

MISSOURI
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MAGAZINE

SUMMER 2011 | VOL. 85 NO. 2

Homecoming 2011
pages 24-27

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

Reveler in chief

Chancellor Carney
leaves the S&T campus
at its best ever

MISSOURI S&T MAGAZINE

GOOD LUCK, JACK

SUMMER 2011 | Vol. 85 No. 2





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Miner Alumni Association Mission and Goals

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.

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Stay connected

Visit *Missouri S&T Magazine* online at magazine.mst.edu for more interactive features. And stay connected to your alma mater through these online resources:

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The Online Community:
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Campus news:
news.mst.edu

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Good Luck, Jack



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From the editor



Marianne Ward
Alumni Editor

"We want another Jack," succinctly summarizes the wish list handed to the search firm leading efforts to find the next Missouri S&T chancellor.

"We want a strong leader, who is honest, forward-looking, inspiring, competent, smart, and has a sense of humor," shared audience members. "We want another Jack."

At age 63 — when many folks contemplate retirement — John F. Carney III arrived in Rolla to serve as chancellor. Already a successful researcher, faculty member and administrator, Carney took "Rawler" by storm. His long list of accomplishments (see pages 6-12) will ensure a prominent place in the campus history, but for those who worked with him, he'll be remembered for his quick wit, great sense of humor and his storytelling. One of my personal favorites involves his first Homecoming. Undaunted by the newly named king's protests and attempts to dodge wearing a sash, Carney persevered in slipping it on, and then stepped back to survey his work: In gold letters the sash proclaimed "Homecoming Queen." (The next year he was handed the right sash.)

We'll miss his Boston accent, his rooting for the Red Sox, but most importantly, we will miss our friend — the best ever.

140 things

To celebrate the 140th anniversary of the first classes held at Missouri S&T (Director Charles P. Williams called the first class to order on Nov. 6, 1871), the Fall 2011 issue of *Missouri S&T Magazine* will feature the "140 things we love about S&T." Thanks for all the responses to our request for submissions.

To further mark this special occasion, a publication featuring S&T's most influential alumni will debut in December. The piece will show the world how this university has integrated education and research to create and convey knowledge to solve problems for our state and the technological world.

The first three graduates from 1874 — John W. Pack, John H. Gill and Gustavus A. Duncan — would be proud to know today's graduates carry on their proud tradition of influence and excellence.

MISSOURI S&T MAGAZINE

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MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY CHANCELLOR JOHN F. CARNEY III

MINER ALUMNI ASSOCIATION PRESIDENT SUSAN HADLEY ROTHSCCHILD, '74

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LETTERS TO THE EDITOR

I really enjoyed your piece on the eating clubs in the latest magazine.

I was a member in the late '60s. I don't recall the name of it, but I remember eating at the Shamrock across from the Uptown Theater during summer session when most of the clubs were closed for the season.

Did you, during your research, determine why the clubs do not exist today? Seems to me, the last time I was in Rolla the clubs were no longer where they were and I assumed that they were a thing of the past. Follow up piece?

Thanks for the memories.

— **Lyle Hill ME'73**
Rhineland, Mo.

As an alumnus of the MSM Shamrock Club, I enjoyed the magazine story on eating clubs. The \$1-per-day dues probably sounds like a lot of club dues, but as clarification for the younger generation, the dues included three meals a day, except for Sunday when we were on our own for the evening meal, and Saturday evening the cooks were off and we had self-service lunch meat. We always had great food, thanks to our hard-working student business managers and cooks who treated us like a bunch of adopted sons.

— **Roger Hoffman, EE'62**
Springfield, Mo.

I am writing to tell you that I enjoyed the article "The way they ate" by Mindy Limback in the Spring 2011 issue.

Since I was one of the original directors for the Tech Club, it brought back memories of hauling groceries from the warehouse on South Elm Street, the hours spent cleaning up the used commercial stove we found, the hunt we had for a good cook, the many good meals we had, etc. In all, it was a very successful operation that kept a number of young men well fed. I thank you for running the story.

— **R.E. Schwab, CE'50**
Marshfield, Mo.

I enjoyed the Spring 2011 Missouri S&T Magazine that was in my mail this morning. I would like to add to "The Highs and Lows of Adventure Clubs"

with respect to Rolla's climbers. Here is a photo of a shirt with the MSM Climbing Club logo (circa 1974) on the



*front — we retained our MSM heritage after the school's transition to UMR. In addition to climbing the local rock crags (Little Piney River, etc.), we took winter expeditions to LaPlata and Crestone Needle, both more than 14,000 feet high in Colorado. One of our advisors, Prof. **Jim Maxwell** in geology, was quite an inspiration for all of us. Jim made the first ascent of Yerupaja (21,769 feet) in Peru as part of the 1950 Harvard Andean Expedition. It was the highest unclimbed peak in the Western Hemisphere. I forget many of the names from the mid-1970s, but some of our most active members were **Greg Frank, GGph'77, Matt Strausser, and Peter T. Price, GGph'77.***

— **Jim Martin, AE'75**
Alexandria, Va.

I read with interest your article on eating clubs off campus. I belonged to one of those mentioned in your article for a year, The Engineer's Club.

I now am retired just down the road from Rolla in Lebanon, and have taken many trips down memory lane, driving and walking around campus, on my way to and from St. Louis visiting relatives. I've attempted to locate the old Engineer's Eating Club, but I believe it is no longer in existence. I believe I've located the house where it was, however.

Are any of these eating clubs still in existence? If not, approximately what year and event put them out of business? They were invaluable to those of us who lived off campus as independents and couldn't boil water.

— **Jerome (Jerry) Denzel, ChE'63**
Lebanon, Mo.

I enjoyed your recent article on eating clubs. In 1962 I rented a room from a Mrs. Tucker off the west side of campus behind a fraternity house (I have long since forgotten which one). This property is now on campus, but back then was on an alley between North Bishop and North State streets. I paid Mrs. Tucker \$27 a month for the room.

I joined the '49ers eating club in the basement of the old Firestone store on 7th Street. The monthly cost worked out to be \$30 or so.

The next year I joined the Prospectors Club, which was a longer walk (it was east of Pine Street), but the food was better. My favorite meal was Saturday evening. No hot food, just cold cuts and trimmings for build-your-own sandwiches. On Sundays there was only one meal (from noon to 2 p.m., as I recall). It was always fried chicken.

Going to college was great in those days. I could earn enough in the summer to pay my expenses, but there was never enough for unnecessary expenses like a snack in the student union or a cold soda when you wanted one. Not much of a sacrifice, just took a little discipline.

I want to thank you for your article, it really brought back memories. Those were indeed "the good old days." I tried to explain this to my kids as they grew up, but quickly realized you can't. Unless you were there, you cannot appreciate how it was. Everyone was pretty much in the same boat money wise, so we found ways to entertain ourselves on the cheap when we found the time. Homework and classes made sure there was not too much free time, anyway.

Thanks again for bringing up memories of those great days.

— **Bill Woods, EE'67**
San Antonio, Texas

Editor's note:

We received several notes in response to the article titled "The way they ate" in the Spring 2011 issue. Unfortunately, eating clubs are no longer in existence at Missouri S&T. Research indicates that the Campus Club and the Tech-Engine Club were the last two eating clubs on campus and they ceased operations in the early 1990s.



photos by Bob Phelan

Charles A. Wentz Jr.: You can call him Chef Al

Charles A. “Al” Wentz Jr., ChE’57, MS ChE’59, grew up in Edwardsville, Ill. During his career in the oil industry and then as a textbook author, professor and environmentalist for the EPA and OSHA, he lived and worked all over the world, but returned to Edwardsville to retire. Today, Wentz runs a healthcare company that operates a Lebanon, Ill., nursing home. He holds a Ph.D. from Northwestern and an MBA from SIU Edwardsville. In his role as “Chef Al,” Wentz hosts a dozen charitable gourmet dinners and barbecues at his home every year and has published three cookbooks of recipes he perfected during his travels.

Passions: Education, scholarships, Pi Kappa Alpha and cooking.

Wentz on education: “I decided through high school and college days that I was going to get as much education as I could. Education has always been a major goal for my family. It enhances your career opportunities.”

Wentz on scholarships: “It started with a scholarship to honor several members of a group of guys I went to high school with in Edwardsville. There were 15 of us. We were really close. After that, I worked through a local foundation to establish a scholarship with more of an engineering focus. One thing led to another and I kept establishing more and more scholarships to ‘give back,’ both in Edwardsville and at Missouri S&T. Now I give \$40,000 a year to various organizations for scholarships through a number of endowments.”

Wentz on Pi Kappa Alpha: “I was president of the chapter and I took a great deal of pride in it when I was at Rolla, so I had a personal interest in seeing it prosper. When the chapter house burned to the ground in 1999, I got more involved with the chapter. Seeing the house rebuilt from ashes and watching it grow and prosper to the point it is now has been a tremendous source of pride for all the alumni, not just me. Everyone is really proud. Working with the active members, watching them graduate and go into successful careers is a wonderful thing. That’s the best part — seeing something worthwhile develop with the individuals.”

Wentz on cooking: “I’ve enjoyed cooking since I was in grade school. But I decided that chemical engineering was a career thing to do and cooking was a hobby. Having taken numerous chemistry courses at Rolla, I look on the kitchen as a chemical laboratory. When I retired in 2002, I earned a culinary arts certificate from a local college under a famous chef. It helped me understand why things work the way they do in food preparation. I decided to start calling myself Chef Al and it’s caught on pretty well. French and Italian cuisine and slow-smoked barbecue are my favorite things to prepare.”

“Having taken
numerous chemistry
courses at Rolla,
I look on the
kitchen as a
chemical laboratory.”

— Al Wentz



Say What?

"I like doing the same activity as the boys do. **Most people would never see a woman jack-legging.**"

— Mining engineering senior **Catherine Walker**, a member of the S&T women's mucking team, quoted in a March 2 story in the *The New York Times* about the annual mucking competition. The S&T women won this year's championship for the fifth time since 2004.

"Revolutions can sometimes be contagious. The take-home lesson from history is that you always have no idea how it's going to turn out, and that's kind of the scary part. You have no idea where the forces are going to go once they're unleashed."

— **John McManus**, associate professor of history and political science, discussing the political unrest in the Middle East in a Feb. 3 article on Discovery News.

"I think it's a concern. **But from my standpoint, it's not something to lose sleep over.**"

— **Gary Mueller**, associate professor of nuclear engineering, in a *St. Louis Post-Dispatch* article about the safety of area nuclear plants in light of problems resulting from the March earthquake and tsunami in Japan.

"I would not be at this university, in this major, **if not for FIRST Robotics.**"

— **Miriah Anderson**, a senior in mechanical engineering, in a *Kansas City Star* article about the FIRST Robotics program.

"Computing will be so pervasive, **you won't even know there is a computer.**"

— **Bruce McMillin**, professor of computer science, in a March 14 story on Fox News about the digital home of the future.

by the numbers

1,472

Women on campus in fall 2010 — all-time high, breaking the record of 1,468 set in 1982.

2

Days Missouri S&T closed campus because of wintry weather during the spring 2011 semester.

152

Employers at the Spring 2011 Career Fair. That's 24 more than 2010.

1,725

Miles traveled by Weber Metals to attend the Spring 2011 Career Fair. The California-based company traveled the farthest of any employer at the fair.

411

Recruiters at the Spring 2011 Career Fair.

27

Fortune 500 employers at the Spring 2011 Career Fair.

76

Missouri employers at the Spring 2011 Career Fair.

Good Luck, Jack



Carney leaves the campus at its **BEST EVER**

by Andrew Careaga, acareaga@mst.edu

For the past six years, a civil engineer of Irish descent from Massachusetts has celebrated St. Pat's in proper Rolla style. "St. Pat's," he says, "is always my favorite celebration of the year. It's also the time of year when I'm pleased to reveal my full name: John Francis Patrick Carney the Third."

But it's more than his Irish heritage, engineering background and the St. Pat's party atmosphere that makes Missouri S&T Chancellor **John F. Carney III** feel at home during the campus's most celebrated tradition. It's also the crowd that St. Pat's draws to campus. With hundreds of alumni returning every March, Carney gets plenty of opportunities to connect with alumni. That, he says, is one of the most important — and enjoyable — parts of the job.

Since 2005, Carney has met and welcomed hundreds of alumni back to campus during St. Pat's, Homecoming, class reunions and other occasions. He's also traveled around the

country to meet alumni — at section meetings, road games and various special events. When the chancellor retires from his position in August, he'll travel back to his native Massachusetts to spend more time with his two daughters and four grandchildren. No doubt he'll catch a Red Sox game or two and perhaps attend a St. Patrick's Day parade in Boston, which also has a reputation for throwing a pretty good St. Pat's party.

While celebrations like St. Pat's remind us of S&T's heritage, leaders like Carney remind us that progress and change, even for 140-year-old institutions, are crucial for survival. The university he leaves behind has changed, visibly and fundamentally, from the campus it was when he first arrived. Thanks to Carney, the university has a new look, a new academic structure and a new name. In many ways, the condition of Missouri S&T is the best ever.



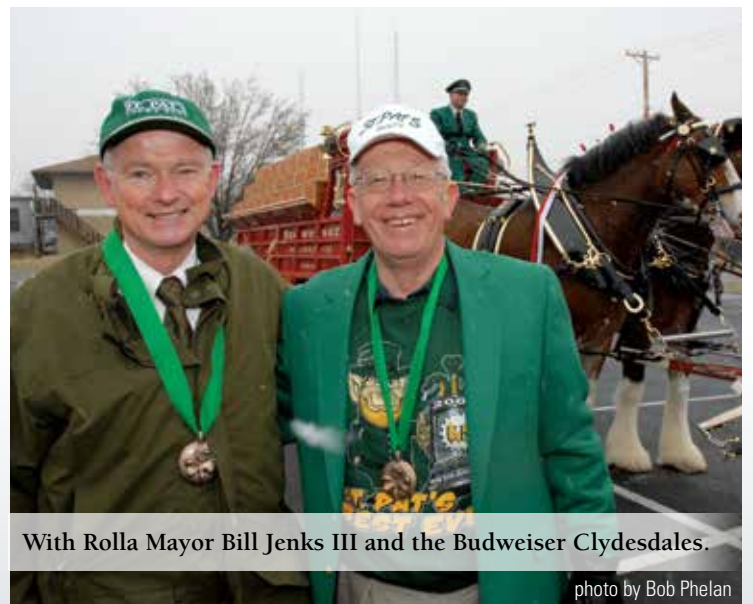
Jack Carney with 2011 St. Pat Caleb Marting and his court.

photo by B.A. Rupert



Gathering with alumni during last March's Best Ever.

photo by B.A. Rupert



With Rolla Mayor Bill Jenks III and the Budweiser Clydesdales.

photo by Bob Phelan



More than a change agent

When Carney first arrived in Rolla — or “Rawler,” as it sounds in his Boston accent — the university was on an upward trajectory. Enrollment was growing steadily, new academic programs were attracting a more diverse student body, and research funding and donor support was up. Much of this was due to the work of Carney’s predecessor, the late **Gary Thomas**, who served as chancellor from 2000 to 2005.

Under Carney, the university continued that momentum, achieving record fundraising and near-record enrollments. Early in his tenure, though, the chancellor saw some potential roadblocks that could hinder future growth. In his view, the way the campus was organized stifled collaboration. On top of that, the university wasn’t getting the recognition Carney thought it deserved.

Future historians may define Carney’s legacy at S&T in terms of how he addressed those two issues. At least one contemporary historian sees one of those issues as the defining characteristic of the Carney years.

“The one thing he did that might be most lasting is the name change, because the recognition of the university outside of Missouri is clearly higher now,” says **Larry Gragg**, chair and Curators’ Teaching Professor of history and political science. Gragg also chaired the selection committee that recommended Carney for the chancellor’s position.

Despite this legacy, the students, alumni, faculty and others who worked most closely with Carney see him as more than a change agent. Known for his sense of humor, quick wit, and passion for sports (especially the Boston Red Sox) and his family, he’s also been described as an excellent communicator and problem-solver, a confident catalyst, a hospitable and “genuinely good person,” a caring but business-minded leader, and an inspiration to those dealing with personal adversity.

He’s seen as someone who strengthened the university’s connection with alumni — even while pressing forward with decisions that weren’t always popular.

“From the alumni association’s perspective, we have never had a better relationship with the university than we have right now, and in large part it’s because of Jack Carney,” says **Perrin R. Roller**, GeoE’80, who served as president of the Miner Alumni Association from 2008-10. “He recognizes the value of a close tie with the alumni association and all the good that brings, both to the school and to the alumni association.”

Younger alumni who were students during Carney’s tenure also see him as a strong advocate for students.

“Chancellor Carney legitimately cared about students,” says **Beth (Groenke) Morrey**, IDE’09, who served as president of the S&T Student Council during her senior year and is now a dental

student at the University of Missouri-Kansas City. During her presidency, Morrey sponsored a resolution that expressed support for a new student fee to help fund a fitness center on campus. “The day I came in with the news that Student Council had passed the motion unanimously, you could see the excitement in Chancellor Carney’s eyes because of what a new fitness center would mean for the students and for the university as a whole.”

Another former Student Council president, **Lauren Huchingson**, IST’07, describes Carney’s approach as both businesslike and compassionate.

“In the end, Missouri S&T is a business that needs to thrive financially so it can continue to improve and focus on the overall student experience,” says Huchingson, who now works for Accenture as a management consultant for corporate strategy. “My personal experiences with Chancellor Carney formed the image of a man who was objective and willing to make the tough decisions while still able to remain compassionate.”

photo by Charlotte Divincen



Always willing to laugh at himself, Carney gets schooled in elocution by S&T English Chair Kristine Swenson.

“The one thing he did that might be most lasting is the name change, because the recognition of the university outside of Missouri is clearly higher now.”



— **Larry Gragg**
chair and Curators’ Teaching Professor
of history and political science



At the podium: Carney presides over commencement.

photo by B.A. Rupert



Delivering one of his State of the University addresses.

photo by Bob Phelan

Making a name

Carney's 45-year academic career began in 1966, when he joined the University of Connecticut's civil engineering faculty. He later held faculty and administrative positions at Auburn, Vanderbilt and Worcester Polytechnic Institute before coming to S&T. Along the way, he built a reputation as an international expert in traffic safety research.

Reputation, or the lack of it, was one reason Carney pushed to change the university's name from the University of Missouri-Rolla to one that more accurately described its true nature.

"Being a civil engineer, I'd long had an appreciation for the quality of the institution," Carney says. But soon after arriving on campus, he discovered that his appreciation wasn't widely shared.

"What was confirmed early on," he says, "was that we hadn't made a concerted effort to promote the university nationally and internationally. It didn't take me long to get irritated by the lack of recognition, even in the state."

The name change, which took effect in 2008, has helped to remedy that situation.

A reluctant change agent

"I didn't walk in the door thinking I was going to close the schools and change the name of the university," Carney says. But he knew coming in to the job that the university faced some serious budget issues. "During interviews, we had to tell the candidates about how much we were in the red," Gragg says. Carney "attacked that and made some cuts."

Faced with the need to reduce \$1 million from the university's budget, Carney saw an opportunity to not only meet that requirement — by eliminating the campus's three schools and College of Arts and Sciences — but also to streamline the administration while maintaining academic programs. The move

also broke down barriers between academic units. Although that change was "far less visible" than the name change, Morrey says, it nevertheless had a significant impact on students. "Throughout the process," she says, "Dr. Carney was consistently asking what concerns students had with the new structure and what problems we could foresee to try to make the transition as simple as possible."

A year later, at the encouragement of the university's Board of Trustees, Carney introduced the possibility of a name change. Through forums, conversations, electronic surveys and this magazine, Carney presented his case for the name change to various groups — students, faculty, staff, alumni, Rolla community leaders and others.

"It was difficult," he says. "A lot of individuals were upset." But once the decision to change the name was made, "it was important to stay the course. In my mind, I knew it was the right thing to do, but I wasn't positive that it would happen."

Roller acknowledges that the name change and academic restructuring proposals "weren't wildly popular" with some alumni. But Carney's analytical approach to presenting his ideas won many over.

"Like a good engineer, he looked at the situation, he analyzed it, he came up with his ideas, formulated a plan and moved forward with it," Roller says. "He presented such a compelling argument for changing the name that we couldn't ignore it."

Carney's "very up-front, no-nonsense approach" to discussing issues with alumni was an asset, says **Darlene (Meloy) Ramsay**, MetE'84, who served as president of the alumni association while the name change process was under way in 2007 and 2008. "Even alumni who might not agree with him respect his analytical approach and leadership," she says. "I think his confidence is what gives him such respect from our alumni. He's very confident about saying what he needs to say and doing what needs to be done."



Carney “legitimately cared” about students, says Beth (Groenke) Morrey, IDE’09.



A great communicator

One reason for that respect has to do with what Gragg calls Carney’s “extraordinary communication skills.”

While preparing to conduct the search for a successor to former Chancellor Thomas, Gragg’s committee met with students, faculty and staff to find out what attributes these various groups wanted to see in the next chancellor. “The only thing mentioned in every forum was, ‘You’ve got to find someone who’s an excellent communicator, both internally and externally.’ We found that in Jack Carney. He’s just very good at it.”

Carney’s communication skills were put to the test during the name change process. If some alumni weren’t wildly supportive of the proposal, significant portions of the student body were even less so.

Huchingson, who served as StuCo president during the name change, recalls with admiration how Carney prepared her, Morrey and other student leaders for handling student concerns before publicly unveiling his plans to begin the name change discussion.

“I had been student body president officially for less than a month when Chancellor Carney asked our officer core to meet him,” Huchingson says. “I’ll never forget the five of us sitting in his office” when he announced his intent to publicly discuss the name change concept. “He covered a few other topics and then looked at us and said, ‘We’re going to change the name of the university and I need you to not tell anyone for the next two days.’ I was absolutely shocked — and what a secret to keep.”

During that meeting, Carney “went on to thoroughly explain his rationale and the events leading up to what he knew would

be a very controversial topic,” Huchingson says. He also solicited feedback from the student leaders and “wanted our opinion about the student reaction.”

“He sat in his office with us for the next hour answering every question we had and intently listening to our opinions. I could tell that our feedback was really important to him.”

Once the news broke two days later, “the student body erupted,” Huchingson says. “Students I knew and students who recognized me were pulling me aside and asking a million questions. At one point I had probably seven people crowded around me. Most complained; some agreed. It was exactly what the chancellor had prepared me for.”

Throughout the name change process, “Chancellor Carney was nothing but supportive when I would contact him with student questions that I didn’t know how to answer,” Huchingson says. “His office scheduled multiple open forums he personally attended to answer questions from students, faculty, staff and the media.”

At those forums, “People were angry and concerned,” Huchingson recalls. Yet Carney “stood at the podium during each session as people blasted questions at him and he answered each thoroughly and remained calm. As always, his wit was present in most of his responses as Beth and I watched him start to convince some people that the university was moving in the right direction.”

Making the case

Beyond the campus, Carney also spent time talking to alumni about the changing economics of public higher education. In meetings with alumni sections, he emphasized how declining support from the state required the university to rely more on private support.

Until recently, "Our alumni tended to see our university as a state-supported university," Carney says. "There was an element

"There was an element of surprise when we told our alumni that only 27 percent of our funding came from the state, not 60 percent."

– Chancellor Carney

of surprise when we told our alumni that only 27 percent of our funding came from the state, not 60 percent."

Once Carney made the case, alumni were more open to support the university.

"At about that same time, we started being very direct with the graduating classes about the extent of financial aid they received" and encouraged them to donate to the Miner Alumni Association.

The approach has worked. Even during the recession and slow recovery, donations to Missouri S&T have held steady. The university surpassed its \$200 million goal for the Advancing Excellence Campaign, which ended last summer. Major construction projects — including a the Kummer Student Design Center, the first building for Innovation Park and the Miner Dome athletic training facility — were all completed within the past year. The student design center and Miner Dome were funded entirely through private donations.

"We are becoming more and more like a private institution," Carney says. "With the decline in state funding, we have to."



Celebrating with Perrin Roller, GeoE'80 (holding ribbon), at the dedication of S&T's indoor practice facility.

photo by B.A. Rupert

According to Jack

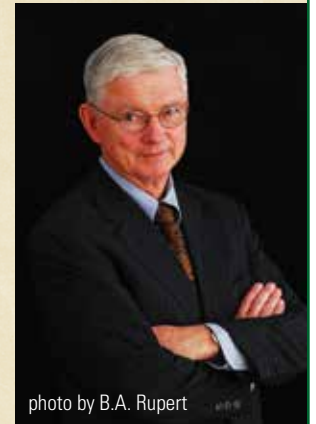


photo by B.A. Rupert

On his tenure as chancellor:

"It's been a privilege to serve this university because we're producing the engineers and scientists that this country needs. I've always felt this is important work that we're doing."

On life in Rolla:

"People could not have been friendlier, both on campus and in Rolla. I've made many friendships that I hope not to lose."

On town-gown relationships:

"There's a real sense that we're joined at the hip in a way. There's a sense of pride in the community that Missouri S&T is Rolla's university. I've tried to make clear that the community is always welcome to all our events."

On the faculty and staff:

"I've been impressed by the loyalty of the faculty and staff. We've had three tough years and people have had opportunities to go elsewhere. But so many are loyal to this university."

On the state of the university:

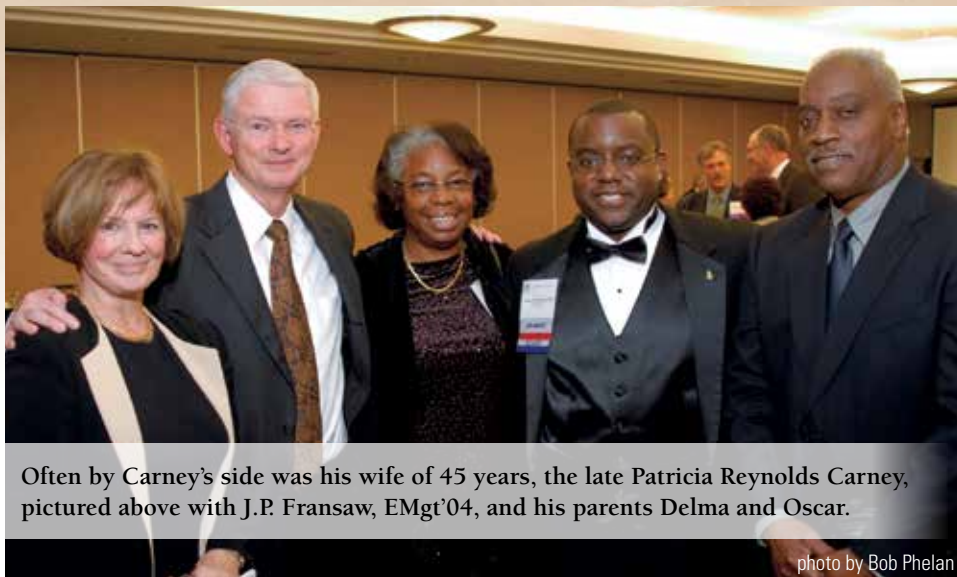
"With everyone working together, this university has moved to the next level, certainly in terms of recognition and prestige. From a personal point of view I'm really proud of what we've accomplished and I'm very proud of this institution."

On the national need for more engineers and scientists:

"I think the country is beginning to wake up. We're still in terrible shape in terms of the percentages of people who choose to study engineering. We need to produce more engineers."

On growing our own engineers and scientists:

"We aren't waiting until students enter college to start teaching them about science and technology. Through our summer camps we're developing a greater interest in these areas."



Often by Carney's side was his wife of 45 years, the late Patricia Reynolds Carney, pictured above with J.P. Fransaw, EMgt'04, and his parents Delma and Oscar.

photo by Bob Phelan



photo by Bob Phelan

‘Wonderful medicine’

In December 2009, Carney lost his wife of 45 years, Patricia Reynolds Carney, following a two-year battle with cancer. In the months after her death, Carney poured much of his energy into the job. The name change and academic reorganization now behind him, he focused on fundraising and strengthening connections with alumni as the campus's \$200 million Advancing Excellence Campaign entered its final months. The campaign ended with a bang, nearly \$12 million over the goal, on June 30, 2010.

The months following Pat's death were "a very difficult time," Carney says. "Having this job and being totally involved in it was actually a wonderful medicine for me."

How Carney handled the death of his wife served as an inspiration to Roller as he dealt with death in his own family. Roller's father died in 2010, and two weeks later his mother suffered a stroke. During this time of personal turmoil, Roller says, "I looked at how Jack had handled his situation for strength."

Carney's graciousness is also well-respected, and his hospitality extends beyond official duties. For example, when Gragg and **Jeff Schramm**, Hist'92, were in Boston for a conference in January, Gragg phoned Carney to ask for suggestions on where to go for dinner. It was winter break, so Carney was at his Cape Cod home. Instead of offering recommendations to Gragg, "He drove up from Cape Cod and took us out to dinner. He's just a genuinely good person."

As Carney prepares to retire, he'll need to muster plenty of physical strength and stamina to keep up with his grandchildren, who share his passion for sports.

"Three Christmases ago, Pat and I bought an outside basketball hoop" for their grandson Andy Goering, now 10. "He's definitely going to eat my lunch in about a year, so I've got to play him now while I can still win."

There's no doubt that at Missouri S&T, Carney is going out a winner.



photo by Bob Phelan



photo by Bob Phelan

Carney worked hard to connect with alumni, but still spent time with family (center, with grandchildren Cate and Andy Goering). At right, he presents a Homecoming participation trophy.

People love Rolla. At least most Miners do.

They were transformed during their time at the university, and they want to remember it, share it, bring others into the fold. These alumni have their own ways of continuing the Miner tradition — by spreading the word to schools, opening their homes to incoming freshmen, reconnecting on familiar turf close to their alma mater, or making new connections out West.

Once a Miner ALWAYS a Miner

by Linda Fulps, fulpsl@mst.edu

Hookin' 'em in Houston

photo by Alan Sexton



Pitching S&T in the Lone Star state:
Nicole Talbot talks to prospective students.

Nicole Talbot, ChE'77, wants to make sure high school students in Texas know about Missouri S&T.

"I consider myself really fortunate that I graduated from Missouri S&T," she says. "Rolla has so much to offer. It opens so many doors to you."

Talbot organizes a group of alumni volunteers that staff the Missouri S&T table at college recruitment fairs. Last season she herself visited a dozen schools.

"There are close to 40 schools on our list," Talbot says.

A number of inner-city prep schools are included on Talbot's list. These schools give students a solid foundation in math and science, she says. "Without these schools, there's little chance of these kids going to college," Talbot says. She says the students there are filled with questions about S&T, many worrying that Missouri is too far away from home. Her response? "If you don't go to Rolla, please go someplace."

Talbot gives full credit to former coordinator **Curt Killinger**, Math'73, MS EMgt'80, for getting her involved. In 2002, Killinger received the first Alumni Admissions Ambassador of the Year Award for his work in the Houston area.

"I was one of his minions." She was scholarship chair prior to taking over the recruitment fairs and is still involved in scholarships for the Miner Music section.

Sometimes S&T is a pretty easy sell, Talbot says.

"Three girls came up to me at a recent fair, saying 'we want to be engineers.' One said 'I'll talk to anyone with an aerospace engineering program.'" Talbot chuckles at the memory. "We have three astronauts. How many schools can say that?"

Reseeding lawns in K.C.



Alumni and incoming freshmen mingle at one of Jim Foil's send-off picnics.

"It kills my grass, but it's worth it."

That's what **Jim Foil**, CE'74, MS CE'75, says about hosting student send-off picnics at his home in Lee's Summit, Mo., a suburb of Kansas City. This summer's event will mark the sixth time that Foil and his wife, Ann, have opened their home to incoming freshmen, returning students and their families. The picnics used to be held at an area park.

Traffic backs up as drivers slow to gawk at the crazy display on Foil's front lawn — solar, Formula SAE and Baja cars, planes, rockets, robots and a concrete canoe. Typical S&T stuff. The event draws 100-120 people every July.

"It's an opportunity for kids to meet other faces they'll see on campus," says Foil. "Someone to take turns with hauling their stuff home."

It's also a chance for new students and their parents to talk to S&T design team members one-on-one. "The design teams are definitely a draw for the freshmen," he says. The event is scheduled around the teams' availability.

Picnic preparations begin around 7 a.m. and it's a group project.

"I provide the hamburgers, hotdogs, buns — other alums bring sides. My company (Foil is a senior vice president

at Burns & McDonnell Inc.) lends us tables and chairs."

Foil says that due to the picnic's growth, he's moved from one grill on the deck to several on the driveway. Alumni of all ages help out at the event, and new participants are always welcome. The picnic starts at 11 a.m. and everything is typically cleaned up by 4 p.m.

Alumni connect with students and their parents on a casual basis that allows parents to see what an S&T degree can do for their child. It calms fears and everyone seems to enjoy the picnics, Foil says. So what's a little grass seed?

Miners out West



S&T's Southern California Section brings Miner spirit to the West Coast.

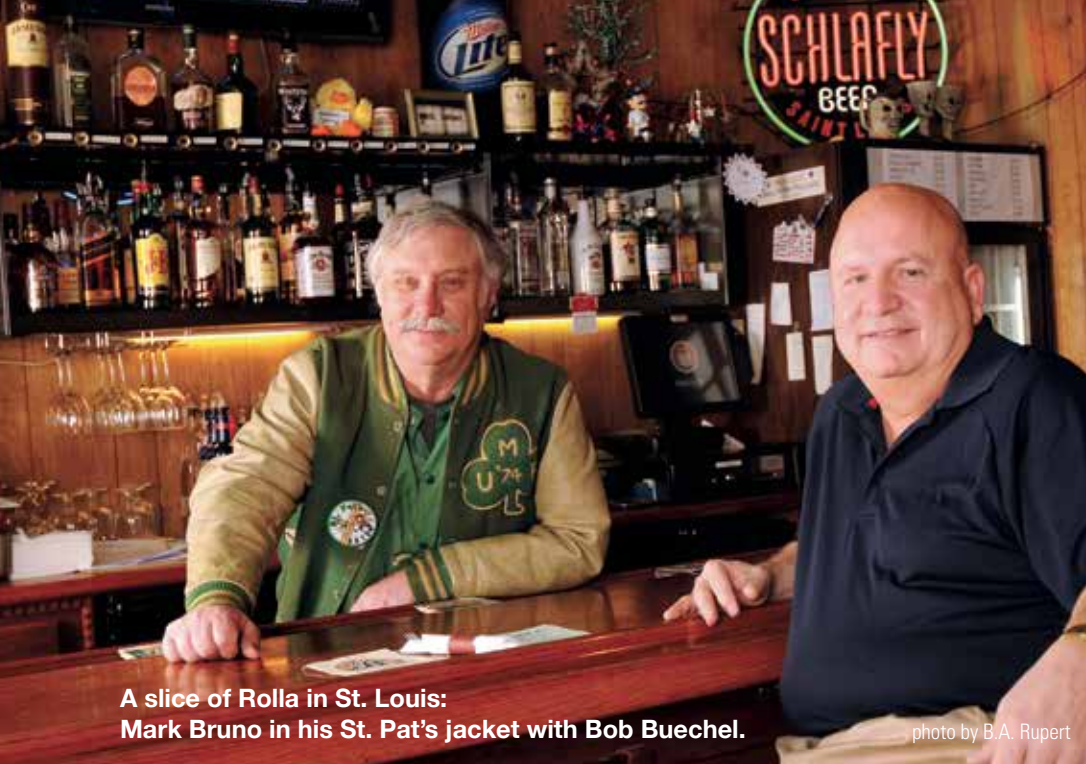
Kristopher Atkins, AE'06, remembers how the atmosphere on campus would amp up prior to the St. Pat's holiday. "At first I didn't understand why it was such a big deal." Soon, however, he learned to appreciate the time spent with friends, with school stressors tempered by a little green beer.

Now, as president of the Southern California Section, Atkins helps schedule gatherings so all Miners in the area can reconnect with their Midwestern alma mater.

"At every event I meet someone new or am reunited with an old friend," he says. "We never tire of discussing how different Rolla was when we were there."

Mahmut Ekenel, PhD CE'04, says moving to Los Angeles from Rolla was a tremendous change, and he welcomes opportunities to reminisce about Rolla with other alumni. "It is fun to share memories with alumni of the 1950s and 1960s, as well as with fresh graduates."

Atkins says the section plans to make the gatherings more frequent and diverse to better accommodate graduates living in other parts of Southern California.



**A slice of Rolla in St. Louis:
Mark Bruno in his St. Pat's jacket with Bob Buechel.**

photo by B.A. Rupert

Hmm, this seems familiar ...

It's not exactly the same as the Rolla establishment, but very close. And if you come to Bruno's American Grill and Pub in St. Louis on the third Thursday of the month, you're going to run into some Miners. There could be 10, 20 or more than 100 of them. You'll get the Rolla connection.

"I'm the instigator," acknowledges **Bob Buechel**, CE'73. Buechel and other S&T alumni have been meeting at Bruno's for a couple of years now. He faithfully sends a monthly email invitation to about 100 people, asking them to forward it on to other Miners who might be interested in the get-togethers. "I'm constantly updating the list."

Bruno's is owned and operated by **Mark Bruno**, NDD'70, Buechel's longtime friend. He is the former owner of Bruno's Pub and Grill in Rolla, which he sold when he moved to St. Louis.

"We all went to school together," says Bruno. "This group has great camaraderie. It's kind of special — and we're nuts."

Naturally, the conversation often turns to the group's Rolla days. "We do tell stories from Rolla, about Alice, chugging contests and endurance contests," says Buechel. "Many of us came from the old philosophy 'work hard, play hard.' But we also talk about the great friends we have made and maintained over the years, and how our degrees from Rolla have given us the opportunity to be successful in business."

The group's St. Pat's Celebration is held on the Saturday following Rolla's to accommodate those who attend both events.

Buechel says he and others travel quite a bit, so their attendance at the monthly gatherings is sporadic. "There's no pressure to come; it's very casual." Of course, as owner, Bruno is always there.

Miners will recognize the Rolla connection before they ever open the door.

"Last year I mentioned it would be nice to have a cudgel to display for St. Pat's," says Bruno. **Jeremiah King**, CE'06, said "Let me work on it." Thanks to King, a former St. Pat, and Sigma Tau Gamma, it now serves as a beacon outside of Bruno's to all Miners to come in and have a cold one.

An online connection

One alumnus learned that he shared an alma mater with his neighbor by using a tool on the Miner Alumni Association's online community. Another found the perfect employee to fill a position across the country in an email conversation with alumni office staff.

There's no denying the importance of online communication for busy alumni wanting to keep in touch with their university.

Missouri S&T alumni have several ways to keep in touch with their alma mater — and with each other — online.

Email

Alumni staff members send email invitations to alumni section events based on geography. That way they can target alumni in the area and save on postage and printing costs. They also send a quarterly e-newsletter (soon to be more often) with information about the association and the university.

Alumni, Donors and Friends website

Located at alumni.mst.edu, this site is the face of the alumni association. This is where you can find updates on the Hasselmann Alumni House and links to help you stay connected through social media outlets like Facebook and Twitter.

Online Community

Located at mineralumni.com, this site is everything an S&T grad could need from a university website. You'll find class notes, section information, classifieds and an alumni directory to help you reach out to your former classmates.

"The online community is the best of both worlds — safe and secure, but also connected," says **Marianne Ward**, director of alumni and constituent relations. "It gives people a chance to connect without sharing their personal information. People who want to remain private, do."

A bite of 'The Big Apple'



Gerald Cohen

Did you ever wonder how Chicago got the nickname Windy City? Or why Philadelphia is called the City of Brotherly Love? Did you even know that Providence, R.I., is the Beehive of Industry?

City nicknames like these are fascinating to etymologists like **Gerald Cohen**. He's spent two decades researching what is perhaps the most famous city nickname — New York's Big Apple.

Cohen, professor of foreign languages at Missouri S&T, has co-authored a revised version of his 1991 monograph *Origin of New York City's Nickname 'The Big Apple'*. Cohen wrote the book, published by Peter Lang, along with independent scholar Barry Popik.

Cohen says there were several stages to the origin of the nickname.

"Apples were important throughout history, but the big red delicious apples developed in Iowa in the 1870s came to be regarded as extra special," Cohen says. "That led to 'the big apple' being applied to things and people who were extra special, or perhaps only thought they were. Then in a 1920 conversation between two African American stable hands in New Orleans, one proudly said that he was going to 'the big apple' (meaning the New York City racetracks, which were regarded as the big time in horseracing)."

New York turf writer John J. Fitz Gerald overheard the conversation and a year later began using "the big apple" in his columns, Cohen says, popularizing the term early on, but it was limited to horseracing.

"In the 1970s, a public relations man named Charles Gillett revived the term as part of a publicity campaign for the city," Cohen says. "And, as they say, the rest is history."

Alumni prominent on committee to find next chancellor

Seven alumni have been selected to serve on the committee appointed to find a new Missouri S&T chancellor to replace **John F. Carney III**, who will retire in August. The committee of alumni, students, faculty, staff and others will work with the search firm Greenwood/Asher & Associates Inc. to identify potential candidates selected by the time a new University of Missouri System president is in place. The new president will appoint the chancellor. Committee members are:

Selin Acar, senior in chemistry and Student Council president

Richard Brow, Curators' Professor of ceramic engineering and chair of materials, science and engineering

Vicki Callaway, EE'00, MS EMgt'10, manager of IT planning and project management in information technology

Matt Coco, CE'66, past president of the Miner Alumni Association and retired vice president of Alberici Constructors

Delbert Day, CerE'58, Curators' Professor emeritus of ceramic engineering

Roger Dorf, ME'65, ME'94, retired chief executive officer and president of Navini Networks Inc. and chair of the Missouri S&T Board of Trustees

Kelvin Erickson, EE'78, MS EE'79, chair of electrical and computer engineering

Vishwanath Gandikota, MS MetE'09, graduate student in metallurgical engineering and outgoing president of the Council of Graduate Students

Tom George, chancellor of the University of Missouri-St. Louis

Larry Gragg, Curators' Teaching Professor and chair of history and political science

Greg Harris, interim assistant vice chancellor for development

K.M. Isaac, professor of aerospace engineering and president of the Missouri S&T Faculty Senate

Jim Murphy, assistant vice chancellor of student affairs

Francisca Oboh-Ikuenobe, professor of geology and geophysics and biological sciences

Jesse Singleton, manager of printing and mail services and a member of the Missouri S&T Staff Council

Cheryl Walker, EE'86, JD'90, Obasi Enterprises, former member of the University of Missouri Board of Curators

Christa Weisbrook, faculty fellow, University of Missouri office of academic affairs.

For more information about the search, visit chancellor.mst.edu/search.



Last spring, a group of S&T students traded their lawn chairs and beach towels for shovels and rakes, spending spring break on a service project.

Spring break service

Twenty-five S&T students spent their spring break planting trees, performing conservation work and helping out at a homeless shelter as part of Miner Challenge 2011, an alternative spring break program sponsored by the university's student life department. This is the fourth year for the program and the first year S&T sent teams to two different parts of the country.

One team planted trees, cleared trails and did shoreline restoration at the Shelby Farms Park Conservancy in Memphis. The group then traveled to Nashville to clear debris at the Nashville Zoo and mulch trails and plant native vegetation at Radnor Lake State Park. The other team traveled to New Orleans to volunteer at Ozanam Inn, a homeless shelter and soup kitchen.



'Best Ever'

Follies, street painting, the court, parade and after-parade parties kept the St. Pat's tradition alive in Rolla this year.

Breezy Anderson, a junior in geology and geophysics from Swansea, Ill., was crowned the 2011 Queen of Love and Beauty for the 103rd St. Pat's celebration in March. **Caleb Marting**, a junior in chemistry from St. Louis, portrayed St. Pat. **Randy Verkamp**, EMgt'72, of St. James, Phelps County commissioner, served as parade marshal and Honorary St. Pat.

The St. Pat's Celebration Committee also awarded the following eight faculty, staff, alumni and community leaders the title Honorary Knight of St. Patrick:

Harvest Collier, vice provost for undergraduate studies and professor of chemistry

Steve Graham, senior associate vice president for academic affairs for the University of Missouri System

Irina Ivliyeva, assistant professor of Russian

Jim Murphy, assistant vice chancellor for student affairs at Missouri S&T

Ted Ruth, director of design and construction management

Mary Sheffield Wray, circuit judge for the 25th Judicial Circuit of Missouri

Lonna Sowers, president of the Rolla Downtown Business Association

Larry Thomas, executive vice president of Central Federal Savings and Loan in Rolla.

‘Tacachia’ video earns EWB honors

A short documentary showing how Missouri S&T students helped a village in Bolivia last summer won the best short-form video award from Engineers Without Borders USA.

The 6-minute film documents how students worked to bring clean water to Tacachia, a tiny, remote community in Bolivia located in a steep valley south of La Paz, the nation’s capital. The students are members of S&T’s EWB chapter.

The S&T students visited Tacachia last July and August to install a new water distribution system. **Tom Shipley**, manager of video productions for Missouri S&T, traveled along with the team to record their work on film. Shipley also produced the film, titled “Engineers Without Borders: Tacachia,” which is available on the university’s YouTube site, www.youtube.com/MissouriSandT.



Jim Wilson/The New York Times/Redux

Lady muckers take first — again

The Lady Miner Mucking Team won its fifth first-place championship at the 2011 Intercollegiate Mining Competition, held in Reno, Nev., in March. Approximately 25 men’s and women’s teams from around the world participated in the annual competition. Missouri S&T placed third in the men’s division.

The Missouri S&T women previously won world championships in 2009 and 2007. S&T also won world titles in men’s and women’s mucking in 2004 and 2005.

Briefly

Engineer and author Henry Petroski says engineers play a crucial role in the success of many of the world’s greatest achievements. He spoke on “Success and Failure in Engineering: A Paradoxical Relationship” on campus in April as part of the **Neil**, CE’43, and **Maurita Stueck** Distinguished Lecture Series.

Joan M. Nesbitt, former vice president for institutional advancement at the University of Tulsa, became vice chancellor for university advancement at Missouri S&T on April 11.

Mohamed Rahaman, professor of materials science and engineering, received the University of Missouri System President’s Award for Inter-Campus Collaboration for his work with B. Sonny Bal, associate professor of orthopedic surgery at the University of Missouri-Columbia. Rahaman is also director of S&T’s Center for Bone and Tissue Repair and Regeneration.

Rick Stephenson, professor of civil, architectural and environmental engineering and assistant department chair for graduate affairs, received the UM System President’s Award for Cross-Cultural Engagement for his work with Engineers Without Borders.

Klaus Woelk, associate professor and assistant chair of chemistry, received the UM System President’s Award for Innovative Teaching for redesigning introductory chemistry courses to include discussion boards, student response devices, online testing and homework, and the ability to communicate with the instructor through text messaging during class.

Studying natural gas at the nano level

Natural gas is an abundant energy resource for the United States, but much of it is trapped in shale or tight-sand formations. **Baojun Bai** is working on a way to extract that gas by studying the energy source at the molecular level.

Bai, an assistant professor of petroleum engineering, is leading the research, which looks at how natural gas behaves in these constricted environments. Working with Bai is **Yinfa Ma**, Curators' Teaching Professor of chemistry, whose single-molecule imaging system will help the researchers examine the flow properties of natural gas on a small scale.

The U.S. Geological Survey estimates that tight sands and shale formations may hold up to 460 trillion cubic feet of natural gas, enough to meet current U.S. demand for nearly 21 years. (According to the Natural Gas Supply Association, Americans consume about 22 trillion cubic feet of natural gas a year).

But Bai says that traditional methods of extracting natural gas will not work in these tight formations.

"The problem is that the pore size is so small — only a few nanometers," he says. In conventional natural gas reservoirs, the gas flows through pores that are a few micrometers in width.

The difference between nanometers and micrometers is significant. A single nanometer is one billionth of a meter. A micrometer is one millionth of a meter. That means that a micrometer is 1,000 times larger than a nanometer.

At the nanometer scale, materials behave differently. No one really knows how natural gas flows at that level, Bai says. So he, Ma and some Missouri S&T graduate students are trying to find out.

"We want an improved understanding of how the gas flows through the pore space — specifically, how natural gas in a nanoscale pore behaves," Bai says.

Protein prof tackles sticky plaque

A Missouri S&T chemical engineer is doing his part to prevent or cure neurological diseases like Alzheimer's, Parkinson's or Mad Cow. These diseases all have one common element — amyloid plaque deposits. But they are all made up of different proteins.

Daniel Forciniti, professor of chemical and biological engineering, and his team are working to find a way to make various proteins create amyloid deposits in conditions that mimic the human body. Through the study, the researchers are also working to better understand what types of structures encourage plaque formation.

Nearly 15 years ago, Forciniti's group began studying how proteins and peptides behave when they are near a solid surface — such as when a protein in blood is near the inner surface of a vein. "We have developed considerable expertise in both theoretical and experimental studies of proteins at solid-liquid interfaces," he says. "The transition to the study of the effect of surfaces, such as tissue, on the formation of protein aggregates was a natural one."

While the debate over what causes these diseases continues, it's commonly accepted that an abnormal buildup of these protein deposits on the surface of the brain, also known as amyloid deposits or plaques, are found in people with Alzheimer's disease.

Scientists have been able to trick proteins into creating amyloid plaques, but only in extremely acidic and high-temperature environments. That situation is vastly different from what occurs in the human body, Forciniti says.



Daniel Forciniti is working to stop neurological diseases like Alzheimer's.

"They subject these proteins to harsh conditions at unrealistically high concentrations," Forciniti says. For example, these proteins may be immersed in a 3 pH solution, significantly more acidic than a human body's pH of 7.5. Instead of using nanomoles of peptides, as is found in the brain, millimoles of peptides are used.

Forciniti and his colleagues are working to develop a way to create these proteins in an environment that is closer to that of the human body.

Tracking goods from ‘cradle to grave’

A new inventory management system developed and patented by a Missouri S&T computer engineer virtually eliminates frequency interference issues at facilities that use RFID (radio frequency identification) readers to manage inventories and track products.

“Our system reads and manages inventory in real time with a nearly 99 percent read rate,” says **Jagannathan Sarangapani**, the William A. Rutledge-Emerson Electric Distinguished Professor in Electrical Engineering. “Previous systems had only a 60 to 70 percent read rate.”

Sarangapani says RFID systems allow goods to be tracked from “cradle to grave,” recording the chain of custody from the point of manufacture of all the product’s components, to the point the consumer receives it.

Facilities that use RFID systems have a network of distributed scanners that read radio frequency chips or tags that are incorporated into or attached to products or materials within them.

A number of factors can affect the ability of RFID readers to successfully read product tags. “Tag interference” occurs when multiple readers attempt to read a tag at the same time. “Reader collision” occurs when multiple readers are used and a

carrier signal from one reader interferes with another. Reader collision makes the tags unreadable and lowers overall read rates.

Sarangapani and his associates overcame these challenges by developing software that activates and deactivates adjacent RFID readers within the facility based on the tagged product’s location. The software also queries an inventory database based on information collected from the item’s tag.

“If shelves are empty of a product, or if a product is about to expire, it will alert the system,” Sarangapani says. “Employees can also track when the next shipment is coming.”

An additional benefit of the new system is its ability to read tags on frozen goods. “Many chemicals and medicines must be kept refrigerated or frozen,” Sarangapani says. “Other systems cannot read tags on frozen items, so they have to be thawed first to be inventoried. Thawing sometimes makes the product unusable and it must be destroyed.”

Also named on the patent are **Anil Ramachandran**, MS ECE’07, **Kainan Cha**, ECE’04, MS ECE’06, and **Can Saygin**, a former S&T professor who is now with the University of Texas at San Antonio.

Seeing the invisible



Reza Zoughi (second from left) and Mohammad Tayeb Ahmad Ghasr, assistant research professor of electrical and computer engineering, work on the hand-held camera with electrical engineering students Royce Bohnert (left), a senior, and Brice Hirst (second from right), a graduate student.

The science used in airport body scanners could soon be used to detect defects in aerospace vehicles or concrete bridges as well as skin cancer, thanks to an S&T research team led by **Reza Zoughi**, the Schlumberger Distinguished Professor of Electrical Engineering.

Zoughi’s group developed a patented handheld camera that uses millimeter and microwave signals to non-intrusively peek inside materials and structures in real time. His contributions to this field, in part, have earned him the 2011 Joseph F. Keithley Award in Instrumentation and Measurement from the Institute of Electrical and Electronics Engineers (IEEE).

“In the not-so-distant future, the technology may be customized to address many critical inspection needs, including detecting defects in thermal insulating

Energy's air apparent Battery research could revolutionize auto industry

A February article in *The New York Times* describes Yangchuan (Chad) Xing as “bookish,” shrouded in “anonymity” and “inclined to discuss factual matters rather than tarry on questions of meaning.” Yet Xing’s research into lithium-air battery technology has thrust the quiet associate professor into the limelight.

Last year, Xing received one of only two federal awards for lithium-air battery research. The \$1.2 million grant over three years comes from a new Department of Energy agency that is modeled after one created by the Eisenhower administration to develop a system that would ensure communications in the event of a nuclear attack. That agency, the Advanced Research Projects Agency (ARPA), sponsored advances that led to the Internet. The new agency — called the Advanced Research Projects Agency for Energy, or ARPA-E — hopes to encourage the same sort of “game-changing” technologies to address energy challenges.

Xing’s group went up against 220 other battery proposals, including plans from Stanford and MIT.

While Xing won’t say much about his research, it has to do with developing a new electrode and new catalyst for lithium-air



Yangchuan “Chad” Xing leads S&T’s “game-changing” battery research.

technology. Why does this matter? Because today’s electric cars can go only about 100 miles on a single charge. But a car powered by a lithium-air battery could theoretically travel 400 or 500 miles.

Xing estimates that if lithium-air technology progresses like lithium-ion, the battery used in electric cars today, it will take 15 to 20 years to go commercial. “But high-risk research like his — which may catapult the technology ahead or slam into a dead end — could change that calendar,” wrote Saqib Rahim in that article about Xing’s work.

materials that are found in spacecraft heat-insulating foam and tiles, space habitat structures, aircraft radomes and composite-strengthened concrete bridge members,” Zoughi says.

The technology could help detect and monitor a variety of skin conditions in humans, including cancer and burns. It also has the potential to help Homeland Security personnel detect concealed contraband (such as weapons) or reduce the number of passenger pat-downs at airports. Even homeowners could see a direct benefit from the technology as it potentially could be used to detect termite damage.

The compact system can produce synthetically focused images of objects — at different planes in front of the camera — at speeds of up to 30 images per second. A laptop computer then collects the signal and displays the image in real time for review. The entire

system, powered by a battery similar to the size used in laptops, can run for several hours.

“Unlike X-rays, microwaves are non-ionizing and may only cause some heating effect,” Zoughi says. “However, the high sensitivity and other characteristics of this camera enables it to operate at a low-power level.”

Currently the camera operates in the transmission mode, which means that objects have to pass between a transmitting source and its collector to be reviewed. The team is working on designing and developing a one-sided version of it, which will make it operate in a similar fashion to a video camera.

“Further down the road, we plan to develop a wide-band camera capable of producing real-time 3-D or holographic images,” Zoughi adds.

In 2010, a U.S. patent was issued for this technology. Included on the patent along with Zoughi are **Mohamed Ahmed AbouKhoua**, PhD EE’09, **Mohammad Tayeb Ahmad Ghasr**, assistant research professor of electrical and computer engineering; **Sergiy Kharkivskiy**, associate research professor of electrical and computer engineering; and **David Pommerenke**, professor of electrical and computer engineering.

Want to see the camera in action?
View the demonstration video at

magazine.mst.edu

Pat McNamee

Story by John Kean, jkean@mst.edu

Photo by B.A. Rupert

Pat McNamee, who just completed his junior season with the Missouri S&T men's soccer team, was one of many players who reaped the benefits of one of the most memorable seasons in the history of the program.

As the Miners were earning a share of the Great Lakes Valley Conference regular season championship and landing the team's first berth to the NCAA Division II Tournament, McNamee and sophomore defender **Spencer Brinkmeyer** became the first players in the history of the men's soccer program to earn All-America honors.

The Miner defensive unit was a big part of the story in the 2010 season, as it posted a school record 11 shutouts and ranked as one of the top teams in the nation on that end of the field. McNamee, the GLVC's Defensive Player of the Year, had 0.67 goals against average and posted nine of the shutouts on a solo basis.

What is the biggest thing you took away from the 2010 season?

McNamee: Probably the best thing I can take away is how close the guys on the team are. It really is a family-type atmosphere and I believe that shows on the field. We all get along extremely well and are best friends off the field. We never have off-the-field issues and we are always on the same page. Many of us either room together or take similar classes and help each other out whenever needed. The biggest thing I will not only take away from this year, but in my entire career here, is all the lifelong friendships I have made.



Pictured with Pat McNamee are teammates (left to right) Sam Shaffer, a senior in mechanical engineering; Brian Seawright, a freshman in nuclear engineering; J.J. Bilyeu, a junior in mechanical engineering; and David Kecec, a senior in mechanical engineering.

What was the key to the team's success last year?

McNamee: A lot of us were disappointed in the way the previous two seasons had ended. In both years, we made it to the first round of the GLVC Tournament and lost to Northern Kentucky. We outplayed them in each game and it was incredibly frustrating making that long bus ride back from Kentucky to go home empty-handed. We all had a chip on our shoulders and I believe that really drove our success.

We took a lot of pride in our defense and it was something the entire team rallied behind. In the off-season, we were able to add a few new pieces to our game to make us harder to score on and that allowed us to become more creative on the offensive side of the ball. We also had a great core of juniors and seniors that really set the tone for the entire team. The experience we gained from the past couple years really helped us stay focused down the stretch.

After the regional championship game with Northern Kentucky — and then seeing NKU win the national championship — did you get a sense that you can make a run at it in 2011?

McNamee: Oh, absolutely. We played NKU three times this year and every game came down to the wire. I think both teams sensed that we both had a legitimate shot at the national championship this year. Having the number of players coming back from the team last year really gives us a lot of confidence going into next season. We have been a fairly young team the past couple seasons — and we all are grown up now and ready to take the program to the next level. We're very excited about next season.

Read more of John Kean's interview with Pat McNamee online at magazine.mst.edu.



"It really is a family-type atmosphere and I believe that shows on the field."

— Pat McNamee

S&T teams make NCAA winter championships

Four of Missouri S&T's winter sports teams were part of the winter championship events for NCAA Division II.

Swimming

The Miner swimmers placed ninth at the national meet in San Antonio, which included a third-place finish by senior **Zlatan Hamzic** in the 200-yard breast-stroke and a school-record performance by the 400-yard medley relay team. Hamzic, who won the national championship in the event two years ago, rallied from a seventh-place spot midway through the race in the finals to end up third with a time of 1 minute, 58.15 seconds — just 0.13 seconds off the school record he set when he won the national title in 2009.

Hamzic was also part of the relay team with sophomores **Sean Deegan** and **Jacob Dole** and senior **Andrew Schranck** that posted a time of 3 minutes, 17.48 seconds in the 400-medley relay to break the school record set at the national meet in 2009. That relay team finished seventh overall and was among the Miners' seven top-eight finishes in the meet.

Lady Miner Basketball

Meanwhile, the Lady Miner basketball team earned a berth in the NCAA Division II Midwest Regional after



Zlatan Hamzic

claiming a share of the Great Lakes Valley Conference's West Division championship with Drury University. Missouri S&T's third 20-win season in school history sent it to Houghton, Mich., to face GLVC foe Wisconsin-Parkside in the opening round, where the Lady Miners dropped a 73-55 decision.

Sophomore **Hailee Parks**, the Lady Miners' leading scorer on the season with an average of 11.4 points a game, and senior **Julie Meyer** were named to the All-GLVC third team for their performances during the season.

Track and Field

The S&T track and field teams also sent representatives to the NCAA Championships in Albuquerque, N.M., as junior **Terry Robinson** competed in the



Julie Meyer

men's 60-meter hurdles and senior **Aubrey Moore** in the women's 400-meter dash. Robinson — one of seven Miners named to the USTFCCCA's all-Midwest region team — was the GLVC champion in the 55-meter hurdles and had a runner-up finish in the 400-meters. Moore was also an all-region performer and won a conference title in the 400-meters, finishing second in the 200-meter dash.

For the second year in succession, the men's track team finished second at the conference meet, as senior **Bryan Kluge** (800-meters) and freshman **Adriel Hawkins** (triple jump) joined Robinson as conference champions. Freshman **Rachel Ederle** also earned a conference title on the women's side leading a 1-2 finish for the Lady Miners in the pole vault. The Lady Miners placed fourth as a team.

Sports shorts

S&T's baseball team also reached post-season play, capturing the GLVC West Division championship and landing a spot in the NCAA's Midwest Region. At the regional tournament, the Miners — who posted a 30-19 record, the best in school history — opened play by shutting out defending national champion Southern Indiana behind a five-hitter from **Zack Gronek**, a senior in mechanical engineering. The lefthander earned run average, earning first-team All-GLVC and second-team all-region honors for the season.

The Miner football team signed 24 newcomers to the team during the National Letter of Intent period, including running back **Jonny Canhos**, who rushed for better than 3,000 yards at Rolla High School and **Reed Brown**, a quarterback who threw for better than 8,500 yards in his high school career in Rogers, Ark. The 2011 recruiting class also includes five players from the junior college ranks.

Lady Miner softball player **Kristen Drage**, a senior in civil engineering, broke the S&T career record for runs batted in, finishing with 113, which broke the previous mark of 111 that was established by **Emily Tucker**, EMgt'09. Drage, who earned All-America honors a year ago, was among three Lady Miners to earn All-GLVC honors following the season along with catcher **Kaylea Smith**, a junior in architectural engineering, and designated player **Kassi Deibert**, a graduate student in business administration.

MINER LEGACY

OCT. 06-09

» MINER ALUMNI ASSOCIATION: HOMECOMING WEEKEND 2011

Grab your light cycles, leave the outlands and return to the grid Oct. 6-9 as Missouri S&T celebrates Miner Legacy. Hundreds of alumni, families and friends will return to Rolla for Homecoming 2011, the social hotspot where alumni can do just about anything they want: stroll across campus, intermingle with old friends, and cheer on the Miners as they battle the Hardrockers from South Dakota. Use the following pages to create your own program for the four-day sequence, but don't miss out on Friday's Alumni Silver and Gold Gathering or Saturday's Miner Legends Banquet.

REGISTRATION INFORMATION

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

All alumni should pick up their registration packets at the Homecoming welcome desk.

Friday, Oct. 7: Castleman Hall, 8 a.m.-7 p.m.

Saturday, Oct. 8: Alumni tent outside Allgood-Bailey Stadium, 10:30 a.m.-1 p.m.

» 2011 AWARDEES SELECTED BY THE MINER ALUMNI ASSOCIATION

The following individuals will be recognized for their achievements during the Legends Banquet on Saturday, Oct. 8.

Alumni Achievement Award



Kenneth Cage, ME'63,
MS NucE'66, attorney,
McDermott, Will & Emery



Roger Truitt, ChE'71,
president (retired),
Arco Products



John Gibson, EMgt'74,
chair, president and CEO,
Oneok Inc.

Alumni Merit Award



Michael Bytnar, ME'68,
MS EMgt'73, president (retired),
Nooter Corp.



Richard Straeter, PetE'83,
vice president, Eastern Region,
Continental Resources Inc.

Robert V. Wolf Outstanding Alumni Service Award



Michael D. Hurst, CE'74,
president and COO (retired),
McCarthy Building
Companies Inc.

Distinguished Young Alumni Award



Jane Diecker, NucE'03,
attorney, Morgan Lewis &
Bockius LLP



Lister Florence, CE'95,
MS IST'06, CSci'07,
information technology
specialist, U.S. Geological
Survey



James R. Friend, AE'92,
MS ME'94, PhD ME'98,
associate dean and professor,
Monash University, Australia



Natalie Vanderspiegel,
CerE'02, MS CerE'04,
MS EMgt'04, senior
manufacturing engineer,
Solar Turbines Inc.

Outstanding Student Advisor Award



Randall Lewis, instructional
lab coordinator, mechanical and
aerospace engineering



Douglas Ludlow, professor,
chemical and biological
engineering



Joe Jackson, coordinator,
residential life



Jeffrey Volz, assistant
professor, civil, architectural
and environmental engineering

SCHEDULE OF EVENTS

THURSDAY, OCT. 06

9-11 a.m.

Geology and Geophysics Advisory Board Meeting, Havener Center

1 p.m.

Academy of Mechanical and Aerospace Engineers Board of Directors Meeting, Havener Center

5 p.m.

Academy of Mechanical and Aerospace Engineers Induction Dinner and Social, Havener Center

6 p.m.

Academy of Computer Science Banquet, reception at 6 p.m. with dinner to follow at 7 p.m., Matt's Steakhouse

6-8:30 p.m.

Academy of Engineering Management Induction Ceremony, location TBD

6-9 p.m.

Geology and Geophysics Homecoming Banquet, Havener Center
Cost: \$25

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

Department Open Houses

3-4 p.m. Friday, Oct. 7

Some departments on campus will host department open houses. For a current list of participating departments visit mineralumni.com/homecoming.

FRIDAY, OCT. 07

8 a.m.

Academy of Mechanical and Aerospace Engineers Annual Membership Meeting, Toomey Hall

8 a.m.

Academy of Mechanical and Aerospace Engineers Spouse and Guest Event, location TBD

8 a.m.-5 p.m.

"Mining the Past, Building the Future" Display, Curtis Laws Wilson Library, featuring the *Rollamo*, which is now available online; coffee, fruit and pastry reception from 8-11:30 a.m.

8 a.m.-4 p.m.

Miner Alumni Association Committee Meetings, Alumni Office, 1200 N. Pine St.

8 a.m.-7 p.m.

Homecoming Registration, Castleman Hall

8:30 a.m.

Academy of Computer Science Meeting, Computer Science Conference Room, Room 327 Computer Science Building

8:30 a.m.-noon

Academy of Engineering Management Business Meeting, Havener Center

8:30 a.m.-2:30 p.m.

Academy of Mines and Metallurgy Meeting, Havener Center, continental breakfast followed by 9 a.m. meeting and working lunch at noon

9 a.m.

Order of the Golden Shillelagh Executive Meeting, location TBD

11 a.m.

Academy of Mechanical and Aerospace Engineers Luncheon with mechanical and aerospace engineering students, Toomey Hall back patio

2-4 p.m.

25th Chancellor's Leadership Class and Academy Silver Anniversary Reception, group photo at 3 p.m., McNutt Commons

2:30-4 p.m.

Biological Sciences Department Homecoming Picnic, Schrenk Hall front lawn

3:30 p.m.

Toomey Hall Open House, Toomey Hall patio

4 p.m.

Academy of Miner Athletics Formation Committee Meeting, location TBD

5-8 p.m.

Silver and Gold Gathering, Leach Theatre Lobby, Castleman Hall, Social Hour 5 p.m., Dinner 6-7:30 p.m., Social time continues until 8 p.m.
Tickets for event: \$20 for adults
\$10 for children ages 6 to 12
Free for children under age 6
Dinner will include glazed chicken and barbecued brisket
\$1 beer and limited cash bar will be available

5 p.m.

Sigma Phi Epsilon Alumni Dinner, reception at 5 p.m. with dinner to follow at 7 p.m., Zeno's

8 p.m.

Perfect 10 Improv Show, "Tomorrow's Jokes Today," Black Box Theater, Castleman Hall, Room 143

SATURDAY, OCT. 08

8 a.m.

Lambda Chi Alpha Annual House Corp. Meeting, Chapter House, 1705 Pine St., Breakfast followed by 9 a.m. meeting

8-11 a.m.

Alumni Association Board of Directors Meeting, Havener Center

8-11:30 a.m.

"Mining the Past, Building the Future" Display, Curtis Laws Wilson Library, featuring the *Rollamo*, which is now available online; coffee, fruit and pastry reception

10 a.m.

Sigma Phi Epsilon House Dedication, Red Door Entrance, 801 Park St.

10 a.m.-noon

Parent and Family Homecoming Reception, Havener Center, St. Pat's Ballroom C

10:30 a.m.-1 p.m.

Homecoming Registration, Alumni tent outside Allgood-Bailey Stadium

11 a.m.-12:30 p.m.

Missouri S&T Athletic Hall of Fame open to visitors, Gale Bullman Multi-Purpose Building

11 a.m.-1 p.m.

Kick-off Tailgate Party, Alumni tent outside Allgood-Bailey Stadium
Tickets for event: \$10 for adults
\$5 for children ages 6 to 12
Free for children under age 6
Hot dogs, brats, \$1 beer and other tailgate goodies will be served

1 p.m.

Football Game, Miners vs. South Dakota School of Mines and Technology
Tickets for event: \$8 for adults
\$5 for students (K-college)
and seniors 65 and over
Free for children under age 6 and S&T students with a valid student ID

5 p.m.

Mass, St. Patrick's Catholic Church

6-9 p.m.

Alumni Association Miner Legends Banquet, Havener Center, Reception begins at 6 p.m., dinner at 6:30 p.m. Some of our most distinguished alumni will receive prestigious Miner Alumni Association awards. The association's annual meeting will be held during this event.
Tickets for event: \$30 for adult dinner with cash bar available
\$15 for children ages 6 to 12
Free for children under age 6

SUNDAY, OCT. 09

1-3 p.m.

Chancellor's Advisory Committee for African-American Recruitment and Retention meeting, Carver-Turner Room, Havener Center

OFF THE GRID

SPECIAL CELEBRATIONS

Kappa Delta Sorority

"NEW HOMEcoming" Weekend

Kappa Delta alumnae are invited to join their sisters to celebrate the grand opening of the new Kappa Delta home. Look for the full schedule of activities in the Epsilon Alpha Kappa Delta alumnae newsletter Summer 2011 edition. Contact Olivia Miller Crossman at 404-668-5796 or email oliviacruzman@hotmail.com for more information.

25th Chancellor's Leadership Class and Academy Silver Anniversary

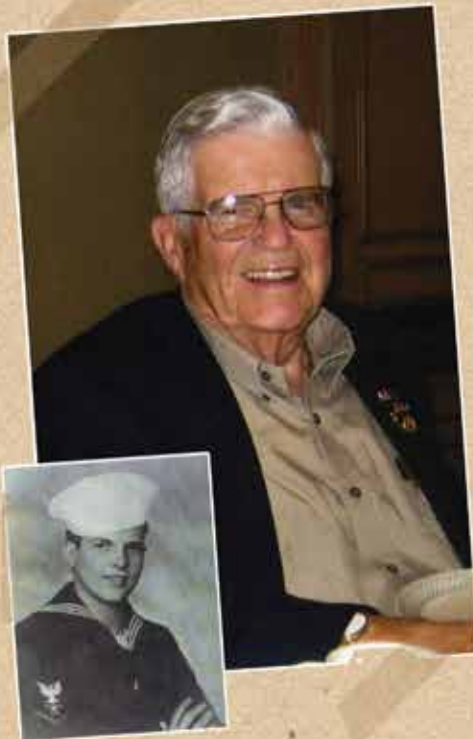
To celebrate the 25th anniversary of the Chancellor's Leadership Class inauguration, the Chancellor's Leadership Academy will host a reception. For more information visit cla.mst.edu or contact Jerri Arnold-Cook at 573-341-6828 or email arnoldcookj@mst.edu.

Sigma Phi Epsilon to dedicate renovated chapter house

Sigma Phi Epsilon alumni will gather at Zeno's Friday, Oct. 7, for dinner, a chapter report and reminiscing. A dedication ceremony for the renovated chapter house will begin at 10 a.m. Saturday, Oct. 8, at the red door entrance, 801 Park St., with a blessing by Rev. Thomas R. Halbrook, CE'60, followed by a brief walk-through and recognition of donors and builders. Brian Warren, the fraternity's executive director, will be the main speaker. For more information contact Dave Schaeffer at dmsboeing@yahoo.com.



Paul Murphy: a survivor's story



On July 30, 1945, shortly after delivering atomic bomb components to the U.S. air base at Tinian, the *USS Indianapolis* was torpedoed by a Japanese submarine. Of the 1,197 sailors onboard, 317 survived. One survivor was **Paul Murphy**, ME'50.

Fact: The sinking of the *USS Indianapolis* is the Navy's worst tragedy at sea.

Amount of time in water before rescue: Four days and five nights. (880 men died in the water.)

According to the Discovery Channel: The sinking resulted in the most shark attacks in history.

Murphy: "I am often asked about the sharks. My reply, "They don't like Irishmen."

After the war: Murphy attended Missouri S&T on the G.I. Bill.

Fast forward to today: Murphy lives in Colorado and is founder and chair of the *USS Indianapolis* Survivors' Organization. He published a book containing survivors' stories titled *Only 317 Survived*.



The **Miner Alumni Association** represents and serves more than 50,000 graduates and former students. Today's association carries on the proud tradition of support to Missouri S&T, providing more than \$500,000 in annual aid to campus students, faculty and staff.

Alumni association hosts May 2011 graduation celebrations

On April 28 and May 3, the Miner Alumni Association hosted Grad Finale celebrations for graduating students. More than 200 students celebrated their graduation at these events and were welcomed into the Miner Alumni Association. Sean Sill, EE'11, CpEng'11, and Adam Benzabeh, ArchE'09, MS CE'11, each won a 32-inch HDTV generously donated by Susan Watson-Hajjar, CSci'83.



Benzabeh



Sill

Missouri S&T Career Fair



Career opportunities and employer relations hosted its Spring 2011 Career Fair on Feb. 15 with 152 employers in attendance, 18 of which were new, which is a 22 percent increase over last spring. S&T students visited with more than 400 recruiters representing 24 states in hopes of landing a job, internship, or co-op opportunity. A list of alumni in attendance is available at magazine.mst.edu.

STAT hosts breakfast for alumni

Before the Spring Career Fair began, alumni recruiters were treated to a continental breakfast courtesy of the Miner Alumni Association, Students Today, Alumni Tomorrow (STAT) and Engineers Without Borders. A list of alumni in attendance is available at magazine.mst.edu.

Calendar of events

For a listing of section events go to: mineralumni.com

August

	SUN	MON	TUE	WED	THU	FRI	SAT
5: Alumni Association Executive Committee Meeting		01	02	03	04	05	06
15: Convocation		07	08	09	10	11	12 13
17-25: Miner Alumni Association Scholarship Luncheons and Dinners		14	15	16	17	18	19 20
22: Fall Classes Begin	21	22	23	24	25	26	27
	28	29	30	31			

September

27: Career Fair						01	02	03
	04	05	06	07	08	09	10	
	11	12	13	14	15	16	17	
	18	19	20	21	22	23	24	
	25	26	27	28	29	30		

October

6-9: Homecoming								01
• Alumni Association Committee Meetings	02	03	04	05	06	07	08	
• Silver and Gold Gathering								
• Alumni Association Board Meeting	09	10	11	12	13	14	15	
• Section Leaders Meeting	16	17	18	19	20	21	22	
• Legends Banquet	23	24	25	26	27	28	29	
	30	31						

Future dates to save



Founder's Day, Havener Center

For more information on any of these events contact the alumni office at alumni@mst.edu or call 573-341-4145.

Missouri Legislative Day 2011

On Feb. 24, Missouri S&T alumni and friends visited with lawmakers in Jefferson City, Mo., to garner support for the University of Missouri System as part of Legislative Day at the Capitol.

Those in attendance were: Vera Yuryevna Anderson, IST'06; John F. Eash, AE'79, MS EMgt'90; Michael W. McMenus, LSci'81; Daniel F. O'Sullivan Jr., Phil'82; Matthew A. Paradeis, PetE'10; and Lawson J. Tyler Jr., EE'75. Missouri S&T representatives: Chancellor John F. Carney III, Darlene Ramsay, MetE'84, Greg Harris, Marianne Ward, Nancy Zamazanuk, John Woodson and Moagabo Mathiba (student).

Alumni association scholarship banquet



Donors and their scholarship recipients enjoyed the annual scholarship banquet on Friday, April 15. The evening was filled with recognition and fellowship as donors dined with the students who benefit from their generosity. More than 120 students, alumni association directors, OGS members, donors and staff were in attendance.

Society of Mining, Metallurgy and Exploration (SME) Reception

March 1 – Hyatt, Phoenix

The Miner Alumni Association and the Phoenix Section hosted a reception for alumni, faculty, staff and students in conjunction with the Annual Meeting and Exhibit in Phoenix. Thank you to our co-sponsors: Barrick, The Doe Run Co., and the S&T geological sciences and engineering and mining and nuclear engineering programs.

Elija Adadzi; Kwame Awuah-Offei '06; Dave Bufalo '66; Dick Bullock '51, '55, '75; Ray Chico '59; Joshua Chlopek '06; Nuray Demirel '07; Roger Dewey '69; Renny Dillinger '07; Terry Donze '71; Jeff Dubbert '85; C. Dale Elifrits '76, '80; Richard Erickson '80; Greg Flieg '90; Randal Hanning '87; Joshua Hoffman '07; Dyrk Huffman '96; Tristan Jones '08; Bill Koechlein '64; Mike Korb '68; Jack Lutz '59; Adam Markus '09; Jim Meier '99; James Newman '70; Kurt Oakes '85; Bill Orr III '77; Bismark Osei '10; Kirk Palicki '95; Jack Pippenger '78; Seth Puls '01; John Schille '98; Michael Schlumpberger '85; Jared Schoen '10; Greg Sutton '88; Eric Triplett '96; Robert Vetter '05; and Sterling Wainscott '96. Missouri S&T representatives: Grzegorz Galecki, Katie Layman and Barbara Robertson.



St. Pat's 103rd BEST EVER

Miner Alumni Association sections around the world broke out their green to celebrate St. Pat's. Check out the following pages to see how your fellow Miners celebrated 2011's Best Ever. Names of attendees for each section's event are available online at magazine.mst.edu.



Air Capital

March 19 — Home of Tony '98 and Laura '99 McLaughlin — Wichita, Kan.



Austin-San Antonio

March 11 — Central Market — Austin, Texas



Alaska

March 17 — Home of Chris '97 and Jeni Schafer — Anchorage, Alaska



Chicago

March 6 — Elephant and Castle Pub and Restaurant — Chicago



Cincinnati-Dayton

March 20 — Back Porch Saloon — Hamilton, Ohio



Coastal SC-GA
March 4 — Katie O'Donald's Irish
Pub — Bluffton, S.C.



Dallas-Fort Worth
March 5 — Willhoites Restaurant — Grapevine, Texas



Enchanted
March 12 — Chama River Brewing Co. — Albuquerque, N.M.



Falls of the Ohio
March 19 — Patrick O'Shea's —
Louisville, Ky.



Flint Hills
March 29 — Puffy's Steakhouse —
Maple Hill, Kan.



Indianapolis
March 18 — Claddagh Irish Pub —
Indianapolis



Kansas City

March 30 — Fox and the Hound —
English Pub and Grille — Overland
Park, Kan.



Lincolnland

March 6 — Home of Andrew and
Amanda '99 Withers — Petersburg, Ill.



MD-VA-DC

March 19 — Home of Brad '88 and Peg Fulton —
Ft. Washington, Va.



Mid-Missouri

March 31 — Paddy Malone's Irish
Pub — Jefferson City, Mo.



Central Ozarks

March 12 —
Miner Alumni
Association —
Rolla, Mo.





Northern Alabama

April 2 — Home of Christian '95 and Christina '95 Cook — Huntsville, Ala.



Rocky Mountain

March 5 — White Fence Farm — Denver



NE-IA

March 3 — Lucky Bucket Brewery — Omaha, Neb.



NY-NJ-CT

March 18 — Home of Riley and Helene Hardy '83 Pierce — Andover, N.J.



Southern California

March 4 — K.C. Branaghan's Irish Pub and Restaurant — Long Beach, Calif.

St. Louis

March 2 — Hotshots Sports Bar and Grill — St. Louis

March 19 — Bruno's — St. Louis





Springfield

March 19 — Trolley's Bar and Grill —
Springfield, Mo.



Twin Cities

March 2 — Claddagh Irish Pub — Ma-
ple Grove, Minn.

SW Florida

March 22 —
Fitzgeralds Irish
Pub — Bonita
Springs, Fla.

March 23 — Four
Green Fields Irish Pub
— Tampa, Fla.



The following sections also gathered to celebrate St. Pat's 103rd Best Ever

Bay Area

March 13 — Home of Dave
Robinson '85 — Castro Valley, Calif.

Driftless

March 12 — Dooley's Pub —
Rochester, Minn.

Houston

April 1 — Hugo's — Houston

Las Vegas

March 5 — Landry's Seafood House —
Las Vegas

Motor City

March 16 — Ginopolis' On the Grill —
Farmington Hills, Mich.

Oklahoma

March 27 — Kilkenny's Irish Pub —
Tulsa, Okla.

Pacific NW

March 2 — McCormick and
Schmicks — Bellevue, Wash.

Peoria

March 8 — Kelleher's Irish Pub and
Eatery — Peoria, Ill

Phoenix

March 6 — Rula Bula — Tempe, Ariz.

Portland

March 3 — Hopworks Urban Brewery —
Portland, Ore.

Tucson

March 7 — Old Pueblo Grill —
Tucson, Ariz.

West Texas

March 19 — Abuelos — Midland, Texas

Alumni, family and friends gather in 56 sections around the world. Here is a glimpse of their activities and those who attended.

bay area

Jan. 21 — Arya Global Cuisine — Cupertino, Calif.

Paul Binesh '71; Bob Boschert '58; Tom '61 and Rhonda Canale; Winston Chen '65; Larry Cooper '65; Frank Deppong '61; Allen Faber '79; Peter Heerboth '03; Randy '71 and Cathy Hill; Derek Hillstrom '97; Mike Hunter '99; Jim Kekobad '03; Don '72 and Mira Lee; Dennis '76, '77; and Pam '75 Leitterman; Don '61 and Barbara Marsinkavage; and Steve Null '80, '82. Missouri S&T representative: Katie Layman.



Bay Area Section



Bay Area Section



Cincinnati-Dayton Section

central ozarks

Jan. 28 — Havener Center — Rolla, Mo.

Ryan '94 and Carolyn Buschjost; Dick Elgin '74, '76; Gary '73, '81 and Peggy Henderson; Wayne Huebner '82, '87; Jim Marcellus '71; Honglan Shi '10; Bill Stoltz '68 and guest Kathy Oliver; and Keith '70, '71, '73 and Bobbie Wedge. Missouri S&T representatives: John F. Carney III, Greg Harris, Katie Layman, Melpo Mankin, Marianne Ward and Nancy Zamazanuk.

cincinnati-dayton

Feb. 10 — Dingle House Irish Pub & Grub — West Chester, Ohio

Bret Baldwin '93; Colin Hester '98 and AnneMarie Daniel; Jay '71 and Brenda Jones; Henry and Anita Metzner; Bill Varwig III '75; and Tom '69 and Judy Zenge. Missouri S&T representative: Katie Layman.

kansas city

Jan. 9 — Pierpont's at Union Station — Kansas City, Mo.

Dan '03 and Wendy '07 Bailey; Jim '74 and Ann Foil; David '04 and Kathy '04 Goben; Linda Skouby '87; George '74 and Joy Stegner; Micah Weber '10; and Ann Whitty '79. Missouri S&T representatives: Katie Layman, Marianne Ward and Nancy Zamazanuk.

las vegas



Jan. 18 — Landry's Seafood House — Las Vegas

Tim Hagan '83; Hemendra Kalia '67, '70; Darrell '68, '70, '73 and Jeannie Pepper; Tom Stephenson '95; and Les '77 and Susan '85 Winfield. Missouri S&T representative: Katie Layman.

md-va-dc

Feb. 9 — Chili's — Fairfax, Va.

Michael Becvar '94; Pete Bermel '48; Anne Burke '87; Sara Chiado '01; Lindsay Epstein '06; Inhi Hong '67; Jim Martin '75; Chris Mayberry '98; Sanjay Nayar '93; Randy Nichols '74; Joanne Norvell '87; James Pan '70; Charlie Pulay '90; and Paul Reiman '83. Missouri S&T representative: Katie Layman.

We want your section news

Submit your section news by Aug. 9 to alumni@mst.edu for inclusion in the Winter 2011 issue.

motor city

Feb. 8 — Buffalo Wild Wings — Southgate, Mich.

Tim Bodell '67; Dale Morse '79; and Don Statler '56. Missouri S&T representative: Katie Layman.

ne-ia



Jan. 14 — DJ's Dugout— Omaha, Neb.

Jennifer Allen '06; Luciano Boderio '08; John Botts '73, '81; Rob Brandt '82; Mike '99 and Kate Carlson; Meghan Donnellan '05; Collette Galaske '06; Ernie Gutierrez '77; David '70 and Doris Hollrah; Andy Lozier '06; Karla '84 and John Marburger; Ron Shankland '92; and Matt Vandergriff '98. Missouri S&T representative: Katie Layman.

northern alabama



Feb. 12 — West End Grill — Huntsville, Ala.

Rob '98 and Rebbecca Alferink; James Carter '66; Christian '95 and Christina '95 Cook; Jim Keebler '75; Tom '66 and Bobbie Meier; Steven Moser '82; Tom '83 and Suzanne '85 Riney; Albert Schrenk '58; and Alex '98 and Erica Storms. Missouri S&T representative: Katie Layman.

pacific northwest



Jan. 15 — Seattle Thunderbirds at Everett Silvertips, Comcast Arena — Seattle

Adrian Abrudan '04, '10; Brian '01 and Erin '01 Chamberlain; Casey Engstrom '92; Pete Malsch '62; Steve '64 and Graziella Perry and guest Lee Arnold; and Ryan '01 and Carrie '00, '03 Rule. Missouri S&T representative: Katie Layman.

southern california



Jan. 17 — The Smoke House — Los Angeles

Kris Atkins '06; Mahmut Ekenel '04; Whitney Joseph '08; Jason Lambert '01; and Erick Richardson '07. Missouri S&T representative: Katie Layman.

sw florida



Feb. 19 — Libby's Café & Bar — Sarasota, Fla.

Greg '73 and Ruth '74 Anderson; John Best '55 and Erma Cooper; Jim '53 and Jean Cauthorn; John Culter '76; Cliff '47 and Ruth Dameron; Derek Hoven '96; John Keating '73; Ron '71 and Jean Kelley; Dick Raby '66; David Schmidt '80; David Villafana '70; and Bob White. Missouri S&T representatives: John F. Carney III and Katie Layman.

tucson



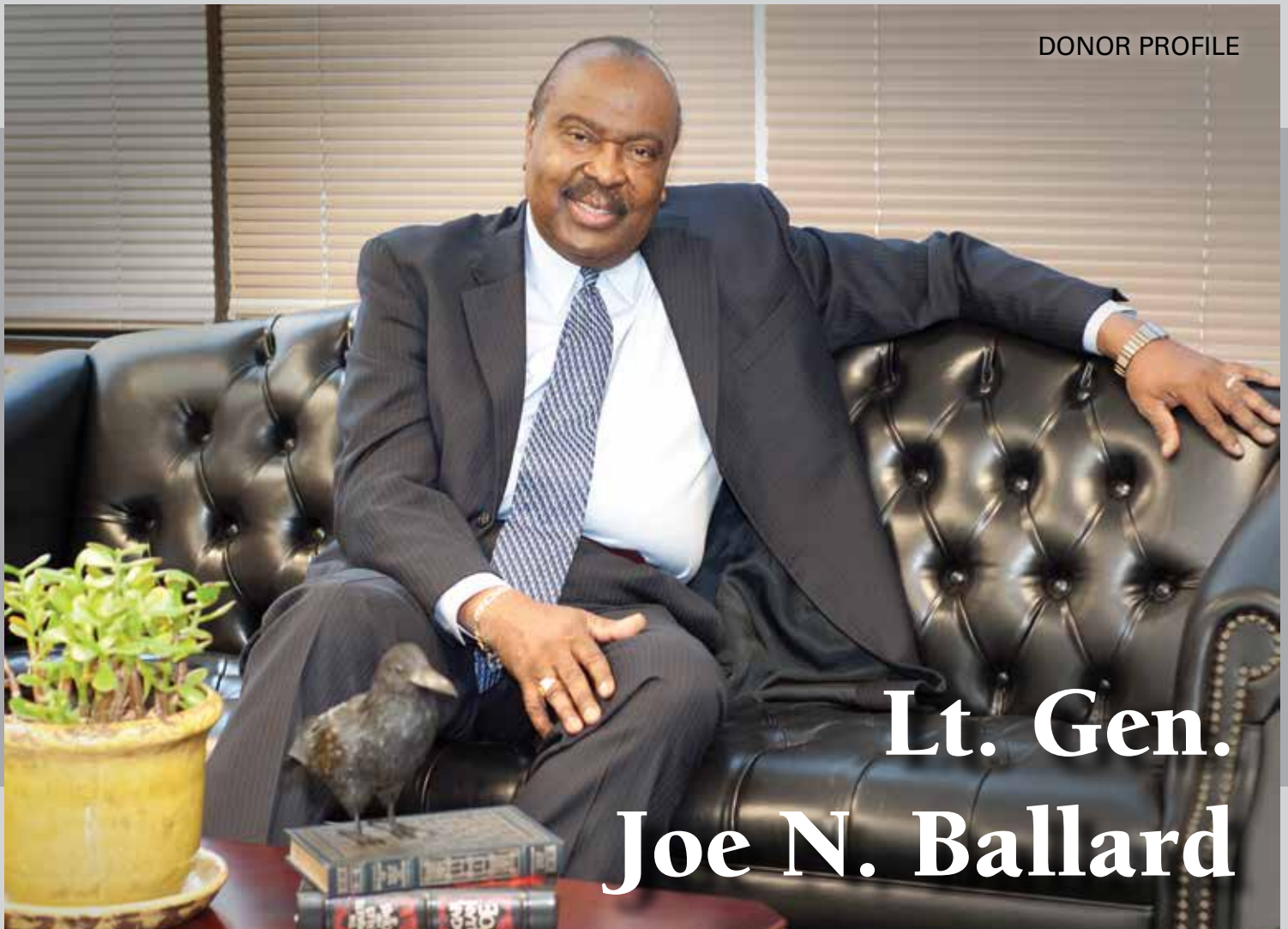
Jan. 19 — A Steak in the Neighborhood — Tucson, Ariz.

Mike DiNapoli '76, '78; Dale Fanter '64; Mike '70 and Joyce Finkelstein; Ben Grau '06; Bill Hallett '55 and Dorothy Walters; Bill '64 and Anna Jacobs; Paul Kriegshauser '72, '74; Mike Lu '05; John '69 and Teddi Lynch; Charlie McNamara III '79; Larry '70, '76 and Carole Oliver; Al Ploesser '44; Joe Quinn '49; and Brad Towery '08. Missouri S&T representatives: Katie Layman and Trudy Pischer.



Join your section on Facebook

Stay connected with the following sections: Air Capital, Air Force ROTC 442, Chicago, Carolinas Piedmont, Pacific NW and St. Louis.



Lt. Gen. Joe N. Ballard

On the first day of 7th grade, Lt. Gen. **Joe N. Ballard**'s teacher, Mrs. Glenn, asked her students to draw a slip of paper from the glass bowl by the classroom door. Ballard's slip of paper read "Edgar Allan Poe."

"I had no idea who he was," says Ballard, MS EMgt'72. "Mrs. Glenn wanted us to go to the library and research the subject and be conversant on it. Several times throughout the year, she would call on you and you had to be ready. There was no warning."

"I read everything he had. I learned about his life, about why he wrote and how he wrote."

And he loved *The Raven*. Ballard can still recite it from memory. So can his brother.

"My middle brother helped me memorize the poem," Ballard says. "He was my proctor. I would put the blanket over my head and recite the poem."

That poem, not the Baltimore-based NFL team, is the inspiration for Ballard's company, The Ravens Group. The Maryland-based company, which Ballard founded in 2002 with two other employees, has grown to employ a staff of 300 in 17 states. The Ravens Group provides government contract services for agencies like the Veterans Administration, the Department of Defense and the U.S. Army Corps of Engineers.

Ballard's last military post, an appointment by President Bill Clinton in 1996, was chief of the Army Corps of Engineers. He retired from that post in 2000. Outreach to minority students was an integral part of his job.

"The thing we found is that in the minority community there are some very bright and deserving students, but they just don't have the wherewithal to come to a school like S&T," Ballard says. "S&T has done a tremendous job of outreach and I wanted to do anything I could to help the university. It's another way of giving back."

Ballard and his wife, Tessie, have given back financially, too. This year the couple gave \$250,000 to S&T to help attract minority students to STEM (science, technology, engineering and mathematics) programs. A portion of the gift will provide scholarships. The rest will provide \$5,000 matches to encourage other alumni to endow scholarships of their own.

"The best thing that ever happened to me was earning my master's degree from S&T," Ballard says. "I have used that degree more than you can possibly realize. The things I learned at Rolla have really been instrumental in whatever success I've achieved. I'm a big proponent of engineering education."



Miner Alumni Association

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Rolla, MO 65409-0650

ADDRESS SERVICE REQUESTED

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

WE NEED A HERO

Unsung hero, noun —
a person who makes a substantive yet unrecognized contribution; a person whose bravery is unknown or unacknowledged.

**Visit mineralumni.com/unsunghero
and tell us about your S&T unsung hero.**

On the pages of every issue of *Missouri S&T Magazine*, we feature amazing alumni. Graduates who have left S&T (or stayed on campus) and achieved exceptional success in their professions. They've lived on the International Space Station, discovered hidden lakes, brought the idea of electric cars from novelty to reality, and worked to make our nation more energy-secure.

Yet many of our alumni's valuable contributions remain under the radar.

We know there are alumni who in their own way are making a difference through their professions, community service and life example. At some point in their lives, in one way or another, they have gone above and beyond the call of duty. We want to hear their stories — and tell them in an upcoming issue of this magazine.