

# MISSOURI S&T MAGAZINE

## A MODERN *mentor*

CHANCELLOR CHERYL B. SCHRADER  
LEADS THE WAY FOR A NEW GENERATION

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HASSELMANN  
HOUSE BOOSTERS



# Better than a sweater

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## ◀ ON THE COVER

Chancellor **Cheryl B. Schrader** (atop Centennial Hall) intends to take Missouri S&T to new heights.

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## BRIEFLY { BY THE NUMBERS }

8,000,000

Gallons per year of water savings projected from the geothermal energy project.

600

Wells to be drilled on campus as part of the geothermal energy project. Drilling began in the spring.

82

Percentage of S&T freshmen receiving financial aid or scholarships.

2014

Year the geothermal energy project is expected to be completed.

17

Summer camps for kids in first through 12th grades hosted at S&T last summer.

25

Percentage of S&T freshmen who are first-generation college students.

## 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.

### CHANCELLOR

Cheryl B. Schrader

### VICE CHANCELLOR FOR UNIVERSITY ADVANCEMENT

Joan Nesbitt

### MINER ALUMNI ASSOCIATION PRESIDENT

John Eash, AE'79, MS EMgt'90

### EDITORS

Megan Kean-O'Brien, MS TComm'12 (Design & Production)

Darlene Ramsay, MetE'84 (Alumni)

Mary Helen Stoltz, Engl'95 (News & Features)

### ASSOCIATE NEWS EDITORS

Andrew Careaga

Linda Fulps

Mindy Limback

Lance Feyh

John Kean

Luke Rinne

### ASSOCIATE ALUMNI EDITORS

Linda Fulps

Katie Machovsky

Nancy Zamazanuk

### ASSOCIATE DESIGN AND PRODUCTION EDITORS

Brandon Deason

Jake Otto

### STAFF PHOTOGRAPHER

B.A. Rupert

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### Send letters to:

Darlene Ramsay  
Miner Alumni Association  
Missouri S&T  
1200 N. Pine St.  
Rolla, MO 65409-0650  
Fax: 573-341-4706  
Email: alumni@mst.edu

### News & features:

Phone: 573-341-4328  
Fax: 573-341-6157  
Email: news@mst.edu

[magazine.mst.edu](http://magazine.mst.edu)



## EDITOR'S TOP FIVE PICKS

### Dear fellow alumni:

It is my great pleasure to introduce to you **Cheryl B. Schrader**, the 21st leader of Missouri S&T. Since arriving in April, she's wasted no time getting to know the campus and its people, as well as alumni and government leaders. Now it's time for you to get to know her.

Her story is compelling. A champion of STEM education and women and minorities in education, Schrader has a passion for mentorship and understands how powerful positive role models can be for young adults. On the following pages, you'll learn about her own role model and about the ways she mentors today's students. You'll learn about her research background, meet her family and learn about her vision for the future of Missouri S&T.

A large part of that vision involves you, fellow alumni. As we continue to raise funds for the Hasselmann Alumni House, we do so with the dream of having a comfortable place for Miners to gather

(and share their own stories) when they come back to Rolla. Chancellor Schrader supports that vision and gave the project a boost this fall by earmarking a \$500,000 estate gift for the house. The bequest will be used as a challenge grant to attract more contributions. When the challenge is met, we'll be \$1.5 million closer to completion of the project. Read more about the project, including ways that you can contribute, on page 25.

Keeping in touch with Miner alumni — and faculty, staff and students — is one of Chancellor Schrader's goals. One of the ways she's doing that is through social media. Follow her on Twitter at @SandTChancellor.

Read on, and enjoy the Fall/Winter issue of *Missouri S&T Magazine*!

**Mary Helen Stoltz**  
Engl'95  
news & features editor

- 1 } Did you know Chancellor **Cheryl B. Schrader** was honored by the White House for mentoring women and underrepresented minorities in engineering? Read her story on page 18.
- 2 } **Karl F. Hasselmann**, MinE'25, was one of the first people to successfully drill for oil in the Gulf of Mexico. Read more about the namesake of the Hasselmann Alumni House — and learn more about giving opportunities — on page 26.
- 3 } An S&T grad competed in track and field at the London Olympic Games. Find out how he did on page 40.
- 4 } People with symptoms of depression use the Internet differently than others. Read more about the research behind that finding — and plans to create an app to trigger a diagnosis — on page 8.
- 5 } 2013 marks the 105th Best Ever. Come back to campus March 16 and help us celebrate.

### CORRECTIONS

Thank you to **Dave Zimmerman**, CE'69, for pointing out that we misidentified one of the cars displayed by **Dick Burdick**, ME'52, in his classic car garage in Texas. What we labeled a 1957 Chevrolet Bel Air convertible in the photo on page 41 of the Summer 2012 issue is actually a 1956 Chevrolet Bel Air.

On page 30 in the "On the road" section, we mislabeled two of the photos. Photo No. 2 is actually the Camaro owned by **Stephen Rode**, ChE'84. Photo No. 3 is the Galaxie owned by **Lloyd A. Meffert**, ME'88, and his wife, Deanna. We apologize for these two errors.



## What is the one thing you couldn't have survived at Rolla without?

Everybody has one. You know, that one thing that got you through school. For some it was a laptop, a calculator or a slide rule. For others, it was all about friends and family. Here are a few things Miners say they couldn't have lived without during their time on campus.

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



It would be my HP calculator. I had an HP 28S in Thermodynamics. Without it, I would never have been able to graduate. I will always live in an RPN universe. Shame on you, TI and Casio lovers. And also a beer or two, but that's a given.

**Richard A. Geisler**, EE'89  
Indian Trail, N.C.

Nothing was better on a cold night after hitting the books than loading up a bunch of guys from the gym in one of the old jalopies and heading out to Ramey's for a cheeseburger, a cold beer and those greasy French fries, listening to that loud juke box.

**Dick Boyett**, CE'58  
Fort Smith, Ark.

My wife, Jan. We were married the summer before I started and that gave me a purpose to stay focused. We celebrated our 41st anniversary in July 2012.

**Tom Mittler**, CE'75  
Longview, Texas



To read additional answers, letters and for all of this issue's tweets, go online to [magazine.mst.edu](http://magazine.mst.edu).

A roof-mounted FM dipole antenna. ... I vividly recall the day I braved brisk winds and a very steep roof atop the old three-story Sigma Nu "White House." I was able to secure an inexpensive dipole antenna to the brick chimney, after which I sat on the peak of the roof for what seemed like a long time. My prolonged rest had less to do with a fabulous view than it did with my appreciation for the danger of going down backward over shingles rendered smooth and brittle by decades of sun and rain. The effort, however, paid dividends far in excess of the investment. For years I listened to (St. Louis radio station) KSHE FM from midnight to whenever I finished my homework. ... Who knows? Perhaps I could have survived without the antenna, graduated without KSHE, and learned to embrace music by One Hundred and One Strings or "Coal Miner's Daughter." Maybe I could have a useful and fulfilling life without the inextricable linkages induced by "Hijack" or "PNS" or the frequency-modulated alchemy of the counterculture expressed as song; but I cannot imagine a better place and time to visit in my music-induced reveries. Oh, please don't tell my mother about the whole roof thing. Even though the event is more than 40 years in the past, she still worries.

**Ron Durbin**, EE'75  
Shalimar, Fla.

My slide rule. Because God did not give me enough fingers and toes.

**Terry Wormington**, EE'71, MS EE'72  
Satellite Beach, Fla.

Email your answers to [alumni@mst.edu](mailto:alumni@mst.edu), or via Facebook or Twitter, by Jan. 1, 2013.



On Nov. 23, 1965, I took possession of a 1966 Pontiac GTO hardtop in Rolla, Mo. I was a college graduating senior. I had no job. I had, as yet, no firm job offer. Nonetheless, the dealer offered a financing deal: my old 1958 Hillman Minx, no payments for 30 days. The first year's insurance was included in the purchase price and the first three payments were \$25. The deal was closed in less than 30 minutes. The dealer gave me the keys and told me to drive it off of the show room floor, which I did. I bought the car with every intention of keeping it forever. So far so good.

The week of July 4, 2012, the National GTO Convention was held in Loveland, Colo. I entered my Goat in the unrestored (or factory original) category. I received a plaque certifying that I am the original owner. The car (not me) received a Concours Bronze Award (as did about 10 other cars). I missed silver by only 13 points. And, the crowning glory — Best of Show for Factory Original.

I am thrilled to have received these awards. I just had to share this with you.



**Dave Bufalo**, CE'66  
Denver

I am not the only one who smiles when the hard copy of your magazine is delivered to me in my hometown in Shiraz, Iran, by the mailman. The mailman himself, a young man in this case, sees this as a sign that his job is going to stay for the time being, so he delivers the magazines to me with special care and honor.

**Ghassem Takmil**, ChE'77  
Shiraz, Iran

I very much enjoyed reading the latest magazine — particularly the article on the two young rally competitors.

Back in the day, there were other alumni who did well in this sport. **Mike Muentner**, CSci'81, was an accomplished co-driver, winning mid-divisional championships in 1985 and 1986.

After getting prescription glasses, I was Southwest Division driver champion in 1988, 1989, 1992 and 1994. Mike and I shared great times. He changed to the driver's seat and we had matching paint jobs for a season or two.

Many, many miles and many chocolate chip cookies with beer. Great times. We still get together when I am back in Missouri.

**Dave Thomas**, ME'81  
Waxahachie, Texas

Zeno's Motel and Steakhouse closed down shortly after Homecoming 2011. The establishment was founded in 1957 on what was then U.S. Highway 66 by the Zeno Scheffer family. It featured a first-class restaurant, cocktail lounge, renowned gift shop, 50 rooms of lodging, banquet rooms, and indoor and outdoor swimming pools. Over the past 54 years, it played a part in the lives of many students and alumni during Homecoming and St. Pat's celebrations, fraternity party weekends and other functions. Mike and Tracey Scheffer operated the facility through 2011. It was a living tribute to a lifestyle that seems to be sadly fading and will be missed by many old alumni.



**Jim T'outz**, ME'54  
Dodd City, Texas

I really enjoyed the recent Summer 2012 issue of Missouri S&T Magazine. I am also a car enthusiast. This is a photo of my 1932 Ford Roadster. Best regards.



**Raymond Lasmanis**, GGph'63,  
Ranier, Wash.

For years, Internet security has been a pet peeve of mine. Specifically, the absurd belief that replacing password characters with black dots somehow makes the whole process secure.

Typing any complex series of characters, often from a very small keyboard, is difficult and fraught with errors. Many Internet users select a simple, easy-to-remember (and type) password to avoid the inconvenience of dealing with a strong password. Worse yet, they use that same password universally. As they type their dog's name, for example, seeing each character being replaced by a black dot, they mistakenly believe their account on the 'secure' website they are entering is, in fact, secure. Laughable, to put it bluntly.

Your research on the FREEDM project might consider my simple and secure technique for real website security. If users on the smart grid are challenged with the black-dot password entry you can be sure that their mother's middle name will be used as a password then as often as it is today. How secure will the grid be then?

**Don Laughlin**, Math'64  
Colorado Springs, Colo.

Details of Laughlin's website security technique are available online at [magazine.mst.edu](http://magazine.mst.edu).



Photo by Rebekah Raleigh

## DONALD HEY: WETLAND WARRIOR

**Crusade:** Donald Hey, CE'63, executive director of Wetlands Research Inc. in Wadsworth, Ill., is passionate about proving the effectiveness, sustainability and economic efficiency of using restored wetlands for water quality management and flood control. He believes wetlands are the answer because they're good for conservation and the economy alike.

**The problem:** Over the past 200 years, the loss of more than 70 million acres of wetlands in the Mississippi River Basin has caused poor water quality, increased water pollution and flood damage, and reduced wildlife habitat and biodiversity, Hey says. "Water used to sit on the ground between eight and 20 days after it rained or snow melted. Now it is gone in less than 24 hours due to drain tiles,

agricultural outlet ditches, storm sewers, and canalized streams and rivers."

**The solution:** "Wetlands are a natural solution for flood water storage," Hey says. They will also remove contaminants like nitrogen and pharmaceuticals, and sequester phosphorous and mercury now contaminating our water resources. "Aquatic plants absorb the contaminants, die and sink below the surface of the water where they become peat," Hey explains. "As long as we don't try to use the newly formed peat for animal feed or human consumption, we are safe."

**Next big thing:** Hey hopes to create a riverine national park — a 14-million-acre wetland restoration project in the upper Mississippi River floodplains.

**His plan:** Convince farmers in the basin to give up growing commodity crops like corn and soybeans, and convert their fields to wetlands, creating what he calls a "nutrient farm." Land owners participating in the riverine national park would keep their land, build trails and lodges, and collect fees for hunting, fishing and camping. At the same time, the owners would produce and sell other ecosystem services: water quality credits, flood water storage and carbon sequestration. These services would generate three to four times the income that the landowners now earn from raising livestock or growing commodity crops, Hey says. "We have a lot of work to do to get our lives in balance with nature but we can do it. That's what I'm working for." ■



## AN OIL AGAINST OBESITY

By affecting microorganisms in our bellies, an oil made from wild almond tree seeds could help our bodies fight obesity and diabetes, says **Daniel Oerther**, the John and Susan Mathes Chair of Environmental Engineering.

Adding sterculic oil to the diets of obese laboratory mice increased their sensitivity to insulin and improved their glucose tolerance. The oil suppresses the bodily enzyme stearoyl-CoA desaturase 1, which is associated with insulin resistance, a condition that can lead to diabetes and obesity.

Ph.D. candidate **Shreya Ghosh** studied 28 male mice — 14 of them obese and 14 normal. She separated the mice into four groups and for nine weeks fed a standard diet to one group of obese mice and one group of non-obese mice. Over the same period, she added 0.5 percent of sterculic oil to the diets of one group of obese mice and one group of non-obese mice. Ghosh recorded the weights, food consumption and glucose levels of the mice during the nine-week period.

A DNA analysis of the gut microbiota, conducted at King Abdullah Institute of Science and Technology in Saudi Arabia, confirmed a correlation between the diet, improved glucose tolerance and groups of microbes. Even though the mice fed a diet with sterculic oil did not experience weight loss, both Ghosh and Oerther believe their findings could lead to new insights into controlling diabetes and weight gain.

Oerther and Ghosh presented their research last June at the 2012 American Society for Microbiology general meeting in San Francisco. ■

## A RARE VIEW OF VENUS



Wyatt Aegan, 8, of Vichy, Mo., views the transit of Venus across the sun through the filtered 80-millimeter telescope at Missouri S&T's observatory near sunset on June 5. Below Aegan is an iPad showing a view of the sun through a telescope in Hawaii. Venus is the black dot silhouetted against the orange solar disc. The observatory was busy for the entire transit time between 5:05 p.m. and sunset with hundreds of area residents lining up to see the rare sight. The next chance to see Venus transit the sun will occur in December 2117. (Photo by Terry Barner/ Missouri S&T)

## PEABODY ENERGY GIFT

Peabody Energy recently contributed \$250,000 to a rock mechanics laboratory at Missouri S&T.

The facility gives students a place to prepare and test rock samples, characterize rock formations, check safety and stability, and model and analyze ground control.

## VIRTUAL MINING

Mining engineering students can now get simulated training in surface mining techniques, heavy machinery and materials handling systems, all without leaving the comfort of McNutt Hall.

S&T's Virtual Surface Mining Facility was funded through gifts from Caterpillar Global Mining, Luminant Energy, Immersive Technologies and P&H Mining — all members of the Mining Engineering Development Board.

The facility houses two AES 2B base simulators, one dragline conversion kit and one shovel-dump truck conversion kit. In addition to teaching S&T students, the facility will allow for industry training and development.

## IN PRINT

*September Hope: The American Side of a Bridge Too Far*, by **John C. McManus**, associate professor of history and political science.

*Design for Six Sigma in Product and Service Development*, co-edited by **Elizabeth Cudney**, PhD EMgt'06, assistant professor of engineering management and systems engineering.



*An app for*

# DEPRESSION?

*College students who show signs of depression tend to use file-sharing services, send email and chat online more than their counterparts, according to Sriram Chellappan, assistant professor of computer science. Chellappan studied the link between Internet usage and depression, and hopes to use his findings to create software that could track Internet usage and alert users if their patterns indicate symptoms of depression.*

Chellappan's study is believed to be the first that uses actual Internet data, collected unobtrusively and anonymously, to associate Internet usage with signs of depression. Previous studies relied on surveys to collect data. He believes surveys are less accurate because people's memories fade over time and they tend to answer questions in a way that will be viewed favorably by others — a tendency called social desirability bias.

In the study, Chellappan and **Raghavendra Kotikalapudi**, MS CSci'11, tested 216 Missouri S&T undergraduates for signs of depression. About 30 percent of the students in the study met the

minimum criteria for depression based on the Center for Epidemiologic Studies-Depression scale. The researchers then collected a month's worth of Internet data for those students, assigning pseudonyms to keep their identities hidden. They found that the depressed students used the Internet much differently than the other study participants.

Chellappan and his colleagues found that depressed students tended to use higher "packets per flow" applications, those high-bandwidth applications often associated with online videos and games, than their counterparts.

Students who showed signs of depression also tended to use the Internet

in a more "random" manner — frequently switching among applications, perhaps from chat rooms to games to email. Chellappan thinks that randomness may indicate trouble concentrating, a characteristic associated with depression.

A paper describing the research, titled "Associating Depressive Symptoms in College Students with Internet Usage Using Real Internet Data," is scheduled to be published in the December issue of *IEEE Technology and Society Magazine*.

Kotikalapudi is the paper's chief author. His co-authors are Chellappan; **Frances Montgomery**, Curators' Teaching Professor of psychological science; **Donald C. Wunsch**, the M.K. Finley Missouri Distinguished Professor of Computer Engineering; and **Karl F. Lutzen**, information security officer for Missouri S&T's IT department. ■



## PREHISTORIC ROCKS OFFER CLUES ABOUT CLIMATE CHANGE

*For most of the past decade, Wan Yang has spent his summers camping and hiking in the Bogda Mountains in northwest China, collecting rock samples that predate dinosaurs by millions of years. His goal? To better understand the Earth's climate history and gain clues about future climate change.*

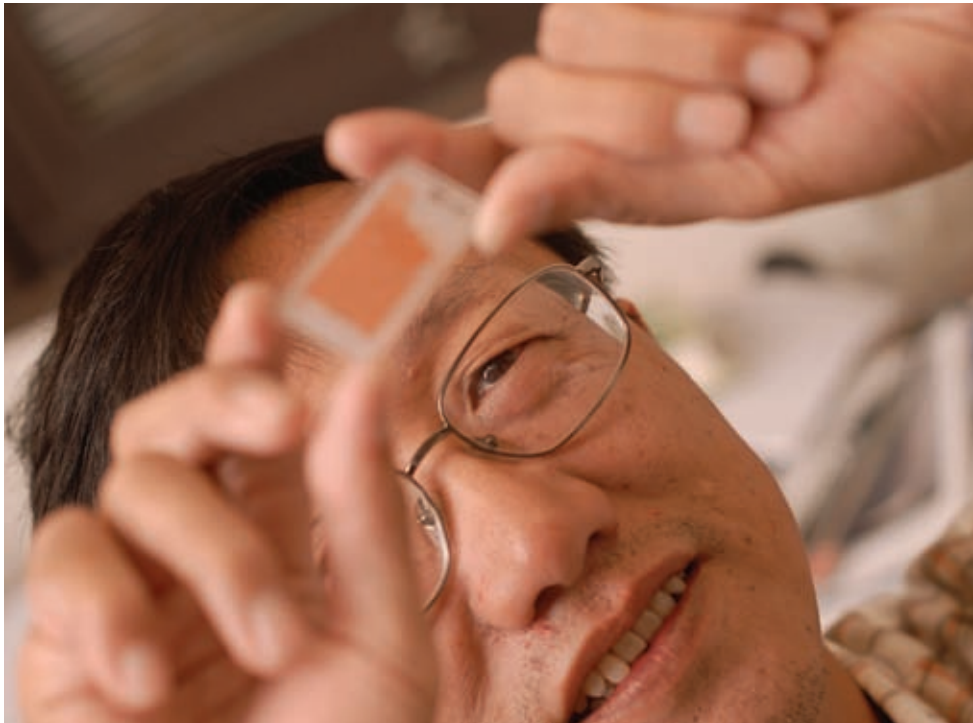
"The formation of rocks has everything to do with climate," says Yang, associate professor of geological sciences and engineering. "Different climate settings have different sediments, soil types and vegetation. The beauty of the geological record is that we can see changes in the past, which gives us some guide to predict future changes."

Yang spends his summers working in the high desert of northwest China because it's one of the few places to have a land record from Pangea, the supercontinent that existed between 200 million and 350 million years ago. Land records are hard to preserve because they are exposed to the elements, Yang says, so most research has typically been done using marine records instead. The seawater offers better protection of the rocks below, as Missouri S&T students saw first-hand in June during a field course led by Yang and two other professors from Trinity and Guizhou universities in southern China.

"Most people don't realize that 250 million years ago the greatest, most severe mass extinction in the Earth's history occurred," Yang says.

Yang returned to Rolla in early August with more than 300 pounds of volcanic ash (known as tuff). Zircon, a special mineral in the ash, can be used to accurately date the rocks and will help to more precisely determine the pace of the terrestrial mass extinction and climatic change, he says.

"There are so many things we would like to know," he says. ■



Wan Yang examines rock samples that predate dinosaurs by millions of years in an effort to better understand the history of the Earth's climate.

## HIGH-TECH GRAVE HUNTING

Using modern technology, a group of geological science and engineering researchers from S&T helped a Phelps County cemetery locate old grave sites dating back before the Civil War.

"Corn Creek Cemetery has graves dating back to the 1830s, and many graves are marked by only a simple natural stone, if that," says **Neil Anderson**, professor of geological sciences and engineering.

Using ground-penetrating radar technology, the researchers found six locations where there are likely grave sites with no identifying grave stones.

**Evgeniy Torgashov**, a graduate student in geological sciences and engineering, used the technology to differentiate potential grave sites from things like buried rocks, roots and other ground disturbances.

The cemetery association plans to mark the six locations found with natural stones out of respect for the buried remains and to help ensure that the final resting places remain undisturbed.

# HOMECOMING

## MINER ROAD TRIP RECAP

At the 2012 Homecoming Legends Banquet, the Miner Alumni Association honored a select group of alumni and faculty for their accomplishments and their devotion to the association, the campus and students. Selected from an impressive list of nominees, these awardees represent some of S&T's most talented and dedicated alumni, faculty and staff. Chancellor **Cheryl B. Schrader** and **John Eash**, AE'79, MS EMgt'90 (below, center), president of the Miner Alumni Association, are pictured with the recipients (from left).

Congratulations to the following award recipients:

**Milt Murry**, EE'64, MS EE'80, adjunct professor at Jefferson College received the Frank H. Mackaman Alumni Volunteer Service Award

**Forest Breyfogle III**, ME'68, president and CEO of Smarter Solutions received the Alumni Achievement Award

**Sarah Stanley**, assistant professor of business and information technology at Missouri S&T, received the Class of 1942 Excellence in Teaching Award

**Jason Brinker**, ChE'97, Vistamaxx PBE brand manager at ExxonMobil Corp. received the Distinguished Young Alumnus Award

**Preston Carney**, CE'02, MS CE'03, estimator/project manager at Sheehan Pipeline Construction Co. received the Distinguished Young Alumni Award

**Joel Burken**, associate chair and professor, civil, architectural and environmental engineering at Missouri S&T, received the Alumni Merit Award

**Harry Laswell**, Phys'78, managing partner at American River Ventures received the Alumni Achievement Award.







The Miner Alumni Association celebrated Homecoming 2012: Miner Road Trip in style on Oct. 13 with a Cruise-In for alumni and friends to show off their hot rods and vintage cars, and a tailgate party before the football game.

1. Miner spirit was on display at the tailgate party. More than 400 people came to the event.
2. Joe Miner helped spruce up the cars on display at the Cruise-In.
3. Former S&T softball player **Diane Butrus**, CSci'85, visits during the Silver & Gold Gathering with **Don Kennedy**, head softball coach at S&T, and starting catcher **Kaylea Smith** of Blue Springs, Mo., a senior in civil and architectural engineering.
4. **Jacob Careaga**, CE'98, and his son, Maksim, enjoy Saturday's tailgate party.
5. Despite the wind during the Homecoming football game, the Miners beat the William Jewell Cardinals 52-17. The win assured the Miners of their second straight winning season. The Miners sported pink socks in support of Breast Cancer Awareness month.

(Photos by Terry Barner and B.A. Rupert)



# OVERVIEW: INDUCTIONS AND COMMENCEMENT

## ACADEMY INDUCTIONS

*This year, 26 alumni and friends were inducted into Missouri S&T academies. Academy membership recognizes a career of distinction and invites members to share their wisdom, influence and resources with faculty and students.*

### ACADEMY OF CHEMICAL ENGINEERS

**RICHARD A. BAUSELL**, ChE'70, of Chesterfield, Mo., retired director of pipeline and power URS Corp.'s

**DAVID R. SCHARE**, ChE'78, of Tulsa, Okla., president of natural gas gathering and processing with ONEOK Partners LP

### ACADEMY OF CIVIL ENGINEERS

**BRETT HANKE**, CE'72, MS EMgt'84, of Wentzville, Mo., president of Hanke Constructors

**ALAN A. KAMP**, CE'64, MS CE'66, of Kansas City and Branson, Mo., vice president and senior project manager for Black & Veatch Co.'s oil and gas business line

**PAT MCCOWN**, CE'74, of Kansas City, Mo., CEO of McCownGordon Construction LLC

**RANNEY MCDONOUGH**, CE'66, of Dunwoody, Ga., president of McDonough Engineering

**STEPHEN H. MCVEIGH**, CE'72, of Houston, an independent oil and gas consultant

**MICHAEL J. PERRY**, CE'80, of St. Louis, president of HBD Construction Inc.

**AMY STRAUSS**, CE'90, MS CE'91, of Springfield, Mo., senior engineer in power generation for City Utilities of Springfield

**PAUL WOJCIECHOWSKI**, CE'83, of Wildwood, Mo., senior associate and St. Louis office manager for Alta Planning + Design

### ACADEMY OF COMPUTER SCIENCE

**PAM LEITTERMAN**, AMth'75, of Sunnyvale, Calif., retired from Hewlett-Packard

**SUSAN ROTHSCHILD**, CSci'74, of St. Louis, a CPA with John T. Straub

### ACADEMY OF ELECTRICAL AND COMPUTER ENGINEERING

**BARRY D. FREINER**, EE'85, of St. Louis, president of Rogers-Schmidt Engineering Co.

**STEPHEN R. NELSON**, EE'77, of Gunter, Texas, vice president of IC Design for REMEC Defense and Space

**STEVEN PFLANTZ**, EE'87, of St. Louis, association and I&C/electrical engineer for CRB Consulting Engineers Inc.

**DAVID C. WANG**, EE'77, of Langley, Wash., president of Boeing China

**KORY G. MATHEWS**, EE'84, of Ballwin, Mo., vice president and program manager for Boeing Defense, Space and Security and vice president and program manager of the Phantom Works division

### ACADEMY OF ENGINEERING MANAGEMENT

**WENDELL L. "BUDDY" BARNES**, EMgt'73, of The Woodlands, Texas, client services manager for MWH Americas in the municipal wastewater division in Southeast Texas

**BILL DAUGHTON** of Colorado Springs, Colo., former professor and chair of engineering management and former special assistant to the provost for eLearning at Missouri S&T

**DAN HINKLE**, EMgt'73, of Sugar Land, Texas, owner of a contract-lobbying firm that represents clients before the Texas legislature and regulatory agencies

### ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS

**EDWARD H. GERDING**, ME'84, of St. Charles, Mo., director of engineering for the global services and support division of Boeing

**CHARLES P. KETTERER**, ME'89, of St. Charles, Mo., vice president of information technology and supply chain for Emerson Hermetic Motors

### ACADEMY OF MINER ATHLETICS

**ROBERT T. BERRY**, CE'72, of St. Louis, retired vice president and general manager of Burns & McDonnell's St. Louis office, football team

**JOHN BORTHWICK**, PetE'86, of Clinton, Mo., project manager for Shaw Environmental, cross country and track teams

**DICK BOYETT**, CE'58, of Fort Smith, Ark., a retired civil engineer in the coal production industry, football team

**DIANE BUTRUS**, CSci'85, of St. Louis, chief operating officer of Diba Imports, softball team

**TERRY BUZBEE**, EMgt'77, of Marshalltown, Iowa, president of Fisher Controls International, basketball team

**DAVID CADOFF**, ChE'96, Gainesville, Va., director of partner solutions for pureIntegration, swimming team

**KENNETH CAGE**, ME'63, MS NucE'66, of Bumpass, Va., an attorney with McDermott, Will and Emory, football team

**DONALD J. DOWLING JR.**, ChE'51, of Sun City, Ariz., retired product manager for Buckeye Cellulose and retired chemical and production engineer for Proctor and Gamble, football team

**GENE EDWARDS**, CE'53, of Paducah, Ky., retired CEO of Kit-Mo Rental and Supply, football and track and field teams

**CECILIA ELMORE**, EMgt'86, of Rolla, Mo., director of student diversity, outreach and women's programs at Missouri S&T, basketball and softball teams

**CURT ELMORE**, GeoE'86, of Rolla, Mo., professor of geological sciences and engineering at Missouri S&T, cross country and track and field teams

**LLOYD FLOWERS**, CE'88, of Marietta, Ga., senior project manager with McCarthy Building Companies, football and track and field teams

**JOHN FRERKING**, CE'87, of Columbia, Mo., business

development manager at Engineering Surveys and Services, football team

**JOHN GIBSON**, EMgt'74, of Tulsa, Okla., chair, president and CEO of ONEOK Partners, basketball team

**KEVIN GRIESEMER**, EMgt'83, of St. Louis, principal of G&W Engineering Corp., football team

**MORRIS E. HERVEY JR.**, MinE'81, of St. Louis, co-founder and president of TSI Engineering Inc., football team

**TONY KACZMAREK**, LSci'87, of Rolla, Mo., a physician at Central Missouri Urology Clinic, football team

**JEFFREY KIPP**, ME'81, of Denver, co-owner and vice president of operations for Conception to Reality Inc., basketball team

**J. GARY MCALPIN**, CE'73, of Plantation, Fla., director of coastal zone management for Collier County, Florida, football and wrestling teams

**DONALD MCGOVERN**, ME'58, of Lake Saint Louis, Mo., retired vice president and general manager of McDonnell Douglas' Joint Advanced Strike Technology Program, football team

**STEVE MCVEIGH**, CE'72, of Spring, Texas, a consultant with Celerant Consulting, football team

**JAMES MURPHY**, ME'56, of Stamford, Conn., president of Murphy & Murphy Realtors and Moorings Apartments Inc., football team. Mr. Murphy died Aug. 3, 2012

**ZEBULUN NASH**, ChE'72, of Houston, retired plant manager of ExxonMobil Chemical Co.'s Baytown Chemical Plant, wrestling team

**THOMAS OWENS**, CE'68, MS EMgt'71, of Easton, Pa., retired vice president of operations for Crayola Corp., football team

**ERIC POTTS**, CE'73, of Houston, a retired U.S. Army colonel now working as deputy director of the Houston Airport System, football, baseball, basketball, and track and field teams

**PERRIN ROLLER**, GeoE'80, of Spring, Texas, a principal at Upstream Forensics, football and wrestling teams

**RONALD ROSNER**, AE'89, of Lake Ozark, Mo., director of environment, health and safety for Haas Group International, cross country and track and field teams

**PAUL STRICKER**, LSci'82, of San Diego, a sports medicine physician with Youth Sports Awareness Enterprise, swimming team

**ROYCE VESSELL**, CerE'76, of St. Louis, president and owner of VMPC Resources, basketball and golf teams

**CHARLES "PETE" WEITZEL**, ME'55, of Ballwin, Mo., president of Weitzel Construction Co., football and track and field teams

**NEWTON WELLS**, ME'59, of College Station, Texas, retired general manager of Dover Corp., football team

**BILLY KEY** of Rolla, Mo., retired director of athletics, basketball coach and professor emeritus of physical education at Missouri S&T, honorary member

**MARK MULLIN** of Rolla, Mo., director of athletics and former swimming coach at Missouri S&T, ex-officio member

### ACADEMY OF MINES AND METALLURGY

**CHARLES D. CROESSMANN**, NucE'81, of Edgewood, N.M., senior manager at Sandia National Laboratories

**PHILLIP D. FERGUSON**, NucE'88, MS NucE'93, PhD NucE'95, of Knoxville, Tenn., neutron source group leader and neutronics team leader at Oak Ridge National Laboratories

**RICKY L. MARTIN**, MetE'82, MS MetE'84, of St. Charles, Mo., enterprise manager of Metallic Material and Process at Boeing

**PHILIP D. MCPHERSON**, CerE'83, of Yorktown, Ind., senior vice president and general manager at Saint-Gobain ■





## 'THE SKY IS NOT THE LIMIT,' MAGNUS SAYS

In her May 2012 commencement speech, former NASA astronaut **Sandra Magnus**, Phys'86, MS EE'90, told graduates to believe in themselves and use their problem-solving skills.

"Big hairy problems do not overwhelm you nor paralyze you with fear — you have already conquered a bunch," said Magnus, who flew aboard the final shuttle mission in July 2011.

Magnus, now executive director of the American Institute of Aeronautics and Astronautics, said she knew she wanted to be an astronaut when she was in college, but she also said that it is never too late to keep asking yourself what you want to be when you grow up.

"The sky is not the limit," she said. "Trust me." ■



## CARNEY RECEIVES CHANCELLOR MEDAL

Former S&T Chancellor **John F. Carney III** received the Chancellor Medal during commencement ceremonies in May. The medal is awarded to individuals who have contributed to the well-being, growth and development of the university. ■

## S&T AWARDS PROFESSIONAL DEGREES

Four Missouri S&T alumni received honorary professional degrees during Spring Commencement. The degrees recognize these graduates for professional achievement:

- **C. John Brannon**, Phys'85, CerE'85, Psyc'86, MS CerE'86, PhD CerE'89, a patent attorney with Brannon, Robinson, Sowers, Hughel and Doss in Indianapolis
- **John Fairbanks**, EE'71, owner of Tosshers Vending in Lincoln, Calif. Fairbanks is one of S&T's 28 Alumni of Influence
- **Fred Byron Parks**, ME'69, chief executive officer for NDS Surgical Imaging in Tucson, Ariz.
- **Robert M. Saxer**, CE'61, MS CE'62, an active alumni association volunteer and a civil engineer who retired from the international chemical engineering firm AMCEC.

## INVESTING IN THE FUTURE

*People who give charitably do so because they are passionate about their cause. They believe in investing in the future. At Missouri S&T, that generosity — and your passion for S&T — is what keeps the university thriving for our students.*

You — our alumni — believe in higher education. You believe in opportunity. You believe in the value of an S&T education. And you believe in the importance of science, technology, engineering and math to the future of our nation. You know Missouri S&T is a good investment and your generosity is shaping our future. During fiscal year 2012, you helped raise \$10.6 million for your alma mater.

For many years, Missouri S&T has enjoyed a stronger alumni participation rate than the national average. Miners get great jobs, and they appreciate the advantages their education provided. Our alumni participation rate is a clear illustration of the loyalty and pride of a Rolla Miner. During fiscal year 2011–12, 17.1 percent of our alumni made gifts to Missouri S&T. Last year the national average at public colleges and universities was 9.4 percent.

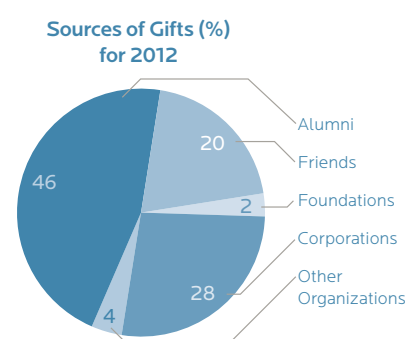
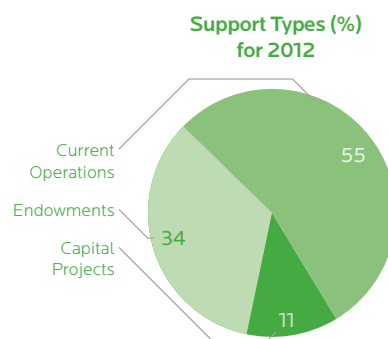
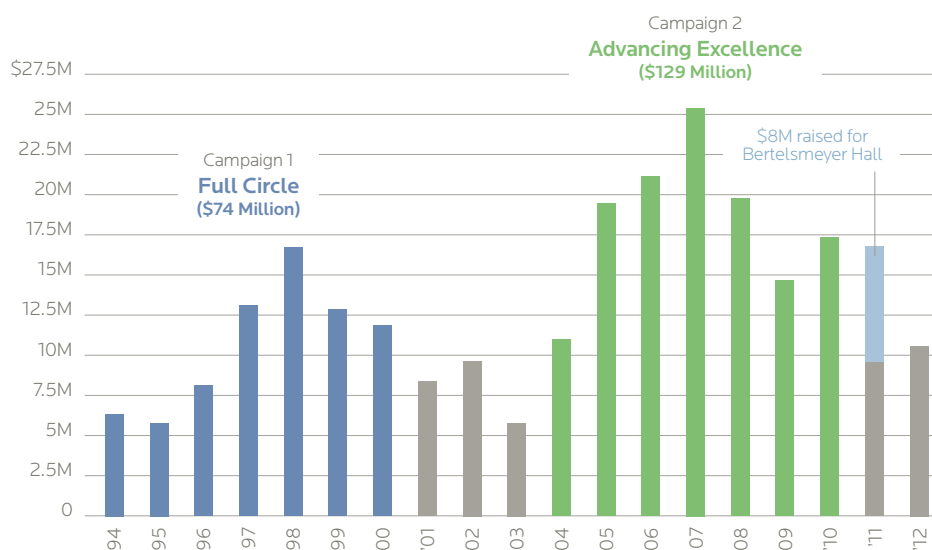
As alumni, you are critical to our future success, which is why we have some changes planned to strengthen your Rolla connection. We want to make sure all of our donors know how much we appreciate them and that their money is being put to good use, regardless of the size of their gift. Every donor now gets a personalized thank-you note and we created an annual report on giving for our donors that will debut next month. We have also improved and expanded the annual stewardship reports we send to all endowment donors.

The Miner Alumni Association has developed a new strategic plan that focuses on building relationships with our younger alumni. We want to be relevant to Miners of all ages.

We are also working to improve the ways we connect with you in today's

### Fundraising by Fiscal Year

As the graph below illustrates, charitable giving increased during Missouri S&T's two comprehensive fundraising campaigns, but also increased during non-campaign years. In addition to the \$128.7 million in charitable gifts contributed to the university's most recent campaign, S&T also received \$83.1 million in grants and contracts, for a total of \$211.8 million in external support from 2004 to 2010.



mobile society. We are reaching out to you more frequently and in different ways through monthly email updates that provide news and information of interest to you. We want to hear what you think about our alumni and fundraising efforts. And of course, we welcome your input.

Call or email **Joan Nesbitt**, vice chancellor for university advancement, at nesbittj@mst.edu or 573-578-7808, or **Darlene Ramsay**, executive director of alumni relations and advancement services, at ramsayd@mst.edu or 573-341-4584. ■





## GOLDEN MINERS RETURN

1. The Miner Alumni Association hosted 43 members of the Class of 1962 for this year's Golden Alumni Reunion. With their guests, more than 80 people attended the celebration held May 21 and 22. Members and guests strolled around campus, visited the Kummer Student Design Center, toured their departments and heard Chancellor **Cheryl B. Schrader** discuss today's campus. In a special recognition ceremony, Schrader and past Miner Alumni Association President **Darlene Ramsay**, MetE'84, presented class members with their 50-year pins and certificates.
2. During Monday night's banquet, Elvis Presley and Marilyn Monroe tribute artists entertained class members. Pictured during the dinner, far left, are **D. Eugene Morgan**, CE'62, and **Karl L. Brown**, MetE'62.
3. Also during the event, the Miner Alumni Association presented **Gary Havener**, Math'62, with the Robert V. Wolf Alumni Service Award, in honor of his bold leadership in transforming the university through his dedication and loyal support.
4. **Gary Trippensee**, ME'62, and his wife, **Concha**, are pictured with "Elvis" and "Marilyn."



## SAVE THE DATE: OGS ANNUAL WEEKEND

Join your fellow Order of the Golden Shillelagh members April 19–21, 2013, in Rolla. For more information regarding the OGS Annual Weekend, please contact Megan Ace at 573-341-6359 or [acem@mst.edu](mailto:acem@mst.edu).

## PLAN NOW FOR THE 105TH BEST EVER

Alumni and friends are invited to the St. Pat's pre-parade party from 8:30–11 a.m. Saturday, March 16, in the Leach Theatre lobby of Castleman Hall, 10th and Main streets. Join us for hot cinnamon rolls and beverages.

Immediately following the St. Pat's parade, come back to Castleman Hall for pizzas and \$1 beer while they last.

Make plans to travel to Rolla for St. Pat's or attend one of the section events in your area and help make the 105th celebration the Best Ever. Event information will be available at [alumni.mst.edu/events/stpats.html](http://alumni.mst.edu/events/stpats.html).

## STAT CELEBRATES NEW SCHOOL YEAR

Students Today, Alumni Tomorrow (STAT), the alumni student organization, hosted a barbecue during its first meeting of the year on Aug. 29. More than 75 students came for free grilled hot dogs and hamburgers, and information about STAT.

## SPORTS BY THE NUMBERS

Individual athletes winning conference championships during the 2011–12 season.

9

17

GLVC Council of Presidents Academic Excellence Award winners.

148

S&T student-athletes who earned all-academic awards from the Great Lakes Valley Conference, Great Lakes Football Conference or New South Intercollegiate Swimming Conference during the 2011–12 academic year.

Academic all-district athletes during the 2011–12 academic year.

13

6

Athletes who earned Capital One Academic All-America honors during the 2011–12 academic year, tying the highest one-year total in school history.

12

Sacrifice flies hit by baseball player **Andy Hall** — more than any other NCAA Division II player in 2012.

64

All-conference athletes during the 2011–12 athletic season.



NIKIA CHAPMAN:

# QUEEN OF *SPEED*



**Stats:** sophomore in geological engineering from Columbia, Mo.

**Member of:** Spelunking Club and Human-Powered Vehicle Team.

**Claim to fame:** Led the Human-Powered Vehicle team to a first-place win in ASME's Human-Powered Vehicle Competition in Tooele, Utah, by winning first place in the women's drag race and riding the four required "female laps" of the endurance race.

**Why HPV:** "I was asked to join because they were looking for a girl rider and I agreed because it sounded like fun. I like the competitive aspect of the race. I've never been on a sports team so this is the first time I've ever been in something this competitive. It's also a good way to challenge myself on a physical level."

**Battle scars:** "In a competition in Pennsylvania, I took a few spills in the endurance race. One happened when another team's bike ran into me. The crashes resulted in multiple large holes in my jersey and leggings. The EMT had to cut my Under Armour shirt sleeve off because my arm had swelled up so large. I have a fairly large scar. It stopped me from completing the number of laps required by a female rider, but a girl from one of our competitors — Rose-Hulman — completed the laps for me."

**Good luck charm:** Chapman competes wearing red Elmo socks.

**Goals for the year:** "I am team secretary. I want to be more involved with the team both in and out of the shop. I will also be shadowing team president **Dashiell Moore** (a senior in engineering management) in hopes of taking his place next year." ■

Female rider Nikia Chapman helped lead the Human-Powered Vehicle Team to victory ... in Elmo socks. (Photo by Bob Phelan)

# A MODERN mentor



*Chancellor Cheryl B. Schrader  
leads the way for a new generation.*







**Cheryl B. Schrader** believes in the power of storytelling. And not just because she loves a good tale.

Over the past 10 years, Schrader, an electrical engineer specializing in systems and control, has become more interested in the different learning styles of students. Her research in this area has focused on how women and minorities learn, and she has found that a good story can help these students become more confident in their own abilities. That greater self-confidence in turn could motivate more of them to graduate and move on to successful lives beyond college.

These days, Schrader is especially interested in sharing the untold stories of women and minorities who have become successful in the so-called STEM fields of science, technology, engineering and mathematics.

"Everybody knows the story of Alexander Graham Bell and the invention of the telephone," Schrader says. But similar stories about women inventors are less familiar. "In some academic circles, the impact of women in technological development is becoming clearer," she says. Beyond the walls of academia, however, "those stories aren't well-known. They're not woven into the fabric of our culture."

Schrader hopes to "bring the contributions of women in engineering and science to light, and to have those contributions become a part of the common knowledge of history." Ultimately, she would like to create an inspiring first-person monologue theatrical performance that could be presented at colleges and universities across the country.

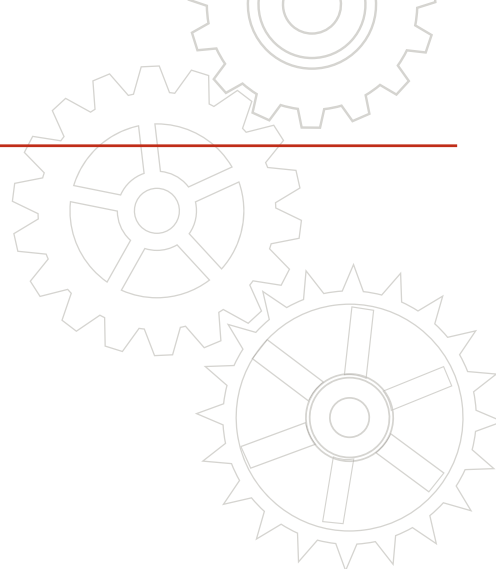
Schrader's own story, from her days as an undergraduate student, might fit well into that monologue.

#### RESEARCH INTERESTS:

- Increasing interest in STEM (science, technology, engineering and mathematics) education
- Creating and assessing innovative learning methods to help students of all ages succeed in the STEM areas
- Exploring the power of storytelling "to bring the contributions of women and underrepresented groups in engineering and science to light"

"ROLE MODELS,  
OR THE LACK THEREOF,  
CAN HAVE A BIG IMPACT."

—Chancellor Schrader



## EDUCATION:

- Bachelor of science, electrical engineering, Valparaiso University (1984)
- Master of science, electrical engineering, University of Notre Dame (1987)
- Ph.D., electrical engineering, emphasis area: systems and control, University of Notre Dame (1991)

## ACADEMIC CAREER:

- Rice University:
  - assistant professor (1991)
- University of Texas at San Antonio:
  - assistant professor of electrical engineering (1991-96)
  - associate professor of electrical engineering (1996-2002)
  - professor of electrical and computer engineering (2002-03)
  - associate dean for graduate studies and research, College of Sciences and College of Engineering (2000-03)
- Boise State University:
  - dean, College of Engineering (2003-11)
  - associate vice president for strategic research initiatives (2011-12)
- Missouri S&T:
  - chancellor (2012-present)

## ACT 1, SCENE 1

It begins one day during her junior year at Valparaiso University in Indiana. Schrader had just finished an exam. Leaving the classroom, she and a classmate discussed the test. "Our answers didn't agree," she recalls, and their conflicting perspectives concerned her.

"I was not confident in my answers," she says, "so I assumed I had failed the exam."

Many college students can relate to that sickening sensation — that knot in the gut that foreshadows impending failure. But the sensation overwhelmed Schrader.

"I was distraught," she says. "I was sure I had just ruined my opportunities to become an engineer."

That night, she phoned her mother to discuss the situation and her fear of failure. Her mother suggested she meet with her professor to talk it over. So she did.

That meeting altered the trajectory of Schrader's academic career.

The professor, Demosthenes Gelopoulos, reassured Schrader that she had passed the test. "It turned out I did very well on the exam," she says.

When the conversation turned to Schrader's career plans, "He said that I reminded him of himself when he was younger, and he asked me if I had ever considered becoming a professor. I was shocked," she says. "I had never thought about that."

When Schrader was in college, there were no female professors on Valparaiso's engineering faculty. "I hadn't seen or met any women in that role," Schrader says, "so it never occurred to me that I could pursue that career path."

That discussion not only opened a new path for Schrader, it also "opened my eyes to just how important it is for faculty to express interest in their students' career development. It's essential."

That's a lesson Schrader has taken to heart. Throughout her academic career, she has tried to be a role model for students who are not well represented in the STEM disciplines, including underrepresented minorities and women.

"Being a role model is very important," she says. "Role models, or the lack thereof, can have a big impact."

Some of Schrader's former students think she has made a great impact on their lives. So much so, in fact, that they nominated her for the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring. The former students worked together from far-flung corners of the country to prepare a proposal to recognize Schrader's influence. In 2005, she attended the awards ceremony at the White House, where President George W. Bush recognized Schrader for her "enduring, strong and personal commitment to underrepresented engineering students and faculty."







On the wall outside her Parker Hall office hangs a mural depicting chancellors, deans and directors from 1871 to 1973. The mural was painted by the late John W. “Jack” Koenig, former S&T technical editor, in 1974.

## A NEW STAGE

In April, when Schrader became chancellor of Missouri S&T, she assumed the most visible and significant role model position of her career. As one of only a few female engineers in the nation to lead a university, Schrader is keenly aware that she has stepped onto a new stage.

“When you’re different — such as when you’re a person who is underrepresented in your field — you will be remembered,” she says. “Since I know I will be remembered, I strive to be remembered for positive things.”

There’s no doubt about Schrader’s confidence these days. And she has left a positive impression on those she has worked with in the past.

Robert W. Kustra, president of Boise State University — where Schrader served as dean of engineering and associate vice president for strategic research initiatives prior to joining S&T — calls Schrader “the clear choice to take Missouri University of Science and Technology to the next level.” Her noteworthy accomplishments at Boise State included building “an outstanding team of faculty and staff who are lifting Boise State to national prominence” and “establishing connections and collaborations with community, government and industry partners,” Kustra says.

## AWARDS AND HONORS:

- **Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring from the White House (2005)**
- **IEEE Education Society Hewlett-Packard/Harriett P. Rigas Award (2008)**
- **Idaho Women Making History Award (2005)**
- **WebCT Exemplary Online Course Award (2003)**
- **Named to Valparaiso University’s Top 150 Most Influential People (2009)**
- **Alumni Achievement Award, Valparaiso University (2011)**



## PROFESSIONAL SERVICE:

- Member, American Society for Engineering Education; Society of Women Engineers; Tau Beta Pi; Alpha Lambda Delta; Institute for Electrical and Electronics Engineers
- Member, ABET Engineering Accreditation Commission
- Former president, IEEE Control Systems Society, with more than 10,000 members worldwide (2002-04)
- Textbook co-editor, *Advances in Statistical Control, Algebraic Systems Theory, and Dynamic Systems Characteristics* (2008)

Don P. Giddens, dean and professor emeritus at Georgia Tech, worked with Schrader when they both served on the American Society for Engineering Education Deans Council. He says Schrader's work with ASEE has been instrumental in "helping change the conversation nationally about engineering."

Schrader's interest in serving as a mentor to underrepresented students began during her 12-year tenure at the University of Texas at San Antonio, which enrolls many Hispanic students. When she joined Boise State University in 2003 as dean of engineering, she continued to reach out to college students as well as high schoolers, younger students and adults. She wants to reach students of all ages — "from K through gray," as she puts it.

During the past 10 years, the importance of mentoring has become a key component of her research to develop new approaches to teaching STEM students and guiding them toward graduation.

## INCREASED EXPECTATIONS, DWINDLING RESOURCES

Schrader becomes chancellor of Missouri S&T amidst challenging economic times. State funding for public higher education has eroded in recent years, but the pressure on colleges and universities to remain affordable is greater than ever. Schrader describes this situation as "the new normal of increased expectations amid dwindling resources."

Despite these challenges, Schrader is optimistic about S&T's position in the higher education landscape.

"The global competitiveness, economic vitality and quality of life in this state and nation clearly depend upon institutions like Missouri S&T to step forward as leaders,"

she says. "In doing so, S&T not only has a tremendous legacy upon which to build, but it also has the potential and momentum to become truly world class."

Schrader sees four major challenges facing S&T — and all of public higher education — in this "new normal":

- An increased interest in accessibility from the public, state government, alumni, corporate partners and other groups. "There is a need to keep college affordable and accessible," she says. Missouri S&T's return on investment, in terms of starting salaries for graduates and other measures, helps position the university well in relation to

"OUR STUDENTS NEED TO  
BE PREPARED TO ENTER A  
GLOBAL WORK FORCE."

—Chancellor Schrader



other institutions nationally. Schrader likes to share the fact that when it comes to starting salaries for new graduates, Missouri S&T ranks second among all public universities in the nation.

- Globalization and diversity.

"Working across boundaries, cultures and ethnicities is becoming more and more important in today's global culture," Schrader says. "Our students need to be prepared to enter this global work force."

- Economic development and the changing role of the research university.

"A university is no longer just an intellectual silo," Schrader says. "It's a social, intellectual and economic development hub." She expects a university's role in economic development to grow, especially as companies look to universities like S&T to conduct R&D work that companies once performed in-house.

- The "game-changer" of cyber infrastructure. "The teaching mission of the university is no longer place-bound," Schrader says. With the advent of online courses, "there's an expectation that we should increase our reach" beyond the traditional residential campus, and "an expectation to use technology in ways that improve learning." Schrader has direct experience with distance education. In 2003, while at the University of Texas at San Antonio, she and colleague Johnny Flores received WebCT's Exemplary Online Course Award for teaching abstract concepts online.

## "PLAY TO YOUR STRENGTHS"

In the midst of these disruptive economic and societal forces buffeting campuses across the nation, how can Missouri S&T reach that world-class potential Schrader envisions? It boils down to focus and differentiation.

"It's important to determine not only what you're going to focus on, but also what you're going to stop doing," she says. "You have the opportunity to play to your strengths.

"You have to be focused and very strategic in your thinking," she says. "It's more important than ever to have a shared strategic plan that is at the center of all you do."



### FAMILY:

Married to Jeff Schrader, an attorney and former chief legal counsel for the Idaho State Board of Education. The Schraders have two children: Andrew, who is studying mechanical engineering at Valparaiso University, and Ella, who is in kindergarten. The Schraders also have a dog named Sydney.

### HOBBIES:

Traveling, hiking, gardening, sports ("I think we're becoming some of the Miners' biggest fans," she says), cultural activities such as theater and musical performances, reading.



Last June, Schrader and other campus leaders met with Missouri Gov. Jay Nixon and his top education and economic advisors.

#### CONNECT ON TWITTER:

Chancellor Schrader recently joined the Twitter community as a way to communicate with constituents. Follow her on Twitter: @SandTChancellor

#### SEE MORE ONLINE:

To watch a video about Chancellor Schrader discussing mentorship and women in STEM fields, visit [magazine.mst.edu/video](http://magazine.mst.edu/video).

So Schrader is working across campus, and with UM System officials, to develop that road map for the next five to 10 years. During the first few months as chancellor, her focus has been on "listening, observing and communicating."

"Every organization has a sense of place," she says, "and I need to fully understand Missouri S&T to be its best leader, ambassador and advocate. I want to hear what the various stakeholders envision for the future."

She has wasted no time meeting with S&T students, faculty and staff. She has also met with several alumni groups on campus and on the road. Last April, Schrader met with members of the S&T Board of Trustees, Order of the Golden Shillelagh, Miner Alumni Association and various departmental academies. In May, she met more alumni during a swing through Texas, then met with local governmental and community leaders, as well as military leaders from nearby Fort Leonard Wood. In June, she hosted Missouri Gov. Jay Nixon and his top education and economic development advisors to talk about S&T's value to the state. She also hosted U.S. Rep. Jo Ann Emerson, whose 8th congressional district includes Rolla, to discuss national STEM education issues, and traveled to Washington, D.C., to meet the Missouri congressional delegation and other national leaders. This fall, she connected with more alumni during Homecoming and other recent events, including section events in Denver and California's Bay Area.

"Our graduates have an uncommon loyalty, passion and commitment to this institution," she says. "It's because this institution helped our graduates fulfill their dreams. Our graduates and students best exemplify what this institution is."

Alumni and their success are key players in the continuing story of this university. It's a story that Schrader is more than happy to tell.





# Need for a House hits Home for Miners

story by Lance Feyh (lfeyh@mst.edu)



It's called a house. But the vision for the Hasselmann Alumni House is to provide a comfortable place for S&T graduates — more than 52,000 of them — when they come “home” to Rolla.

There won't be any beds. This isn't a hotel or a bed and breakfast. But there will be plenty of room for alumni to gather, whether they're back in Rolla to reconnect with old classmates, celebrate St. Pat's and Homecoming, or conduct the business of the Miner Alumni Association.

Today's economic climate makes it more challenging to fund such large projects. Yet Missouri S&T grads have stepped forward to help support an alumni house. Such houses are “commonplace” at universities, says **Bill Brune**, CSci'73, who serves on the Miner Alumni Association's Board of Directors.

Construction on the 12,000-square-foot Hasselmann Alumni House will begin when fundraising is complete. At press time, S&T had raised 45 percent of

the estimated \$3.85 million construction cost. The project received a recent boost when Missouri S&T Chancellor **Cheryl B. Schrader** designated a \$500,000 estate gift from the late **Beverly Koeppel**, EE'38, to be used as a challenge grant to attract additional funding for the alumni house. (See the story on page 28 for more about this challenge.)

Alumni have made gifts in support of the project to honor loved ones, fellow alumni, mentors — even rival fraternities.

*(continued on page 27)*



# The Hasselmann Legacy

The seed money for the alumni house was provided by the estate of **Karl Hasselmann**. You've seen his name. But who was this man?

When he came to Rolla as the university's first Karl F. Hasselmann Chair in 2001, **J. David Rogers** was curious to find out more about the man responsible for his title. So Rogers, a geological engineering expert, conducted some research on Hasselmann's life. Some things were easy to uncover. Hasselmann played football and ran track at MSM. He was awarded a professional degree in 1945 and an honorary doctorate in 1966. He was also a past president of the Miner Alumni Association. But it was information about Hasselmann's career that Rogers found especially interesting. Here are some of the things Rogers discovered:

- Hasselmann was one of the first people to successfully drill for oil in the Gulf of Mexico.
- As president of Salt Dome Production Co. in Houston, Hasselmann was noted for his work in the development of a gravitational method for shallow-sea oil exploration.
- Decades ago, Hasselmann created an endowment, which accrued interest for 24 years, until sufficient funds were available to establish the chair in geological engineering that Rogers now holds
- In addition to establishing the Karl F. Hasselmann Chair in Geological Engineering at what is now Missouri S&T, Hasselmann and his



wife, **Marjory**, established chairs at Rice University and at the Mayo Clinic.

Hasselmann died in 1976, but his legacy lives on. The Hasselmann estate continues to grow, and some of that money — as well as income from mineral rights Hasselmann left to the university — served as a lead donation for the alumni house.

## The Porcelain Project

During a discussion about naming opportunities at a director's meeting of the alumni association, the topic of restrooms and fixtures came up. There were objections because, well, it didn't seem proper. But **Chris Ramsay**, MetE'83, MS MetE'85, thought it was a funny idea to dedicate urinals to various people. "A group of Pikes purchased a urinal in honor of our friends at Tau Kappa Epsilon, and our friends at TKE have committed to purchase one in honor of the Alpha Kappa chapter of Pi Kappa Alpha. Everybody had a big laugh," Ramsay says. "And this silliness raised an additional \$10,000 for the Hasselmann House."





Not too long after **Dick Bauer**, ChE'51, passed away in 2010, his wife, Shirley, decided to make a gift in her husband's honor to fund the bar in the Hasselmann Alumni House. During Homecoming celebrations and reunions, Dick always liked to gather at a bar — or sometimes tend it — in order to swap stories with old friends. Now the Bauer Bar will provide that gathering spot in the Hasselmann Alumni House for generations of friends to gather, enjoy a drink and share memories.

Chris Ramsay, MetE'83, MS MetE'85, thinks the Bauer Bar is a great idea. "I can hear Dick Bauer saying to us all, 'Let's go to the bar for a hooter,' or (former alumni association president) **Bob Wolf** (ME'51, MS ME'52, who passed away in 1999) saying we should stop by for a 'short snort,'" Ramsay says. "I miss those guys. So when the Hasselmann House is finished, we will all go there to have one in honor of Dick, and one in honor of Bob."



(continued from page 25)

So far, donors have contributed to personalize rooms, tables, bar stools, outdoor areas, and, for fun, even urinals (see page 26).

**John O. Farmer III**, PetE'63, made a significant gift to name the lounge in honor of his father, **John O. Farmer**, MinE'33, who was friends with **Karl Hasselmann**, MinE'25. (Read more about Hasselmann on facing page). The elder Farmer started an oil and gas production company based in Russell, Kan., in 1946. His son has been president since 1989. Now, thanks to John O. Farmer III's gift, the John O. Farmer Alumni Lounge will stand as a testament to his father's longtime friendship with Hasselmann.

"The alumni house will be a great gathering place. Every significant school has one," says Farmer III. "I wanted to make a gift in memory of my father and Karl Hasselmann."

The Hasselmann Alumni House will be located at the corner of Pine and 11th streets in Rolla, on the eastern edge of the campus. "It will reflect our alumni and their achievements, recognizing our philosophy of giving back to the university," says Brune.

Brune lives in Houston and comes back to Rolla about twice a year. "The opportunities and accomplishments of our faculty and students are beyond anything we would have imagined 40 years ago," he says.

Like Brune, **Art Giesler**, ME'77, comes back to this neck of the woods two or three times a year. Giesler, who is also active with the alumni association, says the location of the alumni house is perfect for those who return for the annual St. Pat's celebration and the parade, which, of course, is held on Pine Street.

In addition to St. Pat's activities, the Hasselmann Alumni House will be home to reunions, banquets, lectures and, appropriately, Homecoming events.

**Daniel Jackson**, ChE'90, who lives in San Diego, is another member of the alumni association's board of directors. "This will be a gateway to campus for all returning alumni," Jackson says. "With the Hasselmann House, anyone on campus will be able to point you to the alumni office."



# Challenge fund provides 1 ~ to ~ 2 match for donors



## At a glance

- Address: 1100 N. Pine St.
- Architectural style: Modern traditional
- Exterior building materials: brick facade
- Onsite parking will accommodate easy access
- Close proximity to campus
- Location will be the ideal viewing spot for St. Pat's parades
- The Grand Hall will offer a formal setting for banquets, distinguished lectures, reunions and large receptions
- The spectacular Paul T. Dowling Hall of Honor will recognize alumni and friends for their generosity
- Architectural firm: Cunningham and Associates, Columbia, Mo.

Thanks to a generous gift from the estate of the late **Beverly Koeppel**, EE'38, alumni donations to the Hasselmann Alumni House can now be even more valuable. Missouri S&T Chancellor **Cheryl B. Schrader** recently designated the \$500,000 unrestricted bequest to be used as a challenge grant to attract additional contributions for the alumni house. The Koeppel Challenge will provide \$1 of matching money for every \$2 an alum gives to the Hasselmann Alumni House for gifts of \$25,000 and above.

This means that donors interested in making gifts to the project may now claim naming opportunities for one-third less money. For example, a gift of \$200,000, matched by \$100,000 from the Koeppel estate, would fully fund the Hasselmann Alumni House courtyard.

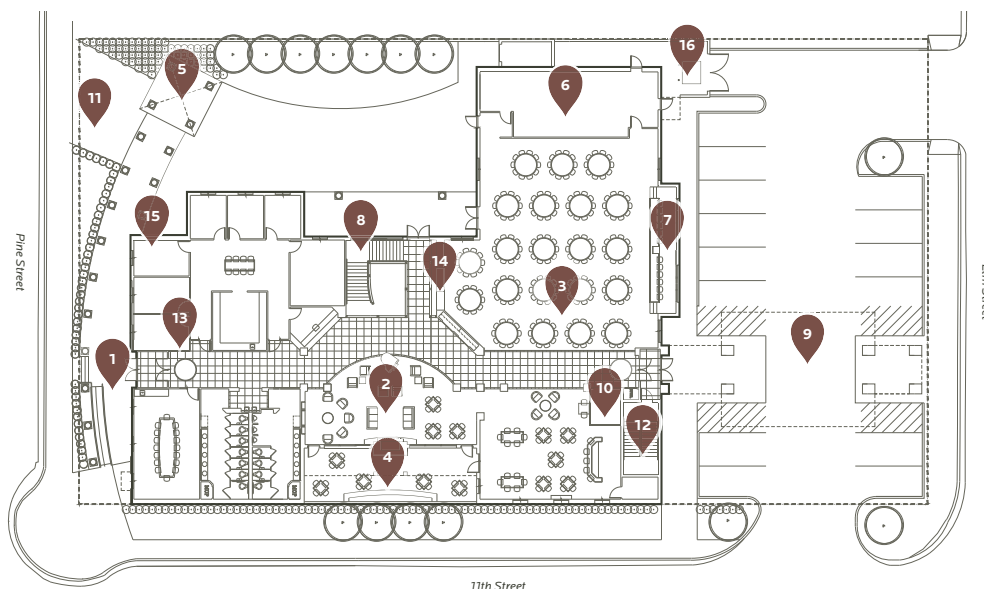
When completed, the Koeppel Challenge will bring the alumni association \$1.5 million closer to the goal of completing the Hasselmann Alumni House.

"Missouri S&T and the Miner Alumni Association are partners in ensuring that S&T remains vibrant and relevant well into the future, and the Hasselmann Alumni House will play a pivotal role in that future success," says Schrader. "This matching fund represents not only the pride we have in our alumni and their legacy but also the importance placed on engaging our alumni in shaping S&T's future."

To find out how to take advantage of this matching gift fund, contact **Darlene Ramsay**, MetE'84, of the Miner Alumni Association at 573-341-4584.



## Remaining naming opportunities



Remaining naming opportunities	Original gift amount	Gift amount with match
1. St. Pat's Veranda.....	\$500,000	\$333,333
2. Great Room.....	\$500,000	\$333,333
3. Grand Hall (half) .....	\$375,000	\$250,000
4. Courtyard.....	\$300,000	\$200,000
5. Gazebo.....	\$250,000	\$166,667
6. Kitchen .....	\$200,000	\$133,333
7. Head Table in Grand Hall.....	\$150,000	\$100,000
8. Grand Staircase .....	\$150,000	\$100,000
9. Porte-cochere .....	\$100,000	\$66,667
10. Elevator .....	\$100,000	\$66,667
11. Exterior Plaza .....	\$75,000	\$50,000
12. Staircase, SE .....	\$50,000	\$33,333
13. STAT Office .....	\$50,000	\$33,333
14. Archive Case (3).....	\$50,000	\$33,333
15. Office (2).....	\$50,000	\$33,333
16. Recycling Center.....	\$25,000	\$16,667

*With thanks to those donors who have already given*

### *Alumni Lounge*

- John O. Farmer III  
(named in honor of John O. Farmer)

### *Bar*

- Shirley Bauer (named in honor of Dick Bauer)

### *Bar Stools*

- John and Marie Eash
- David Grimm
- Bill and Ann Horst
- Riley and Helene Hardy Pierce
- Chris and Darlene Ramsay
- Dottye Wolf (named in honor of Robert Wolf)
- Joan and James Woodard

### *Board Room*

- Roller Family

### *Director's Office*

- Susan and Sandy Rothschild

### *Garden*

- Fred and June Kummer

### *Grand Hall (half)*

- Pete Kinyon

### *Hall of Honor*

- Michael W. Bytnar
- Robert H. Harper  
(joint gift named in honor of Paul T. Dowling)

### *Historic Emblems*

- Ron Tappmeyer
- Art Giesler

### *Office Hub*

- Bayless Family

### *Offices*

- Robert Brackbill  
(named in honor of Cay Brackbill)
- Billy Gerhart
- William and June Patterson

### *Parking Space*

- Rich Eimer

### *Restroom Facilities*

- Pi Kappa Alpha
- Tau Kappa Epsilon

### *Welcome Center*

- Berry Family

## 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, lamps, watches, pendants, Joe Miner credit card, license plates for Missouri residents and the official Missouri S&T ring.

## POLICY FOR SUBMISSIONS

- We are happy to announce weddings, births, promotions, and other happy occasions after they have occurred
- We will mention a spouse's name if it is specifically mentioned in the information provided by the alumnus/alumna
- We will print addresses if specifically requested to do so by the alumnus/alumna submitting the note
- We reserve the right to edit alumni notes to meet space requirements
- We 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.



## MINER ALUMNI ASSOCIATION

Representing more than 50,000 alumni worldwide



For more information about your representatives, go to [alumni.mst.edu/groups/boardofdirectors](http://alumni.mst.edu/groups/boardofdirectors).

#### PRESIDENT

JOHN F. EASH '79  
johnneash@miner.mst.edu

#### PRESIDENT-ELECT

RICHARD W. EIMER JR. '71  
cocoabean77@comcast.net

#### VICE PRESIDENTS

ERNEST K. BANKS '81  
ernie.banks@bjc.org

DELORES HINKLE '75  
djhinkle@marathonoil.com

HELENE HARDY PIERCE '83  
hpierce@gaf.com

RONALD W. JAGLES '86  
ronjagles@gmail.com

STEPHEN W. RECTOR '72  
swr@rimop.com

ROBERT J. SCANLON '73  
rjscanlon@comcast.net

#### TREASURER

JERRY R. BAYLESS '59  
jerryb@mst.edu

#### ASSISTANT TREASURER

RICHARD L. ELGIN '74  
elgin@rollanet.org

#### SECRETARY

W. KEITH WEDGE '70  
keith.wedge@advancia.com

#### ASSISTANT SECRETARY

CHRIS RAMSAY '83  
cramsay@mst.edu

#### DIRECTORS-AT-LARGE

BILL BRUNE '75  
tallbill@bruneweb.com

PRESTON CARNEY '02  
pcarney@cox.net

KURT HASLAG '07  
khaslag@askbrinkmann.com

DARRIN TALLEY '88  
darrin.l.talley@exxonmobil.com

MIKE MCEVILLY '80  
michaeljmcevilly@comcast.net

JON C. SCHNEIDER '87  
jon.c.schneider@boeing.com

#### AREA DIRECTORS

Area 1: DOUGLAS MARQUART '82  
dwmarquart@yahoo.com

Area 2: CHRISTOPHER MAYBERRY '98  
cmmayberry@yahoo.com

Area 3: BRIAN TENHOLDER '97  
bten1189@carolina.rr.com

Area 4: JOHN KEATING '73  
jmkeating@aol.com

Area 5: DAWN STUFFT '99  
dmstufft@marathonpetroleum.com

Area 6: ART GIESLER '77  
art.giesler@att.net

Area 7: BERNARD HELD '75  
bhheld@cmtengr.com

Area 8: TOM FEGER '69  
tfeger@hanson-inc.com

Area 9: NATHAN RUES '02  
nrues@hotmail.com

Areas 10-18: MICHAEL BUSBY '78  
mbusby@mcsworldwide.com

Areas 10-18: ALAN ERICKSON '75  
alerickson@gmail.com

Areas 10-18: RHONDA GALASKE '79  
rhondagalaske43@gmail.com

Areas 10-18: RUSSELL GOLDAMMER '78  
russell\_goldammer@ctsinc.biz

Areas 10-18: POLLY HENDREN '73  
phendren@oceanside-tower.com

Areas 10-18: JEREMIAH KING '06  
jeremiah.king@askbrinkmann.com

Areas 10-18: CHRIS RAMSAY '83  
cramsay@mst.edu

Areas 10-18: STEPHEN SQUIBB '98  
steveandamie@gmail.com

Areas 10-18: BRECK WASHAM '90  
bwasham@burnsmcd.com

Area 19: DANIEL BAILEY '03  
daniel.jaye.bailey@gmail.com

Area 20: GREGORY SKANNAL '85  
gskannal@mindspring.com

Area 21: DANIEL JACKSON '90  
djack1003@cox.net

Area 22: DAVID BUFALO '66  
djbufalo@msn.com

Area 23: DENNIS LEITTERMAN '76  
dennis\_leitterman@yahoo.com

Area 24: M. THERESA WILLIAMS '98  
theresa.williams@pxd.com

#### STUDENT REPRESENTATIVES

Student Council President:

RYAN BECK  
rdb4hd@mst.edu

Graduate Student President:

MOHAMMAD ALKAZIMI  
cgs@mst.edu

Student Union Board President:

IAN LEE  
ial7c9@mst.edu

#### COMMITTEE CHAIRS

Student Engagement

ERNEST K. BANKS '81  
ernie.banks@bjc.org

Alumni Engagement  
HELENE HARDY PIERCE '83  
hpierce@gaf.com

Strengthen Campus Relations

MICHAEL MCEVILLY '80  
michaeljmcevilly@comcast.net

Finance

STEPHEN W. RECTOR '72  
swr@rimop.com

Marketing and Communications

JON C. SCHNEIDER '87  
jon.c.schneider@boeing.com

#### PAST PRESIDENTS

ARTHUR G. BAEBLER '55  
ivybaeb@att.net

ROBERT D. BAY '49  
rdbay673@yahoo.com

ROBERT T. BERRY '72  
rberrytwin@aol.com

JAMES E. BERTELSMEYER '66  
pinnacleinvestmentsllc@gmail.com

ROBERT M. BRACKBILL '42  
rbrackbill@hotmail.com

MATTEO A. COCO '66  
cocohm@sbcglobal.net

LARRY L. HENDREN '73  
lhendren@ess-inc.com

ZEBULUN NASH '72  
zebnash@sbcglobal.net

JAMES R. PATTERSON '54  
jrpat@charter.net

DARLENE (MELOY) RAMSAY '84  
ramsayd@mst.edu

PERRIN R. ROLLER '80  
roller@miner.mst.edu

SUSAN HADLEY ROTHSCCHILD '74  
srothsch@swbell.net

GERALD L. STEVENSON '59  
stevenson63@verizon.net

JOHN B. TOOMEY '49  
starrmgmt@aol.com

#### STAFF

KATIE MACHOVSKY  
Manager of External Relations

laymank@mst.edu

GILLIAN MASTERS  
Administrative Assistant

mastersgd@mst.edu

DARLENE (MELOY) RAMSAY '84  
Executive Director of Alumni Relations

and Advancement Services  
ramsayd@mst.edu

RENEE D. STONE  
Accountant

renees@mst.edu

NANCY ZAMAZANUK  
Manager of Internal Relations

nancyz@mst.edu

## UPCOMING EVENT: HOUSTON SECTION

Every year, nearly 30 alumni in the Houston area come together for the section's annual holiday party. This year the party will be held on Saturday, Dec. 1, at the home of **Phil '70** and **Arni Ilavia**. Join your fellow Miners for a night of fellowship, holiday carols and delectable foods. To attend, the cost is a \$25 minimum donation, and the proceeds are given to S&T's petroleum engineering program. Houston grads: Don't miss out on the opportunity to share in the holiday spirit with alumni in your area.



## UPCOMING SECTION EVENTS

### Bay Area

*Third Annual Cocktails and Appetizers*  
4–6 p.m. **Friday, Jan. 25, 2013**  
Arya Global Cuisine  
19930 Stevens Creek Blvd.  
Cupertino, Calif.  
408-996-9606

### Houston

*Holiday Party*  
6 p.m. **Saturday, Dec. 1**  
Cost: \$25 per person (minimum) donation for the S&T petroleum engineering program  
The home of Phil '70 and Arni Ilavia  
2301 Maconda Lane  
Houston  
713-552-9322  
*Happy Hour*  
**Thursday, Jan. 31, 2013**  
Time TBD  
Porch Swing Pub  
69 Heights Blvd.  
Houston

### Indianapolis

*Holiday Party*  
6:30 p.m. **Thursday, Dec. 6**  
Buca di Peppo—Downtown  
35 N. Illinois St.  
Indianapolis  
317-632-2822

### Mid-South

*Holiday Party*  
**Friday, Nov. 30**  
Time and location TBD

### New Orleans

*Mardi Gras Event*  
*Krewe of Thoth Parade Party*  
11:30 a.m. **Sunday, Feb. 10, 2013**  
Parade begins at noon  
Meet at the home of Sean O'Donnell '04 and Leah Bahr '07  
816 A State St.  
New Orleans

### Society of Mining, Metallurgy and Exploration

*Annual Meeting and Exhibit Reception*  
5:30 p.m. **Tuesday, Feb. 26, 2013**  
Location TBD

### Rocky Mountain

*Brewery Tour*  
**Saturday, Jan. 19, 2013**  
Time TBD  
Fort Collins Brewery  
1020 E. Lincoln Ave.  
Fort Collins, Colo.

### St. Louis

*Holiday Party*  
**Tuesday, Dec. 18**  
Time TBD  
Mattingly's Sports Bar and Grill  
8108 N. Lindbergh  
Florissant, Mo.

## St. Pat's section events

### Austin-San Antonio

5 p.m. **Friday, March 15, 2013**  
Central Market  
4001 N. Lamar Blvd.  
Austin, Texas  
512-206-1000

### Bay Area

**Saturday, March 16, 2013**  
Time and location TBD

### Carolinas Piedmont

**Saturday, March 16, 2013**  
Time and location TBD

### Dallas-Fort Worth

2–7 p.m. **Saturday, March 2, 2013**  
Willhoites Restaurant  
432 S. Main St.  
Grapevine, Texas  
817-481-7511

### Driftless

**Saturday, March 9, 2013**  
Time and location TBD

### Enchanted

5:30 p.m. **Saturday, March 23, 2013**  
Chama River Brewery  
4939 Pan American Freeway  
Albuquerque, N.M.  
505-342-1800

### Flint Hills

5 p.m. **Thursday, March 7, 2013**  
Tailgators  
2025 Southwest Irish Road  
Topeka, Kan.  
785-272-1432

### Houston

6–9 p.m. **Saturday, March 16, 2013**  
Stag's Head Pub  
2128 Portsmouth St.  
Houston  
713-533-1199

### Indianapolis

6–9 p.m. **Friday, March 8, 2013**  
Claddagh Irish Pub—Northside  
3835 E. 96th St.  
Indianapolis  
317-569-3663

### Lincolnland

**Sunday, March 17, 2013**  
Time and location TBD

### Mid-Missouri

**Friday, March 22, 2013**  
5 p.m. *Happy Hour*, 6 p.m. *Dinner*  
Munichburg Tavern  
418 W. Elm St.  
Jefferson City, Mo.  
573-761-4046

### Mid-South

**Friday, March 22, 2013**  
Time and location TBD

### Motor City

Noon–2 p.m. **Saturday, March 16, 2013**  
Location TBD

### NE-IA

6 p.m. **Friday, March 8, 2013**  
Lucky Bucket Brewery  
11941 Centennial Road, Suite 1  
La Vista, Neb.  
402-763-8868

Dinner following brewery tour:  
Pizza Gourmet Co.  
12040 Southport Parkway  
Omaha, Neb.

### New Orleans

6 p.m. **Thursday, March 21, 2013**  
The Irish House  
1432 Saint Charles Ave.  
New Orleans

### Oklahoma

6 p.m. **Thursday, March 7, 2013**

Kilkenny's Irish Pub  
1413 E. 15th St.  
Tulsa, Okla.

### Pacific Northwest

6 p.m. **Thursday, March 14, 2013**  
Redmond's Bar and Grill  
7979 Leary Way NE  
Redmond, Wash.  
425-558-9800

### Peoria

5 p.m. **Tuesday, March 12, 2013**  
Kelleher's Irish Pub and Eatery  
619 SW Water St.  
Peoria, Ill.  
309-673-6000

### Phoenix

6 p.m. **Thursday, March 14, 2013**  
Rúla Búla  
Tempe Irish Pub and Restaurant  
401 S. Mill Ave.  
Tempe, Ariz.  
480-929-9500

### Portland

**Friday, March 15, 2013**  
6 p.m. *Happy Hour*, 7 p.m. *Dinner*  
Hopworks Urban Brewery  
3947 N. Williams Ave.  
Portland, Ore.  
503-287-6258

### Rocky Mountain

**Saturday, March 9, 2013**  
Time TBA  
White Fence Farm  
6263 W. Jewel Ave.  
Lakewood, Colo.  
303-935-5945

**Saturday, March 16, 2013**  
Time TBA

Denver St. Pat's Parade

### Springfield

**Saturday, March 9, 2013**  
Time and location TBD

### St. Louis

6 p.m. **Wednesday, March 6, 2013**  
Hotshots Sports Bar and Grill  
1636 Country Club Plaza Drive  
St. Charles, Mo.  
636-947-8833  
**Noon Saturday, March 23, 2013**  
Bruno's American Grill  
2652 Hampton Ave.  
St. Louis

## SECTION WRAP UP: ST. LOUIS GOLF TOURNAMENT

On Saturday, June 23, the St. Louis Section gathered for its annual Scholarship Golf Tournament. Here, 110 golfers came together, played a round of golf, reminisced with fellow Miner alumni and dined on pork steak. Watch for next year's announcement and a chance to compete.

### First-place winners (\$75 gift certificate):

*A Flight*

**Steve Brunts '78**  
**Gregg Carlson '77**  
**Calvin Curdt '74**  
**Doug Workman '71**

*B Flight*

**Anthony Mayer '11**  
**Scott Puzach**  
**Michael Scarey '07**  
**Eric Theiss '07**

### Second-place winners (\$50 gift certificate):

*A Flight*

**Bob Buechel '73**  
**Roger Kramer '73**  
**Randy Lang '73**  
**Rod LeGrand '74**

*B Flight*

**Ken Busch '72**  
**Lee Hahnel '98**  
**Larry Probst '71**  
**Jason Welker '97**

### Closest to Pin (\$50 gift certificate):

**Joe Feldmann '83**  
**Steve Kadyk '99**  
**Jeanne Klein**  
**Rod LeGrand '74**

### Longest Drive (\$50 gift certificate):

Women: **Denise Hale '00**  
Men: **Chris Hooley**



For photos from this event and other section events visit [mineralumni.com/photos](http://mineralumni.com/photos)

## 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? Just click on the link at [mineralumni.com](http://mineralumni.com) and register online to see a list of other attendees in the online community. The attendee list is also available by clicking on the events tab.

# STEVEN FREY: LOCKED IN ON S&T

*A true champion of S&T, Steven Frey, MS Phys'86, is director of applied research for Lockheed Martin Corp. in Orlando, Fla. He has been with the company since he finished graduate school.*

**Über advocate:** Frey took it upon himself to recruit S&T students to Lockheed Martin on his own dime, using vacation time. “I feel strongly about recruiting from S&T — I know the school’s value and the caliber of its students. Lockheed Martin needs the engineers S&T produces. I come to campus a couple of times a year to give talks at the career center and do informal recruiting. I get the resumes of really qualified students into the hands of the right people. And our intern program is a win-win for us — not only do the students gain skills that will give them a head start on their careers, their fresh ideas help us gain innovative perspectives that could help us penetrate additional markets.”

He’s also started several research projects with S&T professors to “mine some great technology they are working on to get it out of the lab and into industry.”

**Something extra:** “My master’s degree really differentiated me from others looking for jobs when I graduated. And I was only able to afford grad school because of a teaching assistant position, which I assume was paid for by a donor. I figured I ought to be willing to do the same for someone else.” Frey is a member of Order of the Golden Shillelagh donor recognition society and has given to the physics development fund.

**The next generation:** Frey and his wife, Michelle, have two children. Lydia, 20, a junior at S&T studying chemical engineering, and Grant, 16, who recently attended S&T’s Jackling Summer Camp. Grant likes to stay with his sister on campus while his parents attend OGS events.

**Yes, S&T is cool:** Frey and his son recently encountered members of the Formula SAE car team from the University of Florida. “I mentioned that Lydia goes to S&T and they said they have the greatest car there, the design is unbelievable, it’s got a really cool green and gold paint job. One guy just went on and on about it. It was pretty gratifying to hear, especially considering the millions that some of the big universities spend on their cars. Grant and I both felt some pride in that.”



Steven Frey, second from left, stands with S&T interns (from left) Scott Replogle, a senior in aerospace engineering, Laura Siskin, Phys'12, and Brennt Courtney, a senior in mechanical engineering. (Photo courtesy of Lockheed Martin)

**“LOCKHEED MARTIN NEEDS THE ENGINEERS  
S&T PRODUCES.”**

— Steven Frey, MS Phys'86



► SPOTLESS!

Carl Mathews of Rolla, Mo., showed off his 1937 Chevrolet during the 2012 Homecoming Cruise-In. (Photo by Terry Barner)







Miner Alumni Association  
1200 N. Pine St.  
Rolla, MO 65409-0650

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

**A MODERN MENTOR**

FALL/WINTER 2012 VOL. 86 NO. 3  
**MAGAZINE.MST.EDU**

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

A top-down view of a cluttered workbench with various tools including a hammer, pliers, a saw, a drill, a level, a tape measure, a hard hat, and a caution tape. In the center, a wooden board displays the number "4103" formed by tools: a square for the "4", a level for the "1", a roll of yellow tape for the "0", a tape measure for the "3", and a chain of metal links for the "3".

## HARD HATS AREN'T REQUIRED – JUST YOUR PRESENCE.

Join us as we break ground on Bertelsmeyer Hall, the 68,500-square-foot chemical and biochemical engineering building, at 1:15 p.m. April 18, 2013, on the northwest corner of State and 11th streets.

The Missouri S&T family extends our deepest gratitude to **Jim Bertelsmeyer**, ChE'66, **Bipin Doshi**, ChE'62, and more than 50 other alumni whose generosity turned the dream of a new chemical and biochemical engineering building into a reality.