jones Lang LaSalle. We have combined our real estate expertise with building automation technologies

to create IntelliCommand; an intelligent way to realize greater efficiencies in our buildings. My family enjoys living in Chicago." Also see "Future Miners," page 39.

Elizabeth (Pankau)

Vogt, EMgt: see "Future Miners," page 39.

Patrick Vogt, AE, MS EMgt'09: see "Future Miners," page 39.

2004

Louis Jearls III, EMgt, MS SysE'07, MS ME'10: see "Future Miners," page 37.

Hannah (Yount) Swoboda, NucE: see "Future Miners," page 39.

Katie (Fluchel) Voss, EMgt, MS SysE'06: see "Future Miners," page 39.

2006

Meagan (Boyd) Prestegard, EnvE: see "Future Miners," page 37.

Benjamin Swoboda, NucE: see "Future Miners," page 39.

2007

Scott Hood, ME: see "Future Miners," page 37.

Garrett Prestegard, EnvE: see "Future Miners," page 37.

2008

Jeff Lentz, MS ME: See "Miner Unions," page 41.

Geoff Stafford, PetE: see "Future Miners," page 39.

Sumin Zhu, PhD CerE, was elected president of the

Chinese Association for Science and Technology, Pittsburgh chapter, for 2012-13. "Most of CAST-P's more than 800 members work and live in the greater Pittsburgh area and many are Chinese professionals who have demonstrated outstanding accomplishments in their fields. CAST-P is the largest professional organization in the area's Chinese community and is also the biggest chapter in the U.S."

2010

Paul Dean Conrad III, MinE: "Keep up the good work guys."

2011

Natalie (Tedford) Eglinton, PetE: see "Miner Unions," page 41.

2012

Robert Eglinton, ME: see "Miner Unions," page 41.

Anthony C. Funkhouser, Cert EMgt, was promoted to brigadier general in the U.S. Army. He serves as commander of the Army Corps of Engineers' northwestern division.

Lauren Svoboda, Arch, CE, joined Hanson Professional Services Inc. in Springfield, Ill., as an engineer intern in the firm's power and industry market. ■

POPULAR MECHANICS FOLLOWS RALLY RACERS

Rally racers **Matt Conte,** ME'10, and **Ron Erickson,** IST'11, were featured in the January 2013 issue of *Popular Mechanics*. The magazine followed the pair as they raced their Subaru through the ice and snow in Michigan's Sno*Drift Rally last winter. You may remember them from page 34 of the Summer 2012 "Hot Rods and Cool Cars" issue of this magazine as well.

Check out the story online at rol.la/rallyracer.

WORSEY AND STUDENT'S VISIT 301ST FIGHTER WING



Dan Montrose (right) discusses Air Force explosive ordnance disposal tools with S&T students.

In February, **Paul Worsey,** professor of mining and nuclear engineering, and his students attending the annual International Society of Explosives Engineering conference in Fort Worth, Texas, stopped by the Naval Air Station to visit the 301st Fighter Wing. The group was invited by **Dan Montrose,** Cert MinE'10, a senior master sergeant and supervisor of a new explosive ordnance disposal detachment located at the base. The group also toured the F-16 repair shop. Montrose has helped Worsey with S&T's summer explosives camps for several years.

MINERS REMEMBERED

Missouri S&T Magazine will announce deaths when information is submitted by an immediate family member or published in a newspaper obituary. Notification of deaths that have occurred more than two years before the date of publication will not be published unless a special request is made by a family member. Yearbook photos, if available, will be included for alumni when families submit obituary information.



◀ **Arthur Keith Cook**
CE'42

Arthur Keith Cook was a member of Pi Kappa Alpha fraternity and played for the Miner football and basketball teams. He retired in 1998 as manufacturing manager for Aldila, a sports equipment manufacturing company in California. (Jan. 12, 2013)



◀ **Joseph B. Schmitt**
ChE'42

Joseph B. Schmitt, a member of Alpha Chi Sigma, worked for the Koppers Co. He completed the Advanced Management Program at Harvard Business School and retired from Arco-Polymers Inc. after a career in sales and marketing management. (Nov. 27, 2012)



◀ **Delbert "Del" Cox**
EE'49, MS EE'51

Delbert "Del" Cox served in the U.S. Navy during World War II. He worked for McDonnell Douglas Corp. for more than 40 years, retiring as senior manager of technology in 1992. (March 17, 2013)



◀ **Eugene A. Bartels**
CE'50

Eugene A. Bartels was a member of Tau Beta Pi and a charter member of Chi Epsilon. He worked for the Missouri Department of Transportation for 37 years, retiring as surveys and plans engineer. (Dec. 30, 2012)



◀ **George F. Wright**
ME'58, MS ME'61

George F. Wright was a member of Sigma Phi Epsilon and taught in the mechanical engineering department while working on his master's degree. He worked for Sandia National Laboratories until retirement. He was active in his church and served as a grand master of the Masons of New Mexico. (Dec. 7, 2012)

1941

Warren L. Loveridge,
MetE (Jan. 11, 2013)

Harold R. Wampler,
MetE (Nov. 3, 2012)

1942

Roland "Sid" Burberry,
CE (Jan. 14, 2013)

Charles A. Heuer,
MetE (Nov. 30, 2012)

Joseph B. Schmitt,
ChE (Nov. 27, 2012)

1943

Ira L. Perkins, ChE
(Feb. 8, 2013)

1948

Stanley E. Bye, ChE
(Dec. 5, 2012)

Alfred S. Harvey,
MinE (Feb. 16, 2013)

Gilbert S. Keeley,
EE (Feb. 17, 2013)

1949

Harlan L. Meyer, ME
(Nov. 12, 2012)

1950

Joseph A. Coffman Sr.,
ChE (Dec. 15, 2012)

Karl H. Dunn, CE, MS
CE'58 (Nov. 6, 2012)

William W. Fahrenbach,
MinE (Nov. 19, 2011)

Kenneth G. "Kenny" Kasten, CerE (Dec. 20, 2011)

Robert E. Wittman,
GGph (Nov. 17, 2012)

1951

Owen Ayres, MinE
(July 21, 2012)

Harold "Milt" Bopp,
ME (Jan. 1, 2013)

Eugene J. Ertz, MinE
(Dec. 11, 2012)

William R. Griffin,
CerE (Nov. 12, 2012)

Ross R. Plainse, MinE
(Jan. 17, 2013)

James A. Belew, ME
(Nov. 6, 2012)

1952

Guy C. Ellison, GGph
(Nov. 5, 2012)

Murray N. England, ME
(Jan. 24, 2013)

Edgar J. Gegg, MinE
(July 14, 2012)

William S. Pippert,
MetE (Nov. 15, 2012)

1953

Dirk "Peter" Van Duym,
GGph, MS MinE'54
(Sept. 14, 2012)

1954

Paul J. Egan Jr., ME
(Jan. 17, 2013)

1955

John A. Schlensker,
PetE (Oct. 20, 2012)

1957

Walter H. Allison Jr.,
EE (Dec. 10, 2012)

1959

Frederick M. Berg,
MetE (Oct. 14, 2012)

1960

Thomas Charles McCourt,
ChE (Dec. 28, 2012)

Robert E. Thompson,
ME (Feb. 10, 2013)

1961

James H. Firestone,
MetE (Feb. 13, 2013)

Donald W. Loncarich,
CE (Nov. 1, 2012)

1962

William L. Baumgartner,
CE (Dec. 21, 2012)

1963

David L. Hunt, NDD
(Feb. 18, 2013)

Lawrence J. Pedrotti,
ME (Nov. 29, 2012)

William F. Schuermeyer,
EE (July 26, 2012)

Lowell E. Thurman,
ME (Dec. 20, 2012)

1964

John M. Luallin, ME
(Oct. 17, 2012)

1965

Ronald E. Halbach,
CE (Nov. 18, 2012)

James Reid “Jay” Waring,
GGph (Feb. 8, 2013)

1968

**Gerald W. “Mac”
McReynolds, ChE**
(Jan. 7, 2013)

1970

Michael R. Kesler,
CE (Nov. 16, 2012)

1971

Gary Bullock, CE
(Feb. 10, 2013)

William D. Nowak, MS
EMch (Oct. 25, 2012)

1972

Flake C. Campbell, MS
MetE (Dec. 24, 2012)

Frank F. Follmer Jr.,
CE (Oct. 24, 2012)

1973

John D. Lick, ME
(Dec. 23, 2012)

Robert A. Winkel,
NDD (Feb. 22, 2013)

1974

Brady D. Tabers,
EMgt (Feb. 19, 2013)

1977

Stephan M. Vrazalich,
CSci (Nov. 16, 2012)

1978

Rodger A. Senft, MinE
(Aug. 27, 2011)

**Frances K. (Hauschildt)
Wren, CSci** (Jan. 14, 2013)

(continued on page 47)



◀ **Joseph F. Reichert** CE'59

Joseph F. Reichert held master's degrees in civil engineering and public administration. He retired as assistant to the Kansas City, Mo., city engineer. He was a member of the Miner Alumni Association board and a leader in the Kansas City Section. (Feb. 4, 2013)



◀ **Gerald C. Uhe** Chem'62

Gerald C. Uhe earned a master's degree in education and taught high school chemistry and physics for 31 years. He received the Miner Alumni Service Award in 1988 and was a member of the Order of the Golden Shillelagh. He raised and showed cattle, was a football referee, and was active in his church. (Feb. 1, 2013)



◀ **George H. Taylor** CerE'64

George H. Taylor was a member of the S&T Academy of Mines and Metallurgy. He retired as president of the Chicago-Wellsville Fire Brick Co. in 2000. (Feb. 18, 2013)



◀ **Daniel K. Goodman** EE'65

Daniel K. Goodman was a member of Pi Kappa Alpha. He earned a master's degree from Stanford University and a Ph.D. from the University of New South Wales. He returned to Rolla to teach electrical engineering from 1971 to 1974, then taught at Purdue Calumet University and later at Valparaiso University. (July 6, 2012)



◀ **David D. Schaefer** ME'71

David D. Schaefer served in the U.S. Army as a member of Army Intelligence during the early 1960s. After graduation, he worked for the Army Corps of Engineers and Emerson Electric Co. in St. Louis. He was active in his church and devoted to his wife, children and grandchildren. (July 31, 2012)

Edward Joseph “Ed” Schneider Jr. EE'71, MS EE'73

Edward Joseph “Ed” Schneider Jr. was a member of the Spelunkers Club and owned a business in the heating and air conditioning industry. (May 19, 2012)

ALFRED J. "AL" BUESCHER JR.

Alfred J. "Al" Buescher Jr., ME'64, died at his home on Oct. 31, 2012. A member of many student organizations, including Phi Kappa Theta fraternity and the St. Pat's Board, he served on the Miner Alumni Association Board of Directors and earned an MBA from Washington University in St. Louis. After retiring as senior vice president of Jacobs Engineering in St. Louis, Mr. Buescher moved to Folsom, Calif., where he enjoyed sailing on Folsom Lake. He was a lifelong classic car enthusiast and a dedicated St. Louis Cardinals fan.



DR. BURNS E. HEGLER

Dr. **Burns E. Hegler**, professor emeritus of electrical engineering at Missouri S&T, died on March 14, 2013. Dr. Hegler earned a Ph.D. from Kansas State University, where he taught from 1957 until he joined the electrical engineering faculty at S&T in 1968. He directed safety training programs for municipal officials and was involved in weatherization efforts in Missouri. In 1989, he became director of the Energy Analysis and Diagnostic Center, which performed energy audits for businesses. He retired in 1991.

JOHN E. THOMPSON

John E. Thompson, MS CE'69, died on Sept. 25, 2012. At S&T, he was a member of Delta Sigma Phi fraternity and was on the track team. Mr. Thompson spent his career with Oriental Consultants Co. Ltd., headquartered in Tokyo, where he designed and built infrastructure for developing nations. While working in Iraq, he was one of the civilians held hostage by Saddam Hussein and later freed by President George H.W. Bush.

Paul Bernard Loiseau Jr.

ME'72

Paul Bernard Loiseau Jr., a member of Kappa Alpha Order, was a lieutenant in the National Oceanic and Atmospheric Administration Corps as an oceanographer. In 32 years with the Tennessee Valley Authority, he worked on the Dorris Weir Dam and the site model for 1996's Olympic Whitewater Competition. (Nov. 11, 2012)



◀ Gary L Reynolds

ME'73

Gary L Reynolds was a project engineer for Mustang Engineering and spent his career in design and development for firms like Caterpillar, Johnson Controls and Armour Pharmaceutical. He was an avid sports and car enthusiast who cherished his original coded 1969 ½ Dodge Super Bee 440 Six Pack. (Dec. 17, 2011)



◀ Janet Kay (McMinn) Thompson

Engl'73

Janet Kay (McMinn) Thompson was a homemaker who enjoyed music, reading and traveling with her husband and children. A kind-hearted and loving person, she fought a long battle with cancer with grace and dignity. (Jan. 19, 2013)



◀ Steven K. Peecher

EE'82

Steven K. Peecher, a member of Tau Beta Pi, Eta Kappa Nu, Theta Tau Omega and IEEE, was chief consulting engineer for product design and development in aviation systems at GE Aviation. A bodybuilder, Harley Davidson enthusiast and rare-gun collector, he was a well-known St. Louis rock and roll drummer. (Nov. 18, 2012)

STUDENTS IN MEMORIAM

Aaron Richard Cobb died on Nov. 9, 2012, from injuries sustained in a car accident. The senior from Olathe, Kan., majored in civil engineering and was a member of Sigma Nu fraternity. He played soccer for the Kansas City Wizards and Sporting K.C. teams.

David L. Gallego, NucE'08, MS NucE'09, passed away at his home on Feb. 13, 2013. He was a self-employed attorney and was pursuing a Ph.D. in geology and geophysics.

Andrew Paul Menner passed away on Nov. 20, 2012. He was a senior in civil and architectural engineering from Ellisville, Mo., and was a member of Sigma Nu fraternity.

Jessica Dione Wynn passed away on Jan. 19, 2013. She was a junior in information science and technology from Rolla. She was inducted into the U.S. Army in June 2010, completed active duty training and was in the Army Reserves.

1979

Roger D. Sanders,
CSci (Jan. 30, 2013)

1980

Dennis B. Clodfelter,
EE (Jan. 17, 2013)

1981

Donald Burton Holley,
EMgt (Nov. 8, 2012)

1982

Craig Scott Johnson,
MetE (Nov. 30, 2012)

1986

Dan Walter Hawley,
MS ChE (Feb. 23, 2013)

1993

William C. Bisso Jr.,
Hist (Feb. 9, 2013)

1995

Jimmie Wayne Humphrey,
ChE (Oct. 21, 2012)

1997

Jason Andrew Drane,
EMgt (Jan. 11, 2013) ■

FRIENDS

Carol Lee Adams, wife of the late Dr. Curtis Adams, associate professor of economics (Jan. 10, 2013)

Marjorie Ann (Raback) Bennett, wife of Charles W. Bennett, ME'49 (May 20, 2012)

Rita Brenden, wife of the late Donald Brenden (Dec. 1, 2012)

JoEtta Buck, wife of Richard Buck, ChE'63, MS EMgt'70 (April 13, 2012)

David Buescher, former director of the Newman Center and former associate pastor of St. Patrick Church (Feb. 1, 2013)

John W. Cole (Sept. 9, 2012)

Sidney C. DeBoer (Dec. 29, 2011)

Lorene Gibbons, wife of the late Kelly E. Gibbons, former director of security and traffic safety (July 22, 2012)

Harold S. Hall (Nov. 22, 2012)

Mary Webb Harris (Nov. 9, 2012)

Muriel E. Hatfield, wife of the late Dr. Charles Hatfield, professor emeritus of math (Jan. 29, 2013)

June Knight, wife of George L. Knight, MetE'51 (Sept. 21, 2012)

Marguerite A. Knoll (Feb. 12, 2013)

Hubert Krug (March 4, 2012)

Alma Joyce McClaine, wife of James D. McClaine, PetE'53 (May 21, 2012)

John McClendon, father of Kevin McClendon, ME'94 (Dec. 21, 2012)

Jack R. McCray, retired HVAC technician at S&T (Dec. 30, 2012)

Myra A. Merritt, wife of John F. Merritt, CE'61 (Sept. 23, 2011)

Samuel C. Oliver (Nov. 26, 2012)

Raymond T. Otis (Jan. 12, 2013)

Mary L. Pauls, wife of the late Dr. Franklin Pauls, professor emeritus of physics (Nov. 26, 2012)

Betty Lou Rupert, wife of Dr. Gerald Rupert, professor emeritus of geology and geophysics, and mother of B.A. Rupert, Missouri S&T photographer (Dec. 2, 2012)

William "Charlie" Saroch (Nov. 25, 2012)

Allan Satterfield (Nov. 22, 2012)

Gwen H. Sieck, wife of the late Dr. Lawrence K. Sieck, professor of civil engineering (Nov. 2, 2012)

Adele O'Donnell Simmons, wife of the late Milton L. Simmons, CerE'49 (Jan. 29, 2013)

Richard L. Sinnott (Feb. 6, 2013)

Wealthy E. Purrington Spreng, wife of the late Dr. Alfred Carl "A.C." Spreng, professor emeritus and former chair of geology and geophysics (Dec. 27, 2012)

Willie M. Trevino (Dec. 11, 2012)

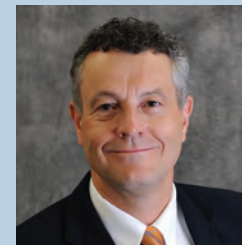
Jesse L. Welty (March 8, 2012)

Barbara Warman-Zeid, wife of Marvin C. Zeid, PetE'51 (Jan. 31, 2013)



DEWEY ALLGOOD

Former Miner coach **Dewey Allgood** died April 23. He joined the S&T coaching staff as head basketball and assistant football coach in 1950. In 1964, he replaced longtime coach Gale Bullman as Miner head football coach. He also coached golf, cross country, and track and field, and served as director of intramurals, assistant director of athletics, chair of physical education and advisor to M-Club, which named him Coach of the Year in 1990. He was a member of the Miner Athletic Hall of Fame and Academy of Miner Athletics. In 2000, Missouri S&T's football and track and field facility was renamed Allgood-Bailey Stadium to honor him and Keith Bailey, ME'64, who helped fund the stadium renovation. Allgood also served in the Navy aboard the *USS Beatty* during World War II.



DR. KENT D. PEASLEE

Dr. **Kent D. Peaslee**, the F. Kenneth Iverson Chair of Steelmaking Technology and Curators' Teaching Professor of metallurgical engineering, died May 17 at age 56. He joined the Missouri S&T faculty in 1994 and was named Iverson Chair in 2007. The chair was established through a \$2 million gift from Nucor. He received the Governor's Award for Excellence in Teaching and the Class of 1942 Excellence in Teaching Award from the Miner Alumni Association, and was president of the Association for Iron and Steel Technology among other honors.

HUGH AND LINDA COLE: SILVER AND GOLD DONORS



Photo by Chis Diset/Chris Diset Photography

Six months after graduating from high school in Hazelwood, Mo., Hugh Cole, EMgt'72, enrolled at Missouri S&T, determined to become the first engineer in his family (and first in his family to receive a college degree).

“With the exception of that first summer, when I worked at the Chevy plant in St. Louis, I went to school year-round,” says Cole, now managing partner of AGI–Goldratt Institute, an organization he’s been with since 1993.

His four years at Rolla weren’t easy, he recalls. Like most students at the time, the Vietnam War, pressure about the draft and a severe U.S. recession weighed heavily on his mind. To supplement their income,

he and six other students formed a horn-driven, pop-rock band known as Miller’s Cave. They played music in the style of Chicago and Blood, Sweat and Tears for dances and parties in Rolla, Columbia, St. Louis and, often, at Fort Leonard Wood.

“We’re all still in touch,” he says. “Everyone has been successful — probably more than what we thought would be possible. When we were in Rolla, we basically had nothing. Sometimes I

wonder how I got through. It was hard to come up with the \$395 a semester for tuition, much less living expenses!”

Despite the struggles, Cole graduated and joined Unidynamics, a division of Universal Match Corp., for 18 months before being hired by another Rolla grad to work for the Linde Division of Union Carbide Corp.

“Linda and I were newlyweds for a week before I had to leave for an engineering training program in Pueblo, Colo.,” Hugh recalls. Linda, who was attending the University of Missouri–St. Louis, would go on to join Hugh in Colorado after she completed her last semester at UMSL.

The job took the couple around the country. They lived in nine houses in 18 years while raising their two children, Doug and Lindsay. Hugh held both line and staff positions in production, engineering and marketing, while Linda worked as an elementary school teacher.

“I wouldn’t change any of those experiences,” says Cole, who chairs the executive committee of Missouri S&T’s donor recognition society, the Order of the Golden Shillelagh. “I think that’s what gives you an appreciation for making things better.”

The Coles’ desire to help others led to their decision to give back to Missouri S&T. The couple recently created the Hugh and Linda Cole Silver and Gold Scholarship. The scholarship will benefit engineering management students who have significant financial obstacles that threaten their ability to stay enrolled. In addition to the award, students with remaining unmet financial need may also qualify for university loans that are interest-free while they are in school as well as campus work-study opportunities.

“I do understand that many students in Rolla are first-time college students,” he says. “I can totally appreciate it. If you can somehow afford to help, why wouldn’t you do that? We know the kids’ lives will be better because of it. What’s a better thing to do than to give someone else an opportunity?” ■

▶ DOING OUR PART

Calista LaBrell's entry in a Trash Art contest sponsored by the Ozark Rivers Solid Waste Management District at the 2013 Missouri S&T Earth Day Celebration held on campus on April 22. LaBrell was a seventh-grade student at St. George School in Hermann, Mo. Just one example of S&T's community outreach, the event featured Solar Village tours, contests and hands-on activities for hundreds of area youth, as well as our own S&T students. (Photo by B.A. Rupert)





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