

SPRING 2013 VOL. 87 NO. 1

# MISSOURI S&T MAGAZINE



## THE NEXT GENERATION OF MINERS

Creating a better tomorrow.  
That has been a theme for Rolla  
graduates for more than 140 years.

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HISTORIC SEASON  
ON THE GRIDIRON

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PREVENTING  
CATARACTS

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UPCOMING  
SECTION EVENTS

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
3 Kegerators for the Hasselmann Alumni House .....	\$3,500/ each
15 ROTC Cannon Crew jackets .....	\$35/ each
Industrial washing machine for athletics uniforms .....	\$8,000
Lodging for a Solar House Team member during the Solar Decathlon near Irvine, Calif., in October 2013 .....	\$750
Clear raw glass for S&T's Hot Glass Shop for one semester .....	\$1,800
2 tubas for band program .....	\$8,000/ each
1 Etiquette Dinner .....	\$3,000

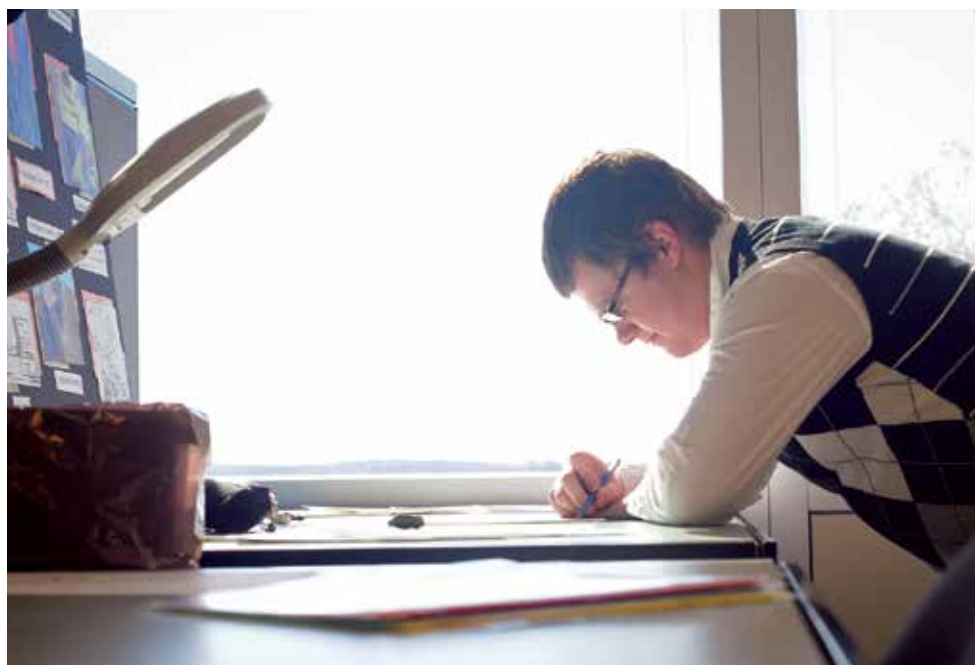
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a difference.

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## ◀ ON THE COVER

Gone are the days of slide rules on the Missouri S&T campus. Today, students use a wide variety of tools to help them navigate math, physics and engineering classes (to name a few).

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## BRIEFLY { BY THE NUMBERS }

# 1,825

New Missouri S&T graduates receiving degrees during calendar year 2012.

Missouri S&T's rank among the Best Values in Public Colleges for out-of-state students by *Kiplinger's Personal Finance*. S&T ranks 100th for in-state students.

# 96

Missouri S&T's in-state affordability ranking in a *Newsweek* magazine listing of the 25 Most Affordable Schools. Among public institutions, S&T was ranked third most affordable for in-state students.

Missouri S&T's rank in *U.S. News & World Report's* "Great Schools at Great Prices" listing. Among public institutions, S&T ranked 7th.

# 24

S&T's out-of-state ranking in *Newsweek* magazine's listing of the 25 Most Affordable Schools. Among public institutions, S&T ranked No. 1 for out-of-state students.

# 7,647

Students enrolled at Missouri S&T during the fall 2012 semester.

# 8

# 46

## 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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### Dear Fellow Alumni:

Fans of *The Simpsons* may have noticed some familiar clothing on Lisa during the episode that aired on Nov. 11, 2012. In that episode, Bart Simpson's more intellectual younger sister wore a "University of Missouri at Rolla" shirt while playing online poker with the college savings her dad, Homer, had socked away. It made us wonder what kind of a student Lisa would be if she attended Missouri S&T.

Wikipedia describes the middle Simpson child as "highly intelligent" (with an IQ of 159), spiritual, idealistic and "notably more concerned with world affairs than her life in Springfield," her mythical hometown.

Armed with that information, our admissions staff, many of whom are fans of the show, predicted Lisa's career as a Miner.

Major: environmental engineering and psychology

Activities: jazz band, theater, research, film series, athletics

Student organizations: Women in Engineering, French Club, Engineers Without Borders

Of course, Lisa Simpson is just a fictional character, but Missouri S&T has thousands of other real-life students



with fascinating real-life stories. Each one is different. While all of them strive to uphold the Miner tradition of excellence, and many exceed that high standard, there is no such thing as a stereotypical S&T student.

Miners excel in a broad spectrum of activities and interests. Some are athletes. Others are members of student design teams. Some are involved in research that can change the lives of people around the world. Others focus on serving their local communities. Many combine these activities and more.

In this issue, we'll introduce you to a few of today's real-life students. Keep an eye on them. They, like so many of their fellow Miners, are going places.

**Megan Kean-O'Brien**  
MS TComm'12  
design & production editor

## EDITOR'S TOP FIVE PICKS

- 1 } Meet the new faces of your Miner Alumni Association. New president, **John Eash**, AE'79, MS EMgt'90, is featured on page 43. New alumni office staff members are featured on page 13.
- 2 } Miner Athletics had plenty to cheer about during the fall campaign. Check out the prestigious honor awarded to Lady Miner volleyball player, **Jenny Costello**, on page 10.
- 3 } The S&T Mine Rescue Team struck gold in the Mine Rescue Competition — the first time since 1988. See page 17 for more details.
- 4 } Senior **Casey Burton** is helping find an easier, more accurate and more cost-effective method of prostate cancer detection. Learn more on page 16.
- 5 } Altoids have long been known for their "curiously strong flavor." But did you know the box Altoids come in also has other uses? Find out what a couple of your fellow alumni have discovered on page 36.

### CORRECTIONS

In the Fall/Winter 2012 issue, we listed the incorrect hometown for **Ranney McDonough**, CE'66, president of McDonough Engineering Corp., who was inducted into the Missouri S&T Academy of Civil Engineers in April 2012. He is from Houston, Texas.

**Steve Puzach**, CE'09, was listed incorrectly on page 31 of the Fall/Winter 2012 issue. He was a member of the first-place B Flight team in the St. Louis Section golf tournament, held June 23.

Q

## Did you ever pull a prank in college?

Were hard-working, nose-to-the-grindstone Missouri S&T alumni all work and no play during college? We don't think so. We've heard tales of students leading a calf to the third floor of the Rolla Building, constructing a brick wall across Pine Street and burning an outhouse on campus. We wanted to hear more of those stories, so we asked.

A

Yeah, they've tried to get me to incriminate myself before. It's not going to happen.

**Jeff Spencer**, CSci'93, Rolla, Mo.

To this day, I will testify that I know nothing about who disabled the elevators in TJ Hall. Move along folks, nothing to see here.

**Patrick Williams**, CE'11, Helena, Ark.

There might be stickers on hard-to-reach places around campus. Some are in plain sight and were still there as of February 2012 when I was last there. Some are probably in official press pictures. Good luck finding them, and to whoever put them there.

**Scott Frazier**, EE'09, Rochester Hills, Mich.

The final in the 1997 Intro to Programming C++ involved debugging an application. Simple things like finding compile time errors and logic errors and fixing them. The lab probably had about 40 students in it. One student had created a program to play "Mary Had A Little Lamb" on delay. You loaded it off of your 3.5-inch floppy disk, ran the program (which loaded it into memory), popped out the floppy and were out of the room before it went off. He passed out several copies the week

before the final. My guess is almost half of the class had a copy of this program. I stayed until almost the end of the final, sitting in the back row listening as more and more PCs played out the song in all its 8-bit glory.

**Nate Taylor**, EE'00, Omaha

We repeatedly painted the Mu back on the rock at the Sigma Chi annex after they had the big "Burning the Mu" party. The Mu was dropped after getting their charter. We even went in camouflage with war paint. They tried to catch us, but it never worked. It was great fun. I was even dating a Sigma Chi and they were clueless. The sorority girls were not on the suspect list.

**Cheri Mohan-Schmitt**, ME'87, St. Louis

It is a tradition for the pledges of Sigma Phi Epsilon to drag the large rock in their front yard to another fraternity so their members would have to drag it back. In 1994, the students at the fraternity where the rock ended up rented a jack hammer and made the rock easier to carry back to Sig Ep. I'm not Greek, but I had some great friends in the Sig Ep house. When I asked them if they were going to replace it, of course their answer was "yes." Their minds going wild with the size of rock they wanted to get. But then after a bit of estimation of what they could actually haul, they realized their goal was out of reach because no one in the house had a large enough truck to move a three-ton granite boulder. I said, "You find the rock, I'll haul it." I worked for Poe's Gas, which had a truck equipped with a hydraulic boom for hauling propane tanks. One of the guys got permission to take a large red granite boulder

*(continued on page 5)*

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

Email your answers to [alumni@mst.edu](mailto:alumni@mst.edu), or via Facebook or Twitter, by June 28, 2013.

(Q&A continued from page 4)

from the Experimental Mine. I secured the truck from Gordon Poe, who had only one request, "Just don't flip my truck over." I delivered the rock the Saturday before finals week during the fraternity's traditional senior round of golf. As soon as the rock was on the ground, someone shouted, "Let's move it!" Those of us that loaded the rock knew this was nearly impossible, but we sat back and watched them try. The rock was sitting on edge and after a few minutes of grunting, it did roll over to a larger flat with a loud thud. I don't think that rock moved for several semesters because of its extreme weight.

Another time, during the spring of 1997, the old IBM system in the computer lab was going away and all the 1-inch reel-to-reel tapes would all be obsolete. **Dax Sparks**, AE'96, ME'96, and I were working in the operations and equipment room on weekend shifts. We stockpiled about 80 of those reels and then unwound them and stuffed the mess into **Charlie Irwin**'s office one Sunday night. (Irwin is a retired supervisor of computing and information services, now known as IT.) His office was on the edge of the room and the walls were all glass. The tape filled the room to about chest height with his desk, chair and computers still inside.

**Brian Call**, ME'97, MS EMch'99, Dunlap, Ill.

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### @Kickapoo Soccer

Kickapoo High School soccer program  
(Springfield, Mo.)

*Congratulations go to 2009 graduate Caleb Collier on his Academic All-American award at Missouri S&T!*

### @frankiesmiff

Frank Smith, ArchE'11, CE'11, Blacksburg, Va.,  
in response to "#STEM Students Must Be Taught to Fail. What do you think?"

*This is why (physics) professor (Ron) Bieniek is one of my favorite professors, but only after the fact.*

### @DamonGuthrie

Damon Guthrie, junior in engineering management  
from St. Louis

*@SandTChancellor I'm thankful for the support of a great family & the many minority leaders before me who've inspired my desire in #STEM!*

### @kaleykmac

Kaley McLain, senior in ceramic engineering from Liberty, Mo.

*@SandTChancellor I'm thankful for the many opportunities @MissouriSandT has given me and a degree that made it easy to find a job!*

### @enuttall

Erica Nuttall, sophomore in business and management systems  
from Lake Winnebago, Mo.

*Random awesome fact: The creator of twitter Jack Dorsey briefly attended Missouri S&T #RollaHolla*

### @gleek\_wisz

Sarah Wiszkon, GeoE'00, St. Louis

*What a great weekend @MissouriSandT — 10-1 football team & a nod on the Simpsons. So proud to be a Miner alumni!*

### @autryp

P.C. Autry, MS IST'10

*Anyone notice Lisa Simpson's #UMR shirt? #GoMiners*

### @Joseph\_D\_Hyman

Joseph Hyman, senior in technical communication  
from Los Angeles, and a wide receiver for the Miners

*10-1 season, didn't make the playoffs but it was a record setting season and a great way to end my college career #gominers #minerfootball*





## MATT O'KEEFE: MEMORABLE MENTOR

Walk into Straumanis-James Hall and the building's relaxed atmosphere may be the first thing you notice. The building is home to the Materials Research Center and its director, **Matt O'Keefe**, MetE'85.

O'Keefe, who is known for his friendliness and accessibility, will tell you he didn't set the building's tone — that he's just trying to maintain what **Bill James** (professor emeritus of chemistry and a namesake of the building) created when he started the MRC back in 1964. James, who turned 90 in September, still has an office down the hall from O'Keefe's.

But O'Keefe's influence is undeniable. He's been a popular professor at S&T since 1999, receiving several teaching

awards along the way. He has a genuine concern for his students' success, both in his department and in the Phi Kappa Theta fraternity, where he serves as faculty advisor.

**Rick Szevery**, MetE'02, a senior engineer with ArcelorMittal Burns Harbor, is grateful for O'Keefe's mentorship.

"Dr. O'Keefe's conversational teaching style and quirky sense of humor made his classes very enjoyable and memorable," Szevery says. "He organized the course information in a way that made it easier to comprehend than in my other courses. And he was always positive and helpful. I really valued his advice and our conversations."

O'Keefe was born and reared in Rolla, the son of the late **Thomas J. O'Keefe**, Curators' Professor emeritus of metallurgical engineering. The younger O'Keefe took graduate courses while working for AT&T Bell Laboratories in Allentown, Pa., and earned a Ph.D. from the University of Illinois at Urbana-Champaign while working for the Air Force Research Laboratory at Wright-Patterson Air Force Base in Ohio.

Although he's laid back, he's no pushover and is honest with students. "Students don't always appreciate or like what I have to say," he says. "But sometimes it's what they need to hear." ■



## HOW MANY ENGINEERS DOES IT TAKE TO CHANGE AN LED BULB?

*A group of S&T researchers led by Suzanna Long, assistant professor of engineering management and systems engineering, is working with the Missouri Department of Transportation to measure the intensity of LED traffic lights.*

Light-emitting diodes or LEDs have replaced standard bulbs in many of the nation's traffic lights. Even though they're brighter than standard bulbs and have a longer life, knowing when to replace them is a guessing game, Long says.

While working with MoDOT on a data-driven replacement schedule for LEDs, her team created a laser-guided device to measure LED intensity from the side of the road at night instead of requiring technicians to physically check traffic lights using a bucket truck.

The project, named one of the 2012 "Sweet 16" High Value Research Projects by the American Association of State Highway and Transportation Officials, appeared in the *Engineering Management Journal's* special issue on transportation management last September.

Working with Long are **Mariesa Crow**, the Fred W. Finley Distinguished Professor of Electrical Engineering; **Abhijit Gosavi** and **Ruwen Qin**, assistant professors of engineering management and systems engineering; and **C.H. Wu**, professor of electrical and computer engineering. ■



Suzanna Long is helping MoDOT develop a schedule for replacing LED bulbs in the state's traffic signals.

## SILVER STARS FOR S&T

S&T's dedication to environmental sustainability and stewardship paid off this fall with a "silver" rating in the Sustainability Tracking, Assessment and Rating System (STARS). S&T is one of 103 universities in the nation to achieve the silver STARS designation.

STARS is a national program developed by the Association for the Advancement of Sustainability in Higher Education to help colleges and universities measure their environmental and other sustainability efforts. Participants report achievements in the areas of education and research, operations, and planning administration and engagement.

STARS also offers bronze, gold and platinum designations. Only 37 universities have achieved a gold rating. No institution has attained a platinum rating.

## S&T OFFERS NEW FLEXIBLE DEGREE

In January, S&T began offering a new bachelor of arts degree in multidisciplinary studies. Designed for flexibility, the program lets students customize their education while taking advantage of the university's emphasis on engineering, science, technology and liberal arts.

Through Missouri S&T's newest degree program, a student interested in ecology could combine coursework in geology, biology and mining engineering. A student interested in an education career could combine business and economics with teacher certification.

The program uses only existing faculty and funding and is expected to attract 32 full-time students and seven part-time students within five years.

## HISTORIC SEASON ON THE GRIDIRON

The first season for football in the Great Lakes Valley Conference was a historic one for the Miners. S&T finished with a 10-1 record to tie the university's single-season record for victories. Even though the Miners weren't invited to the NCAA Division II playoffs, the team was ranked 24th in the final poll conducted by the American Football Coaches Association. It was the first time since 1984 the program was ranked.

"I was very pleased with the way things came together this year," says Miner head coach **David Brown**, who stepped down in mid-February to become an assistant coach at Fresno State University. "We learned how to compete and finish. It takes a lot just to have a winning season, so you can only imagine what has to happen in order to win 10 games. It was a total team effort."

"Our senior class played a huge part in placing S&T football on the national stage," Brown says. "We definitely have a solid foundation to build on for years to come."







Nuran Ercal (left) recently received a grant to fund the use of an antioxidant to prevent degenerative eye conditions. Pictured with Ercal is Sri Krishna Yasaswi Maddirala, a Ph.D. student in chemistry.

## PREVENTING CATARACTS

Using eye drops prepared with the antioxidant N-acetylcysteine amide (NACA), **Nuran Ercal** is conducting research that could prevent or cure cataracts, macular degeneration and other degenerative eye disorders.

Ercal, the **Richard K. Vitek** (Chem'58)/Foundation for Chemical Research Endowed Chair in Biochemistry who is also an M.D., says NACA is better than the experimental treatment N-acetylcysteine because it crosses cell membranes easier and can be used in lower doses.

"NACA eye drops could represent an alternative to costly surgery, while greatly improving the quality of life for those afflicted," says Ercal, who has been testing NACA on HIV-related problems, lead poisoning and other toxicities for 10 years. About four years ago she began testing it on eye disorders.

Ercal received a three-year, \$378,000 research grant from the National Eye Institute of the National Institutes of Health using preliminary data based on research by her former Ph.D. student, **Joshua Carey**, Chem'07, Phys'07, PhD Chem'12.

Carey's dissertation showed how NACA could slow cataract growth on rats that had been given a solution that causes cataracts to form.

"The NACA solution prevented cataracts from forming," says Ercal. "Our research will build on Josh's research, to see if NACA can actually reverse the degeneration as well." ■

**20.5 million**

Americans older than 40 years  
have a cataract in either eye



Women are

**40%**

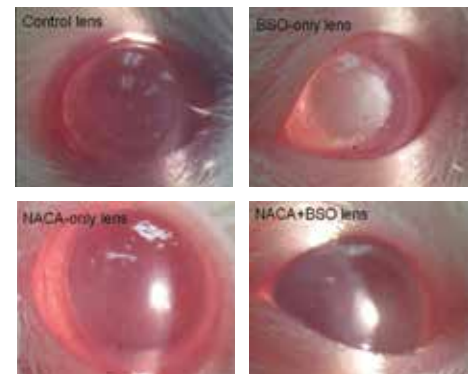
more likely to develop  
cataracts than men



By 2020, the total number of  
persons who have cataracts is  
estimated to rise to

**30.1 million**

(*medicalnewstoday.com*)



Top left (control lens): The lenses in this group were found to contain no detectable cataracts. Top right (lens treated with BSO, a cataract-inducing solution): All lenses in this group developed distinct cataracts, with most being nearly completely opaque. Bottom left (lens treated with NACA only): Results were similar to the control group with no detectable signs of cataract. Bottom right (BSO-treated lens also treated with NACA): The lens depicted above has a Grade 1 opacity, which was evident by the amount of scattering light.



## OFFICIAL BUSINESS

Missouri S&T's business and information technology degree programs have earned initial accreditation by the board of directors of AACSB International — the Association to Advance Collegiate Schools of Business. AACSB is the longest-serving global accrediting body for business and accounting programs.

To be accredited, S&T's programs met 21 quality standards, including quality of faculty, resource management, and interactions of faculty and students. Fewer than 5 percent of institutions worldwide are AACSB accredited. S&T's program started in fall 2001.

## S&T TO HELP TRAIN SAUDI MINERS

Missouri S&T received a \$24 million grant from the Saudi Arabian government to help train and educate Saudi mining professionals.

S&T will partner with the Technical and Vocational Training Corp., a Saudi government entity, and the Saudi Arabian Mining Co., Ma'aden, to establish Saudi Mining Polytechnic. With S&T leading the way, SMP plans to educate 200 professionals annually in mineral processing and surface and underground mining.

Canadian Petroleum Services, Caterpillar Global Mining, The Doe Run Co., Immersive Technologies, Orica Inc. and P&H Mining are also partners in the venture.

## LADY MINER VOLLEYBALL PLAYER NAMED ACADEMIC ALL-AMERICAN OF THE YEAR

**Jennifer Costello**, a senior in chemical engineering from St. Louis, is the Capital One Academic All-America of the Year award winner for Division II volleyball as selected by the College Sports Information Directors of America.

Costello is the third player and first female in school history to earn the award. Costello was also named Great Lakes Valley Conference Scholar-Athlete of the Year for volleyball. She is the first S&T volleyball player to earn the title and the fifth in school history.

Costello also earned first team honors last season. She has been named to the All-Great Lakes Valley Conference first team twice and has been named an Academic All-GLVC selection three times. She has won the M-Club Scholar Athlete Award for the last three years.

This past season Costello helped lead the Miners to their second-straight GLVC West Division title and to the semifinals of the conference tournament. She finished her career with 4,361 set assists, 923 digs, 444.5 points scored, 270 kills, 182 total blocks and 80 service aces. ■



## UNWRAPPING MUMMY FASCINATION

Public “unwrappings” of real mummified human remains — performed by both showmen and scientists as early as the 1600s — may have objectified exotic Egyptian artifacts. But they were also scientific investigations that revealed medical and historical information about ancient life, says **Kathleen Sheppard**, assistant professor of history and political science.

Sheppard's paper on 20th century Egyptologist Margaret Murray, the first woman to publicly unwrap a mummy, was published in the December issue of the journal *Science in Context*. She says Murray's work is “poised between spectacle and science, drawing morbid public interest while also producing ground-breaking scientific work that continues to this day. These types of spectacles were highly engaging shows in which people were, to a certain degree, educated about different aspects of science both by showmen and scientists.”

Many Egyptologists focused on either “Egyptomania,” the fascination with all things Egypt, or “Egyptology,” the scientific study of Egyptian life, Sheppard says. But Murray combined the two, involving the public in scientific inquiry while at the same time correcting popular misconceptions.

“Murray tried to get the public to see that mummies weren't magical, they were just preserved human remains to be studied and learned from,” Sheppard says. “In other words, rather than trying to separate the ‘mania’ from the ‘ology,’ she wanted to bring reason and understanding to the mania.” ■



Wayne Bledsoe, longtime host of “Bluegrass for a Saturday Night” and general manager of KMST, is helping the station celebrate 40 years on the air waves.

*On Aug. 1, 1973, “Bluegrass for a Saturday Night” introduced area radio listeners to what would become an institution in public radio. Since then, KMST has broadcast an eclectic mix of music and NPR news and garnered a worldwide following.*

Known then as KUMR, the station was on the air as early as 1963 as KMSM. At that time it was affiliated with the campus’ student radio station. When National Public Radio was formed in 1970, the University of Missouri System created radio stations at each of its four campuses.

The first locally produced show KMST aired, “Bluegrass for a Saturday Night,” was born of necessity, says General Manager **Wayne Bledsoe**.

“Bluegrass was virtually the only form of music we had enough LPs of to run an

hour-long show,” he says. Those LPs — which will soon become history thanks to digital music broadcasts — were donated from KMST’s sister station KBIA in Columbia.

Bledsoe joined the S&T faculty as an assistant professor of history and political science in 1968 and retired as professor and chair of the department in 2002. But he has been around KMST from the start, first as a volunteer, then as a contributing writer to the station’s program guide. In 1979 he took over the reins of the station’s flagship bluegrass program.

When the university announced plans to change its name to Missouri S&T in 2007, a small California radio station called KMST was in the process of going out of business.

“We timed it just right,” Bledsoe says. The FCC approved the transfer of the KMST call letters on July 16, 2007, making the radio station the first official harbinger of the name change.

KMST broadcasts at 88.5 FM in Rolla, Mo., and 96.3 FM in Lebanon, Mo., and livestreams its programming at [kmst.org](http://kmst.org). Thanks to the Internet, KMST has contributing members in 47 states and 41 countries. ■

## PROFESSIONAL DEGREES

Missouri S&T awarded six honorary professional degrees during commencement ceremonies in December. The degrees recognize the following graduates for professional achievement:

- **C. Dennis Croessmann**, NucE'81, of Edgewood, N.M., chief of staff for the chief technology officer at Sandia National Laboratories
- **Thomas M. DeGonia II**, Hist'93, of Olney, Md., a state and federal court litigator
- **Dale W. Leidy Sr.**, ME'61, of Moreland, Ga., retired technical director at Owens-Illinois Inc.
- **Robert E. Low**, of Springfield, Mo., president of Prime Inc.
- **Jeffrey W. Sheets**, ChE'80, of Houston, vice president of finance and chief financial officer for ConocoPhillips
- **Bryan A. Stirrat**, CE'67, of Diamond Bar, Calif., president of Tetra Tech — BAS.



## 700 NEW MINER ALUMNI

More than 700 degrees were awarded at commencement ceremonies in December. Speaker **Roger Truitt**, ChE'71, discussed some of the changes he's witnessed since he graduated 41 years earlier. He also gave the graduates five pieces of advice — to do their job well and market what they do, to always do the right thing, to question the validity of the questions they're asked, to give back to Missouri S&T and to have fun in life.

"Your education is just beginning and will last your lifetime," said Truitt, who received an honorary doctorate in engineering during the ceremony. "I believe you will see tremendous change in that lifetime." Truitt is the retired senior vice president of ARCO and retired president of ARCO Products Co. He lives in Paducah, Ky. ■

## CLASS OF '63 TO RETURN IN MAY

The Class of 1963 will celebrate its 50th anniversary at the Golden Alumni Reunion May 20–21 at Missouri S&T and the Comfort Suites in Rolla.

In addition to reconnecting with each other, alumni will tour their departments and learn more about what is happening on campus today. The Miner Alumni Association will host the alumni and present programs on the association, world events 50 years ago and MSM in 1963. The highlight of the event is a recognition ceremony, where class members receive their 50-year pins and certificates.

If you are a member of the Class of 1963 and have not received your invitation, or are from another class but would prefer to celebrate your Golden Alumni Reunion with the class of 1963, please contact the alumni office at [alumni@mst.edu](mailto:alumni@mst.edu) or call 800-JOMINER for more information. ■



## NEW FACES ON ALUMNI STAFF



New Miner Alumni Association staff members Gillian Masters, Darlene Ramsay and Katie Jackson.

There are some new faces in the Miner Alumni Association office. Here's your chance to get to know them.

Administrative assistant **Gillian Masters** is the woman behind the cheerful voice that answers the main phone line. Masters came to campus last fall from Woodland Park, Colo., where she was office manager for a home health care company.

**Darlene Ramsay**, MetE'84, is no stranger to most of you. The former Miner Alumni Association president is now the executive director of alumni relations and advancement services. She oversees the operations of the Miner Alumni Association and the university advancement research, annual giving, and record-keeping services.

**Katie Jackson** joined the alumni office on Jan. 7 as assistant director. A member of the S&T staff since 2009, Jackson was a student program administrator in student affairs. She holds a bachelor of arts degree in psychology and religion from Concordia College and a master of education degree from the University of Southern Mississippi. She is working toward a doctorate of education in educational leadership and policy analysis from the University of Missouri-Columbia. ■

## BETTER THAN HARVARD

Missouri S&T grads command higher starting salaries on average than Harvard grads.

In September, ABC News asked PayScale for a list of colleges and universities whose graduates earn higher salaries than Harvard graduates right out of college. There were 12 of them.

That data, based on 2010 earnings, showed that Missouri S&T grads earn an average starting salary of \$58,600, while Harvard grads earn an average of \$54,100 in their first jobs. That's a pretty good return on investment considering annual tuition is \$40,866 at Harvard and only \$9,350 (\$32,666 for out-of-state students) at S&T. ■

## SAVE THE DATE: HOMECOMING 2013

Make plans now to come to Rolla for Homecoming 2013, to be held Oct. 18–19. Watch for more details in the Summer issue of *Missouri S&T Magazine*.

## 105TH BEST EVER

The Miner Alumni Association hosted its annual breakfast before the St. Pat's Parade on Saturday, March 16, with coffee, juice, and cinnamon rolls, along with Mimosas and Bloody Marys. After the parade, alumni and friends celebrated with dollar beer and free hot dogs.

Watch for pictures in the Summer issue of *Missouri S&T Magazine*. Or go online to [bestever.mst.edu](http://bestever.mst.edu) to see how S&T has celebrated for 105 years.

## GRAD FINALE MOVES TO THE GROTTO

Whether it was called the Cavern, Brewster's, the Mine Shaft or Hiram and Mortimer's, the Grotto has been a favorite hangout for generations of Miners. Last semester it was the home of the Grad Finale celebration.

On Dec. 6, the Miner Alumni Association hosted 54 graduating seniors at the Grotto for darts, air hockey, pool and pizza — and learning about the benefits that come with new membership in the alumni association.



# BENTON MURAL COMES ALIVE

## GO ONLINE

Both the film and guide are available online. Visit [extension.missouri.edu/tombenton](http://extension.missouri.edu/tombenton) or scan the QR code below.



Muralist Thomas Hart Benton told the story of Missouri's history in tempera paint on the walls of the House Lounge in the Missouri state capitol building. Missouri S&T's **Jim Bogan** brought the mural, and its creator, to life in his video *Tom Benton's Missouri*. This past fall, the film was re-mastered in high definition and re-released to mark its 20th anniversary.

The film is available in a downloadable HD format with an educator's guide that includes lesson plans for fourth grade through college, background information on the mural, and music from the film.

"We hope that seeing the film in high definition will be like looking through the eyes of a sensitive and knowledgeable

spectator," says Bogan, Curators' Teaching Professor emeritus of art history and film.

Part of the restoration process involved refining the colors to make them truer to the original tempera of the mural. The film's soundtrack was also enhanced. It features narration by Benton himself and historian Bob Priddy, as well as historical ballads written and sung by Bob Dyer.

**Luce Myers**, a Missouri S&T art lecturer, worked with Kathleen Unrath, associate professor of art education at the University of Missouri-Columbia, and Abby Trescott, a Rock Bridge High School teacher from Columbia, Mo., to produce the Educator's Guide.

Collaborators on the film restoration include Michael Hicks, film and video producer with the UM Extension Cooperative Media Group; Frank Fillo, co-director of the original film; **Gerald "Jack" Brown**, a senior in civil engineering at Missouri S&T; and Jessica Hicks, an art education student at MU. ■



## THE WAY WE WERE, YEAR BY YEAR

A slice of Missouri S&T history is now available online, thanks to the efforts of S&T's Curtis Laws Wilson Library staff.

The library staff created a digital version of every issue of Missouri S&T's yearbook, the *Rollamo*. The *Rollamo* yearbooks from 1907 to today are now archived together online at [yearbooks.mst.edu](http://yearbooks.mst.edu). The year-long project required scanning and uploading roughly 7,000 pages from the 105 books.

The digital archives allows users to search through all editions, bookmark, share and download individual pages, says **Roger Weaver**, the institutional repository and digital collections librarian at S&T.

"One of the primary purposes of an academic library is to collect, preserve and provide access to materials of cultural significance to the campus," Weaver says. "I can think of no better example of culturally significant material than the *Rollamo*, our campus yearbook."

Weaver says they plan to remove physical access to many of the decaying, older yearbooks so they can take steps to preserve them. That's something they would like to do for other older artifacts, such as the *Missouri Miner*, the S&T student newspaper. ■



### **The S&T Archives wants your slide rule (and other stuff, too)!**

**Do you have an old slide rule  
sitting around gathering dust?  
Consider donating it to the  
Missouri S&T Archives.**

Help the archives build its collection of pre-computer calculation tools by donating your slide rule to the university. Using more modern calculation tools, the archives staff estimates it houses around 170 slide rules, calculators, planimeters and other strange items used for calculating.

Since its founding in 1978, the Missouri S&T Archives has been the official repository of the historical, legal and cultural records of the university. They preserve interesting artifacts, too.

If you have any MSM, UMR or Missouri S&T memorabilia you no longer need — slide rules, photographs, buttons, yearbooks — S&T Archives is looking for you.

Contact **Diana L. Ahmad**, university archivist, at 573-341-4817 or email [ahmadd@mst.edu](mailto:ahmadd@mst.edu) for more information.



Roger Weaver manages the digital collections at Curtis Laws Wilson Library, which now houses a digital version of every *Rollamo* yearbook from 1907 to today.



Senior chemistry student Casey Burton is helping find an easier method of testing for prostate cancer without using high-tech machinery. Instead, he uses an enzyme to make a simple chemical fluoresce.



## IN PRINT

**Ben Bayse**, professor emeritus of mechanical engineering, published an autobiography titled *Lightening Ben: I Flew with Eagles*.

**Trent Watts**, an associate professor of English and technical communication, wrote an essay titled “What Makes a ‘Newcomb Girl’?: Student Culture in the Progressive Era,” that was published in a book titled *Newcomb College, 1886-2006: Higher Education for Women in New Orleans*.

**S.N. Balakrishnan**, Curators’ Professor of aerospace engineering, co-edited a textbook titled *Advances in Missile Guidance, Control and Estimation*.

## NEW APPROACH TO DETECT PROSTATE CANCER

*Using a simple chemical reaction that makes metabolites in the urine samples of prostate cancer patients glow, senior chemistry student Casey Burton is helping find an easier method of testing for the disease than the conventional prostate-specific antigen (PSA) test. Burton’s method is also less costly and more accurate.*

He says treating urine samples with an enzyme that is similar to amino acids and nucleic acids can determine the concentration of the metabolite sarcosine. Even though the link between sarcosine and prostate cancer has been refuted, Burton’s method for detecting its presence could be used to test for the presence of other metabolites that are linked to various diseases.

“Instead of using fancy machinery, I can use an enzyme to make the chemical fluoresce,” he says. “So we can effectively analyze our urine samples, and determine whether or not they contain metabolites.”

The system’s low cost when compared to traditional PSA tests is also a plus, Burton says.

“This costs a tenth of a penny per sample, compared with the \$70 or so it costs to get a PSA test at a health clinic or doctor’s office,” he says.

Burton’s research was published in *Analytical Methods* in January 2012. His co-authors are **Yinfa Ma**, Curators’ Teaching Professor of chemistry, and **Sanjeewa Gamagedara**, PhD Chem’12. ■



## ◀ S&T WINS 'GOLD' IN MINE RESCUE

A group of Missouri S&T mining engineering students won the annual underground mine rescue competition held at Missouri S&T's Experimental Mine in October. It is the first win for S&T since 1988.

The student team competed against 12 teams from industry and another S&T squad, which finished 10th in the competition.

During the competition, teams are evaluated on how they handle a simulated disaster situation underground. The events are set up and judged by representatives of the federal Mine Safety and Health Administration.

The teams are rated on how well they follow the basic rules and regulations of the underground rescue problem, and they are graded on written exams. Mine rescue competitions also feature tests involving first aid and maintaining self-contained breathing gear.

In addition to winning the underground portion of the event, the S&T Gold Team won the in-state trophy for performing best in the underground event among all six Missouri teams in the competition. The Gold Team also finished in fifth place overall, while the other S&T squad, known as the Black Team, finished 12th. A team from The Doe Run Co. finished first overall in the event.





## SPORTS BY THE NUMBERS

4,361

Assists by senior **Jennifer Costello** in her volleyball career — a new school record.

Shutouts recorded by the S&T's men's soccer team during the 2012 season, the second-most in a season in school history.



The number of Lady Miner basketball players who scored 1,000 points and pulled down 600 rebounds in their careers: **Tanya Hough**, LSci'89; **Jennifer Cordes**, ME'91; **Tamara McCaskill**, ChE'10; and senior **Hailee Parks**.

9

National rank attained by the Miners in the American Football Coaches Association's final regular season poll on Nov. 12. This marks the first time the S&T football team has been nationally ranked since 1984. The team ended the season ranked 24th.

458

**Allyson Smith's** finish at the Great Lakes Valley Conference Cross Country Championships, making her the second Lady Miner runner to earn All-GLVC honors.

19

3

Soccer goalkeeper **Matt Jackson's** national ranking for save percentage (.867) at the NCAA D II level.

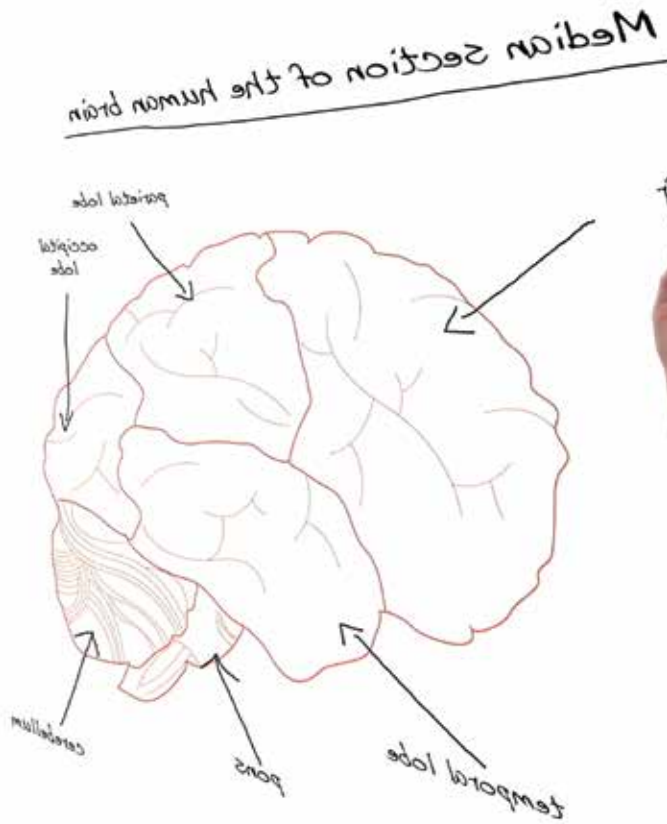
Points scored by the Miner football team in 2012 — a new school record.

11

332 & 159

The number of kills and blocks, respectively, by volleyball freshman **Krista Haslag**, the Great Lakes Valley Conference's co-"Freshman of the Year" for the 2012 season. Haslag was named to the American Volleyball Coaches Association All-American third team — the first player in the program's history to receive All-American honors.





DIANE STRONG:

# BREAKING THE MOLD

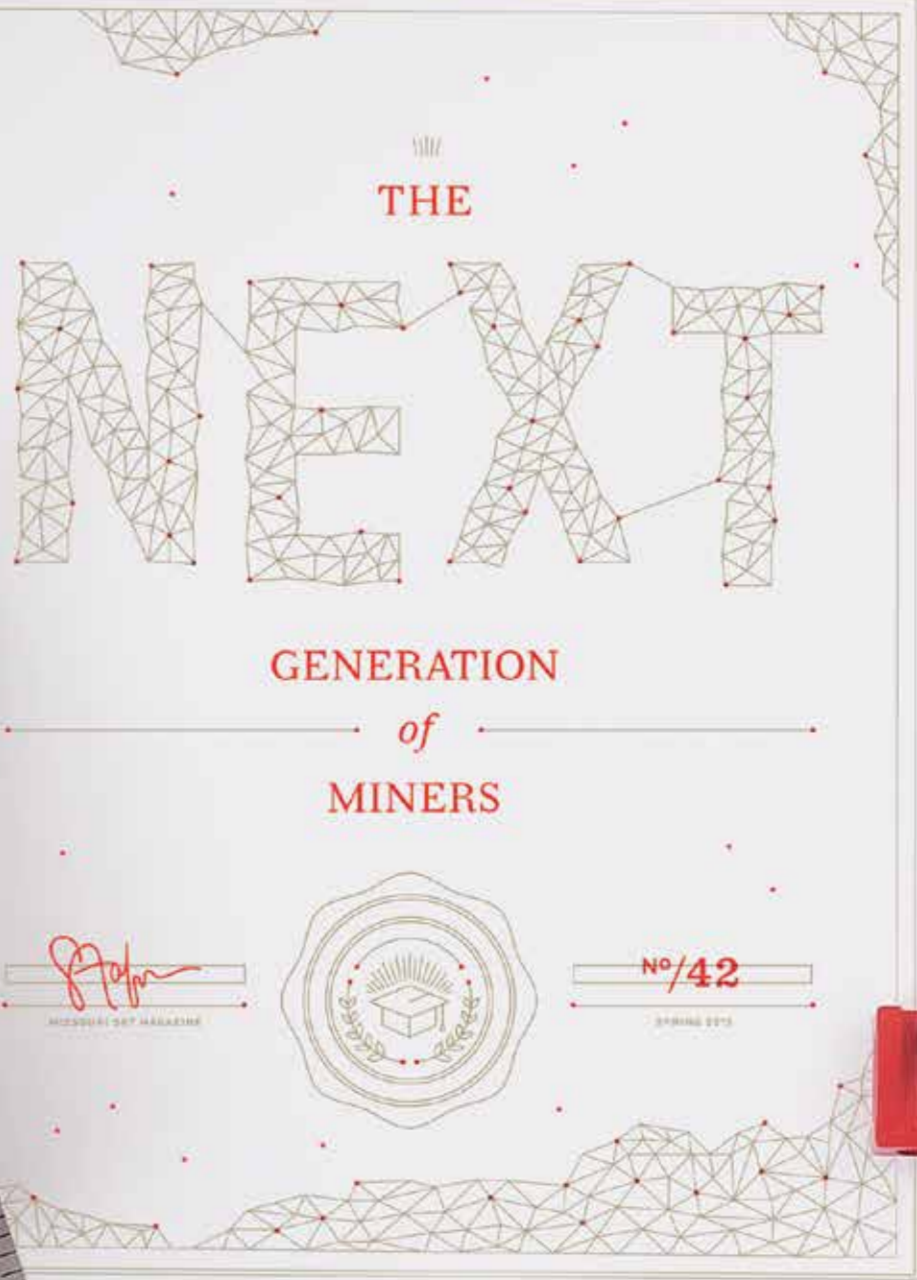
**Stats:** While a majority of the S&T student population tends to focus on engineering, ever-bubbly junior **Diane Strong** is pursuing a degree in psychology with a minor in technical communication. “Psychology is a science, so it makes sense to go to a science and technology school.”

**Ambassador Strong:** “I like being able to introduce prospective students to S&T,” says the student ambassador from Cape Girardeau, Mo. “Each dorm has its own culture. I enjoy helping future students find which residence hall would be a great fit for them. If an incoming freshman is more social, I point them to the Quad. More reserved, then TJ or the Residential College may be better for them.”

**Run, Diane, run:** A walk-on member of the varsity cross country and track and field teams, Strong loves running. “I tried every sport out there, but I was good at running,” says the M-Club member. Often up for 5 a.m. practices, she jokes that she has mastered running while sleeping. She uses the time to think about “anything and everything, and a little bit of nothing.”

**On the brain:** The driving force behind her decision to major in psychology was her interest in human resources. Strong is vice president of PsyCo (the student psychology club) and a member of Psi Chi national honor society.

**Post-college plans:** This past fall, in an effort to prepare for her post-college plans, Strong worked at the S&T Haunted Mine. In return, she made friends with multiple mining engineering students, which gave her “a perspective into the engineer’s mind” and allowed her to make personal connections she can use after graduation. “I would love to be an HR representative recruiting for a mining company because of the emphasis on public safety — they are required to put in the extra effort to maintain a safe reputation.” ■



THE

NEXT

GENERATION  
of  
MINERS

*John*  
MIDWINTER '87 MAGAZINE



Nº/42  
SPRING 2013





**Creating a better tomorrow.  
That has been a theme for Rolla graduates for more than 140 years.**

Throughout the university's history, a steady stream of students has come to Rolla in search of a world-class education. For these individuals, Missouri S&T is more than just a place to get a diploma. It's a place where they find their direction, learn how to be leaders and question conventional thinking. It's a place where they can follow their own personal path and shape a future that's distinctly their own.

**That's what a Missouri S&T education is all about.**

Today, those lessons in leadership, critical thinking and practical applications are taught everywhere — from our bustling classrooms and laboratories to our thriving student design teams and other organizations, and on the Internet. Today's Miners don't have to sit in a Rolla classroom to benefit from the expertise of our faculty. Use of distance education at S&T has grown 77 percent in the last five years alone.

And that's just the start. Global opportunities abound for those who are curious — students who want to see the world, do what they can to help others and fix the big issues facing our nation and world. And be prepared for what comes next.

It's an exciting time to be a Miner.

Our student body doesn't look much like it did in the 1940s and '50s. And we've come a long way since 1960, when **Lelia Thompson Flagg**, CE'60, became the first African American to graduate from Missouri S&T. Back then, women and minorities on campus were scarce. Flagg had to live off-campus, since there was no housing for female students. Now we have a record 1,732 women enrolled at S&T. And at 804, the number of minority students continues to climb.

Today's students grew up in an age when cell phones and the Internet were commonplace, and space travel was more than just science fiction. They may look and dress differently, or carry smart phones instead of slide rules, but they share the same appreciation for hard work as the graduates who came before them. Like their predecessors, they are athletes, researchers, design team members, Greeks, independents, planners, dreamers and more.

The five students who tell their stories on the following pages are just a sample of the next generation of Miners. They are shining examples of the Miner virtues of dedication and personal drive. They solve problems for fun. They are breaking stereotypes and working to solve grand challenges.

Miners are engineers, scientists, innovators and more. In the last century, they drove the Industrial Revolution and launched the Space Age.

We don't know what tomorrow's greatest revolution will be. But we are confident our students can lead it.





**“If you think engineers are problem-solvers, you need to meet my friends from Tacachia.”**

— **Rachel Feist**, senior, geological engineering

## **Good works**

by Mindy Limback, limbackm@mst.edu

**Rachel Feist** witnessed the destructive effects of poor water quality. But she's also seen how her skills can make life a little better for people — especially those living thousands of miles away from her hometown of Tulsa, Okla.

**“Being in Tacachia, Bolivia,** was nothing that I could have imagined,” says Feist, a member of S&T's Engineers Without Borders chapter. “I left the U.S. thinking that I would be working on some engineering projects to help get a community clean water to drink, wash and cook with. But really, it turned out to be a partnership between us and the members of the community.”

An avid runner, Feist says she first became interested in engineering as a teenager. She excelled in science and mathematics and wanted to find a way to use that talent to help others. During a visit to S&T's campus, the track and field athlete met with geological engineering professors and was impressed to hear about students' efforts to create sustainable clean water in Guatemala using clay pot filters.

Now a senior in geological engineering, Feist traveled to the northeast region of Brazil this year as a member of her international design class. It was Feist's second trip to the country, as she previously studied for six months in Rio de Janeiro, a city in the southeast region of Brazil.

“While I was in Brazil as a study abroad student, I wasn't actually aware that I would be going back with this class,” she says. “I didn't know anything about cyanobacteria, but I was very aware of the water sanitation situation in Brazil.”

She says waste and trash have compromised the water quality in many of the reservoirs in the area, turning the water supply into one that's prone to form toxic blooms of the aquatic bacteria.

Feist says her experience with EWB has shaped how she views her value and her responsibility as an engineer. Currently a health and safety officer, she has traveled to Tacachia two times, leading the team in 2010.

“If you think engineers are problem-solvers, you need to meet my friends from Tacachia,” she says. “Though they have so much less in terms of modern material things than we do, they show so much joy and life and enthusiasm that I have been tempted to hide out and never leave.”



**A.** A new member of the Lady Miners cross country team, Feist helped the team earn a seventh-place finish at the Jackling Jocks Invitational.

**B.** A variety of testing instruments are used to determine whether water is safe to drink.

**C.** The vibrant colors of the Brazilian flag make perfect artwork for a sarong.

**Feist's portrait was taken in Schrenk Hall.**



## “Some people shy away from the future. I run toward it with vigor.”

— **Michael Bouchard**, junior, geology and geophysics

### A man with a plan

by Mary Helen Stoltz, mhstoltz@mst.edu

Do you know where you will be five years from now? How about 10 years from now? **Michael Bouchard** does. He has a 15-year plan for personal success and has carefully outlined every step required to get him there.

“I love to plan. I love to make lists,” says Bouchard, a junior in geology and geophysics from Ballwin, Mo. “Some people shy away from the future. I run toward it with vigor.”

A self-proclaimed “band geek,” he chose Missouri S&T because he immediately fit in.

“There is a freedom here, too,” Bouchard says. “You have the chance to remake yourself exactly how you want to be, and really take control of your life and your future.”

Bouchard loves the variety of opportunities available to him at Missouri S&T. He plays trumpet in the marching band and is active in Fencing Club and National Residence Hall Honorary, among others. Last year, he played Charlie Bucket in the S&T theater production *Willy Wonka*. He is one class away from completing a minor in Russian.

“It’s not a matter of what can I do, but what do I have time to do!”

Bouchard works with **John Hogan**, associate professor of geological sciences and engineering, to research the mysteries of bizarre dome-like structures in Egypt’s Afar Desert using satellite imagery. Called “desert eyes,” these structures make the terrain look like bubble wrap, he says.

“The eyes are structural domes, but are often topographically flat,” Bouchard explains. “If you didn’t know they were there, you could walk right by them. However, when viewed from space, they create some truly incredible pictures.”

Bouchard’s love of space fits into his plan in other ways, too.

Hanging on Bouchard’s wall is a 176-goal flow chart he hopes will lead the Mars Rover Design Team to success. Bouchard is CEO of the group he co-founded with 15 friends last fall. The team — the newest group to be included in the Student Design and Experiential Learning Center — is designing and building a remote-controlled vehicle capable of traversing the red, rocky terrain of Mars. The team will take part in a summer 2013 competition sponsored by The Mars Society.

Ultimately, Bouchard wants to be an astronaut. Until then, he plans to spend four years in college, five years working in the field of exploration geology and six years working on a Ph.D. in planetary geology — the study of other planets.

“I have high goals and it will take a lot of hard work and dedication to get there,” Bouchard says. “And a plan.”

But if things don’t work out the way he plans, he’s all right with that, too. In fact, he’s on version 12 of his four-year college course plan.

“I have had to learn that while it is okay to have plans, you must still be flexible,” he says. “Plans help you have a direction, but they must be realistic, flexible and true to you.”





- A.** Through the Mars Rover Design Team, Bouchard is helping design and build a remote-controlled vehicle capable of traversing the rocky terrain of the red planet.
- B.** Bouchard, who plays trumpet in the S&T Marching Band, describes himself as a “band geek.”
- C.** Bouchard wants to be an astronaut. Until then, he plans to work on a Ph.D. in planetary geology.

**Bouchard's portrait was taken at Capital Quarries north of Rolla.**



**“I was a driver for the Solar Car Team at the Formula Sun Grand Prix in 2011 and traveled to Honduras with Engineers Without Borders that same year.”**

— **Wesley Hackett**, junior, architectural and civil engineering

### **Engineering ... with a twist**

by Mindy Limback, limbackm@mst.edu

**Wesley Hackett** knows a good problem when he sees it. And he loves problems. Perhaps that explains why he's a huge fan of the Rubik's Cube, the iconic 3D puzzle from the 1980s. In fact, he has at least five different models of the twisting object, from the simple 2x2 Mini Cube to a V-Cube 7 that has more than 200 pieces.

**It may also explain** why this architectural and civil engineering major from Garland, Texas, has been so involved with a variety of student design teams.

“I was a driver for the Solar Car Team at the Formula Sun Grand Prix in 2011 and traveled to Honduras with Engineers Without Borders that same year,” he says. During that trip to Santiago, Honduras, the EWB team cleaned and resealed the 40,000-gallon water storage tank and installed pipe to improve the water distribution systems.

“There are so many different opportunities to get involved around campus and so many ways to get your voice heard and be recognized for your hard work,” he says.

Those same hands that can solve puzzles and reach out to help others have also designed miniature bridge structures, packed a skydiving chute, set the stage at Leach Theatre and created freehand sketches.

He credits **Heath Pickerill**, director of the Missouri Local Technical Assistance Program, for that last one.

“I give him a hard time,” the junior says. “ArchE 203 — Architectural Engineering Design I — has been the hardest class so far but it's helped my drawing and sketching abilities.”

A first-generation college student, Hackett will need those skills as he enters the job market next year. He's already got his sights set on a construction company in Texas, too. But before he takes that first job, Hackett says he'd like to spend a year with a theater road show.

“I really wanted to be an actor when I was growing up,” he explains. “I'm not giving up on that dream, but I feel like working for a construction or design firm would be a much better day job than waiting tables while I wait for an acting gig to come around.”





A



B

C

A. Hackett is no stranger to working with lights — from the drafting table to the stage.

B. The V-Cube 7 is a seven-layered cube with 218 small pieces, called cubies.

C. Hackett enjoys freehand drawing and credits those assignments for helping him to better graphically express ideas.

**Hackett's portrait was taken in Butler-Carlton Civil Engineering Hall.**





**“You can’t really study  
for it, you just have  
to practice it.”**

— **Marquia Lewis**, sophomore, computer science

### **Dancing with code**

by Andrew Careaga, [acareaga@mst.edu](mailto:acareaga@mst.edu)

It’s no surprise that **Marquia Lewis** decided to study computer science in college. “I was around computers all the time growing up, and I really like them,” says Lewis, a sophomore whose mother, a software engineer for the Boeing Co. in St. Louis, also majored in computer science.

**But Lewis just as easily** could have majored in dance. She was on the dance and step teams at Hazelwood Central High School in St. Louis, and she was active in her church’s dance and music ministry while growing up.

Fortunately, she has an outlet for dance at S&T. You’ll often find her performing with the Gold Miners dance squad at a football or basketball game or expressing her spirituality through dance at a Voices of Inspiration Gospel Ministries event.

**Jessica Harvey**, a high school friend-turned-S&T classmate, introduced Lewis to Voices of Inspiration during her freshman year. It was a great fit because it combined Lewis’s passion for dance with her faith. A year later, she became president of the 20-member organization.

While involvement in the Gold Miners and Voices takes up much of her spare time, Lewis also serves on Missouri S&T’s Diversity Leadership Council and Student Diversity Mentoring Program. Last summer, she mentored incoming freshmen as part of S&T’s Opening Week program.

“I decided to do that because I really enjoyed Opening Week my freshman year,” she says. “I also wanted to challenge myself, because like a lot of computer science majors, I’m kind of an introvert.”

She also finds time to game. She especially likes the Halo series of multi-player online games. “Most guys are surprised when they find out I have my own Xbox 360,” she says.

Although she loves computers, coding doesn’t come easily to her. She didn’t take any computing classes in high school, so at times she feels like she’s behind the curve of other S&T computer science students. But she’s found that her fellow comp sci majors are willing to help or offer advice.

“I go to the computer labs in the Computer Science Building a lot,” she says. “Someone’s always there and is always willing to help you out. I’ve had to learn how to reach out, and learn that it’s OK to do that when you don’t know the answers.”

The biggest challenge with coding, she says, is that “you can’t really study for it, you just have to practice it.”

In that regard, coding is a lot like dance. Practice makes perfect.



**A.** Lewis joined the Voices of Inspiration gospel choir because it combined her passion for dance with her faith.

**B.** Coding doesn't come easily to this computer science major, but she gets a lot of practice.

**C.** Lewis loves gaming, especially the Halo series.

**Lewis's portrait was taken in Leach Theatre.**



**“I told him I wanted  
to save the world, and  
he pointed me in the  
right direction.”**

— **Brian Peterson** ChE'11,  
graduate student, chemical engineering

### **A lesson in dedication**

by Megan Kean-O'Brien, [keanmm@mst.edu](mailto:keanmm@mst.edu)

**Brian Peterson's** dedication to football — and to Missouri S&T — helped push the Miners to a record 10-1 season and landed him on the Capital One Academic All-America team. He is only the 19th Miner in the history of the football program to be selected for this honor.

**The Jacksonville, Ill., native** came to Rolla as a football recruit. “Football alone is a full-time job between watching film, attending meetings and practice,” says the offensive lineman. “But it has taught me time management and commitment.”

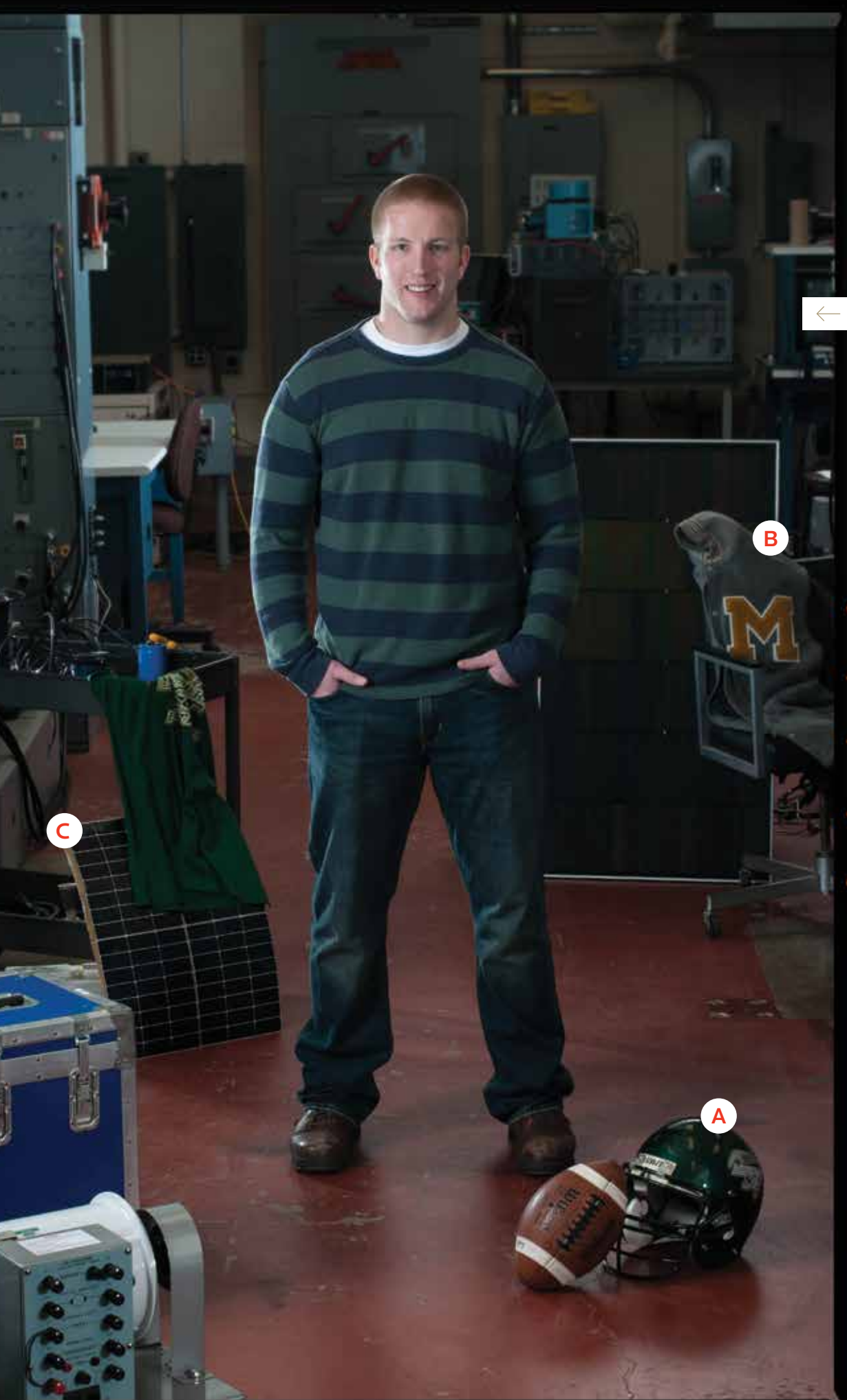
During the 2010 season, Peterson, ChE'11, tore the anterior cruciate ligament (ACL) in his left knee. After a year of rehabilitation, he was ready to get back on the field. “I’ve never been so happy to get back on the treadmill and train,” says Peterson. However, fate had a different plan. On the fourth day of fall camp, Peterson’s season ended early yet again after he tore the ACL in his right knee. Dealing with such injuries “puts things in perspective for you,” he says.

A medical hardship waiver allowed Peterson to extend his playing eligibility, and with that came the opportunity to continue at S&T as a graduate student and work with **Joseph Smith**, the **Wayne** (CE'67) and **Gayle Laufer** Endowed Energy Chair and director of the Energy Research and Development Center. “I told him I wanted to save the world, and he pointed me in the right direction.”

Peterson is studying electrical and solar details of energy storage and renewability. “Hybrid energy is the future,” he explains. “It’s a more advanced, dispatchable form of energy. Solar energy is far more viable and widespread, though it could take years for application on a larger scale.” Peterson’s enthusiasm and dedication to his research is nothing short of what someone would expect when meeting him.

“I have to make the most of my opportunities, and when I commit, I commit 100 percent,” he says.





**A.** An offensive lineman, Peterson helped the Miners end the 2012 season at No. 24 in the American Football Coaches Association poll.

**B.** The M-Club encourages increased participation in S&T's varsity sports program and stimulates sportsmanship and spirit among varsity athletes.

**C.** Peterson sees hybrid power systems — the combination of solar photovoltaics with other power generation devices — as key to the future.

**Peterson's portrait was taken in Emerson Hall.**

## 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](http://mineralumni.com)

##### Access to alumni office

via email ([alumni@mst.edu](mailto: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](http://mineralumni.com), click on the events tab, select the events you want to attend then click registration.*



## MINER ALUMNI ASSOCIATION

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## UPCOMING EVENT: KANSAS CITY STUDENT SEND-OFF PICNIC

On July 27, **Jim** CE'74, MS CE'75, and **Ann Foil** will open their home to the Kansas City Section for its annual Student Send-Off Picnic. Nearly 100 alumni, students and friends gather on the Foils' lawn each year to have fun, network, and meet current and future Missouri S&T students. Several teams from the Student Design and Experiential Learning Center will display their projects. Come and join Missouri S&T supporters to make the Kansas City Section Student Send-Off the Best Ever!

## UPCOMING SECTION EVENTS

For updated information on student design competitions, please visit [design.mst.edu/competitiondates](http://design.mst.edu/competitiondates).

### Alaska

*Student Send-Off*  
*Thursday, July 18*  
*6–10 p.m.*

Home of James "Von," ME'78, and Jan Cawvey  
2231 Loren Circle  
Anchorage, Alaska

### Bay Area

*Human Powered Vehicle Competition*  
*1 p.m. Friday, April 12*

NASA Ames Research Center,  
Moffett Field, off of Highway 101

*Dinner after competition*  
*6:30 p.m. Friday, April 12*

Mario's Italiano  
861 Leong Drive  
Mountain View, Calif.

*Student Send-Off*  
*Saturday, July 27*  
*5 p.m. Cocktails*  
*6 p.m. Dinner*

Location TBD

### Driftless

*Third Annual Golf Tournament*  
*Saturday, June 22*  
*9:30 a.m. Registration*  
*10:30 a.m. Shot Gun Start*  
*6 p.m. Dinner and awards*

Silvercrest Golf and Country Club  
2772 College Drive  
Decorah, Iowa

### Houston

*Miners in Space*  
*7 p.m. Sunday, June 9*

El Dorado Mexican Restaurant  
1962 El Dorado Blvd.  
Houston

*Baseball Game, Cardinals vs. Astros*  
*7:10 p.m. Wednesday, June 26*

Minute Maid Park  
501 Crawford St.  
Houston

*Student Send-Off*  
*6 p.m. Saturday, July 27*  
*(Dinner 6:30 p.m.)*

Home of Dan, EMgt'73, and Delores, PetE'75, Hinkle  
22 Elderberry Trace  
Sugar Land, Texas

### Kansas City

*Student Send-Off*  
*11a.m.–2 p.m. Saturday, July 27*

Home of Jim, CE'74, MS CE'75, and Ann Foil  
1812 SW Summit Valley Drive  
Lee's Summit, Mo.

### Lincolnland

*Annual Golf Tournament*  
*Friday, May 17*

*11:15 a.m. Registration*  
*11:30 p.m. Tee Time*  
*5 p.m. Social Hour*  
*6 p.m. Dinner*

Piper Glen Golf Course  
7112 Piper Glen Drive  
Springfield, Ill.

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

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

### Mid-Tennessee

*Baja SAE Competition*  
*Sunday, April 21*  
*Time TBD*

Tennessee Tech University  
1 William L. Jones Drive  
Cookville, Tenn.

### Motor City

*Formula SAE Competition*  
*1 p.m. Friday, May 10*

Michigan International Speedway  
12626 U.S. Highway 12  
Brooklyn, Mich.

*Dinner after competition*  
*7 p.m. Friday, May 10*

Carlyle Grill  
3660 Jackson Road  
Ann Arbor, Mich.  
734-213-9800  
[carlylegrill.com](http://carlylegrill.com)

*Robotics Competition*  
*1 p.m. Saturday, June 8*

Oakland University  
2200 N. Squirrel Road  
Rochester, Mich.

*Dinner after competition*  
*7 p.m. Saturday, June 8*

Red Ox Tavern  
3773 E. Walton Blvd.  
Auburn Hills, Mich.

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

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

### NE-IA

*Formula SAE Competition*  
*1 p.m. Friday, June 21*

Lincoln Airpark  
3401 W. Luke  
Lincoln, Neb.

### Rocky Mountain

*Student Send-Off*  
*Saturday, Aug. 3*

*Time TBD*  
location TBD

### St. Louis

*Annual Golf Tournament*  
*Saturday, June 22*  
*12:30 p.m. Registration and Lunch*  
*1:30 p.m. Shotgun Start*  
*6:15 p.m. Dinner and Awards*

Wolf Hollow Golf Club  
4504 Highway 100  
Labadie, Mo.

*Night at the Races*  
*Saturday, July 13*  
*6 p.m. Dinner Buffet*  
*7:30 p.m. Race*

Fairmount Park,  
Black Stallion Buffet Room  
9301 Collinsville Road (Route 40)  
Collinsville, Ill.

## SECTION WRAP-UP: TULSA CELEBRATES WITH CHANCELLOR CHERYL B. SCHRADER



On Saturday, Feb. 2, the Oklahoma Section extended a Sooner State welcome to Chancellor **Cheryl B. Schrader**. The section met at the Zarrow Center for Art and Education where they viewed an eclectic art exhibit while enjoying cocktails and an hors d'oeuvres buffet. Alumni networked, reminisced and discussed the university's current state of affairs and strategic direction. Chancellor Schrader may head to your section in the future, so watch for announcements in *Missouri S&T Magazine*, the Miner Alumni Association eNewsletter or an email invitation to an event in your section.



## MARGARET OLCOTT AND FAMILY: BUILDING A LEGACY



Top: Olcott's daughters Janet Olcott and Barbara Malone with Wayne Huebner, CerE'82, PhD CerE'87, and Chancellor Cheryl B. Schrader at the dedication of the Eugene L. Olcott Metallurgy Laboratory in McNutt Hall. Bottom left: Margaret and Eugene, MetE'40, Olcott. Bottom right: Olcott in 1940.

*During the final weeks of his life, Eugene L. Olcott, MetE'40, decided he wanted to give something back to the school that had prepared him for a successful career. "He wanted to give something tangible that would carry his name and be of use to the students," says his widow, Margaret Olcott.*

So following her husband's death in 2009, Margaret and their three children — daughters Janet Olcott and Barbara Malone and son Bruce Olcott — contacted Missouri S&T to find out how they could honor Eugene's wishes.

Janet learned from **Wayne Huebner**, chair of materials science and engineering, that her dad was originally an electrical engineering student who

"switched majors to metallurgical engineering because the equipment was better."

"Janet thought that an equipment gift would be the most appropriate way to honor the memory of her father," Huebner, CerE'82, PhD CerE'87, says.

The metallurgy laboratory in Huebner's department was overdue for an upgrade. Students were

using equipment from the mid-1980s — when the lab and its home building, McNutt Hall, were brand new — to polish and prepare samples for microstructural analysis with the department's scanning electron microscope. "In order to prepare samples for analysis, they have to be polished to a mirror-like finish," Huebner says.

Half of the lab's 12 polishing stations no longer worked and students had to juggle their schedules to find time to work on their samples.

The \$135,000 gift from Margaret Olcott replaced them all with a full set of state-of-the-art metallurgy equipment. It also paid for two automated polishers, which are used to prepare more difficult-to-polish materials.

Last August, Janet Olcott, Barbara Malone and their families attended the formal dedication ceremony for the Eugene L. Olcott Metallurgy Laboratory in McNutt Hall. Margaret was unable to attend the event.

"This gift will ensure that future generations of metallurgical and ceramic engineering students have the very best training in preparing samples for microstructural analysis," says Huebner. "I'm very grateful to the Olcott family for their generosity."

"The dedication was very moving," says Janet. "The passion that the faculty and students share for their subject matter and their school is overwhelming. The reception was lovely, and we were particularly impressed by all of the time the chancellor (**Cheryl B. Schrader**), faculty and students dedicated to us."

A native of St. Louis, Eugene L. Olcott worked as an engineer for the Navy and later for Atlantic Research Corp. as a high-temperature materials engineer on aerospace projects. In 1973, he and Margaret moved to a farm in Jefferson County, W. Va., to raise Angus cattle. He donated a 90-acre perpetual conservation easement from his farm on the Potomac River to the Potomac Conservancy and the Jefferson County Farmland Preservation Bureau. ■

## ► DO THE ROBOT

Thirty-six teams of tech-savvy high school students designed and built remote-controlled robots to place plastic rings onto a peg rack in the center of a 12-foot diamond during the FIRST Tech Challenge, held at Missouri S&T on Feb. 23. This is the third year S&T has hosted the regional event. (Photo by B.A. Rupert)







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**REDISCOVER ROLLA**  
THE TASTES, TREASURES AND TRADITIONS OF

DURING

**MINERFEST**

A

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FORWARD THINKING BENEFACTORS

WHO MAKE

**MISSOURI S&T**  
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**APRIL 17 - 21, 2013**

THE WEEK'S EVENTS INCLUDE:

**WOMAN OF THE YEAR LUNCHEON**

**BERTELSMEYER HALL GROUND BREAKING**

MINER ALUMNI ASSOCIATION  
**BOARD OF DIRECTORS MEETING**

**BOARD OF TRUSTEES MEETING**

**OGS ANNUAL WEEKEND**

**BATTLE OF THE BRAINS SCHOLARSHIP BANQUET**

**ACADEMY MEETINGS**