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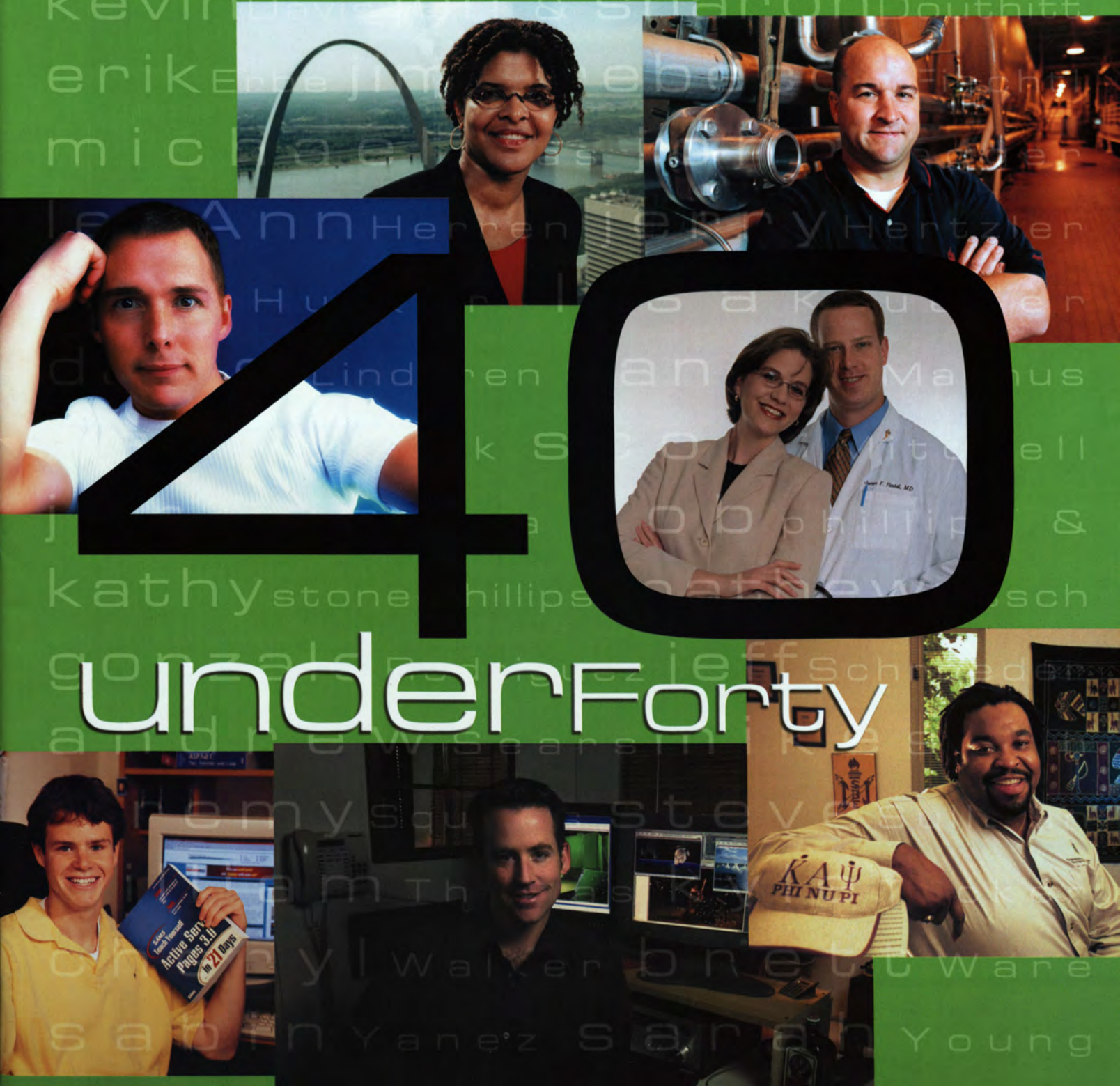
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MSM-UMR ALUMNUS

A PUBLICATION OF THE MSM-UMR ALUMNI ASSOCIATION

FALL 2002

VOL. 76, NO. 3



underForty

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FALL 2002 VOL. 76, NO. 3

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The MSM-UMR Alumni Association's new executive vice president, Lindsay Bagnall, discusses campus ties, alumni loyalty and the association's future



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underForty

Meet 40 of UMR's young alumni

These 40 young alumni represent everything from corporate leaders to scientists, researchers, engineers, entrepreneurs, college professors, authors, a missionary, doctors, lawyers, a playwright, an FBI agent, a mayor and an Academy Award winner. They come from all over — from Peru to Pennsylvania — and these are their stories.

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DEAN & LINDA CLUBB

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"If you enjoy discovering new things, there are new things all over the place."

-Dean Clubb

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MSM-UMR ALUMNUS

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A MESSAGE FROM THE CHANCELLOR



IT'S A PRIVILEGE TO INTRODUCE TO YOU

40 of our most accomplished young alumni. In this special "40 under 40" issue, you'll read about fellow UMR graduates who are making their mark in a variety of disciplines — as entrepreneurs and corporate leaders, artists and authors, professors, physicians and public servants. Collectively and as individuals, these 40 young alumni represent the best of MSM-UMR: our tradition of educating leaders, academic excellence, hands-on know-how, ingenuity and service to society. While many, many more young alumni certainly deserve to be included in a publication of this type, we have only so much space in the magazine, and only so much time to devote to a special edition such as this one. This issue serves as a representative sample of the diversity of our young alumni and their pursuits. Our hope is that even if you don't see anyone you know in this issue, you'll still recognize the imprint of your alma mater on these featured 40.

Rumors exaggerated

As I write this, I continue to receive calls and e-mail messages from concerned alumni, parents and friends who have heard rumors of the possible closing of UMR. To paraphrase Mark Twain, the rumors of our demise are greatly exaggerated. Let me emphatically reassure you: ***UMR is not closing.***

The rumors of our closure stem from news reports of a comment University of Missouri President Manuel T. Pacheco made during a meeting of the Missouri Coordinating Board for Higher Education in June. President Pacheco, addressing the public funding crisis for Missouri's public colleges and universities, told a reporter that the drastic cuts in state funding could result in the closing of some academic programs and possibly, if deep cuts continue, the closing of one of the four University of Missouri campuses. (The part of President Pacheco's statement that was left out of most reports was the phrase "if there are additional withholdings or cuts to appropriations.")

Many of you have contacted Missouri legislators to let them know how important this campus is to the state's economy. Such loyal support for your university is inspiring and, I believe, will help UMR prevent further cuts and withholdings. It's important that we continue to let our legislators know the value of UMR to Missouri, the nation and indeed the entire world. Alumni and friends of the university are among our best ambassadors. Your letters, e-mail messages and telephone calls carry a lot of weight with legislators.

For those of you who don't follow Missouri politics, let me provide a bit of background. Missouri's economy was hit hard last year by recession, compounded by the impact of last September's terrorist attacks. As a result, the state cut the budget for higher education three times during the last fiscal year. Gov. Bob Holden announced the latest withholding just 51 days before the end of the fiscal year. The result was a 15 percent reduction in our state appropriation — a cut of nearly \$8 million. To address these cuts, the four-campus University of Missouri System increased educational fees, added a surcharge for the fall and winter semesters, implemented an early retirement program, cut back on needed maintenance and repairs, and froze the salaries of faculty and staff. Even as we addressed last year's shortfalls, we faced another difficult funding situation for the current fiscal year. As we entered the year, our share of state funding was reduced by another 10 percent, thereby slashing UMR's state funding to \$47 million from \$52 million. Since the final withholding of appropriated funds came so late in the year, most of the last cut must be handled during the current fiscal year.

(continued on the next page)

These cuts have been deep, and have hurt UMR. In addition to the withholding of operating funds, the university also lost its capital improvement funds. This means we have had to put on hold some very important construction projects. Our Mechanical Engineering Building expansion and renovation project was slated to receive state funding two years ago, but because of the state's budget problems, progress on this needed improvement has been slowed down.

Despite these difficulties, we are moving forward to build UMR into one of the nation's premier technological universities. We have a plan in place that will guide us through the difficulties. If there are no further cuts to the appropriations, UMR will be able to manage the cuts already announced and emerge even stronger than we are now.

Those things which we *can* control all point in a positive direction. Among the highlights:

- First-year enrollment this fall is the highest in nearly a decade. The number of transfer students is also growing, and our expanded graduate programs have resulted in a marked increase of graduate students.

- Last fall, our student retention rate for the second to third year was the highest it's ever been, and we expect that trend to continue.

- UMR's researchers are bringing in more funding from a variety of resources. Research volume and indirect cost recovery are now at an all-time high.

- Even during the past year, one of the toughest in nearly two decades for new graduates, our graduating seniors were still in demand. Many firms — from Fortune 500 companies to smaller startups — trimmed their list of sites for recruiting this past year, but UMR remained high on their lists. **Timothy Hufker**, ME'87, president and CEO of CPI/Centrics and one of the "40 under 40" profiled in this issue, makes the case for UMR: "UMR is one of the only schools that CPI/Centrics hires from on a regular basis. I know where to get good people."

In short, UMR is ideally positioned to rebuild from the cuts already imposed next year. Problems do arise, however, with significant additional withholdings or cuts to our appropriations. And, the same problems arise in the budgets of other University of Missouri campuses.

While on the surface it may seem an easy solution to close programs or even a campus, a close analysis — which we are now undertaking — will reveal that closing programs would result in a much smaller savings than initially thought.

UMR is not a candidate for closure. The governor has stated publicly several times that Missouri needs a public university that is nationally ranked. In the short run, UMR has a better chance than any of the other UM System campuses to break into the top tier of national rankings.

Recognizing these facts, President Pacheco made his statement for at least two reasons. First, everyone in the state should recognize the seriousness of the cuts to the university; hence, everything must be on the table when we discuss changes to the University of Missouri and analyze the impact of further cuts. Second, those who care most about the university — our alumni and friends, as well as business leaders, students, parents, faculty and staff — must be mobilized to fight further cuts. Missouri ranks 39th in the nation in per capita expenditures for higher education. If recent trends continue, we could slip even further into the bottom tier of states. We must fight further cuts in appropriations as hard as we can, and the university, together with other institutions of higher education, is attempting to do just that. We must communicate the economic impact the university has on the state and the standard of living of all Missourians. While those of us in higher education can help in this process, the people in the best position to make a convincing case to elected officials are business leaders and alumni. While I believe we must resist further cuts, we must also find more efficient ways to provide services to our students and society in general. Just because we have "always" done something or organized our administration in a particular way is no reason for not trying to deliver those services more effectively. I welcome your suggestions. We need everyone's efforts to improve the institution and to help achieve its goals.

I have received many offers from parents, alumni and other friends of the university to speak out on behalf of higher education in general and UMR in particular. We have many influential friends with access to elected officials. I assure you that we will not passively accept further cuts. I also assure you that we will look at everything we do to find ways of improving our efficiency.



Gary Thomas
Chancellor

LETTERS

The article on Gary Havener in the most recent *MSM-UMR Alumnus* magazine was great!!! Gary and I are lifelong friends (same high school, MSM, same fraternity, etc.) and the article was very accurate.

Wade A. Martin '63

Your article on my part in the development of Maramec was very good (*page 36, summer 2002 issue*). I appreciate being mentioned in the *Alumnus*.

Robert L. Elgin, CE'37

We welcome your comments and suggestions for your *MSM-UMR Alumnus*. Letters to the editor may be addressed to: *UMR Publications, 1870 Miner Circle, University of Missouri-Rolla, Rolla, MO 65409-1520, by fax at (573) 341-6157, or e-mail at alumni@umr.edu. We reserve the right to edit letters for length as space allows.*

40 underForty

Top 40 lists have been around at least since Casey Casem's popular radio program, "American Top 40." And America's business journals have used the "40 under 40" theme for years to profile their communities' up and coming business leaders. But the 40 young alumni featured on the following pages represent more than the corporate climbers — although we certainly have our share of young business leaders. UMR's 40 under 40 include a playwright, an astronaut, scientists, researchers, engineers (of course), entrepreneurs of every stripe, a restaurateur, a couple of college professors, an author of computer books, a missionary, a couple of doctors, a couple of lawyers (one's also a poet), an FBI agent, a mayor and an Academy Award winner. They come from all over — from Peru to Pennsylvania — and work on everything from street rods to Web sites.

While many, many more of our young alumni no doubt deserve to be featured in these pages, space and staff limitations require us to confine this list to 40. We believe, however, that the young alumni profiled represent the best qualities and characteristics that UMR is known for — the entrepreneurial spirit, can-do attitude and, most of all, the world-class education they received from their alma mater. We hope alumni young and old enjoy this special issue.



Photo courtesy of Dan Arthur

From rockhounding to consulting, it's natural for one UMR alum

Searching for marine invertebrate fossils in eastern Montana's Hell's Creek formation or trilobites in Coal County, Okla., is a natural hobby for **Dan Arthur**, PetE'86. Even his children, Teresa, 9, and Daniel Jr., 7, are into "rockhounding."

"Instead of fishing trips, I take them fossil hunting," says Arthur, 39. "They're very science-minded kids."

Dealing with ancient fossils isn't Arthur's only interest. His passion for new ventures shows through Arthur, Langhus, Layne — LLC (doing business as ALL Consulting), a consulting company he started in 1999 with **Mark Layne**, PetE'85, MSPetE'87, PhD PetE'96, and Bruce Langhus.

"When we started, some people suggested we call the company 'Dan and the Docs,'" the ALL president, program/project manager and environmental/technology specialist jokes, referring to the fact that he's the only founder without a Ph.D.

Despite (or because of) the decision to go with a more traditional name, ALL has seen great success. In just two and a half years, the company has grown from the three founders to a staff of 25 that includes engineers, geologists and scientists, and has government and industry clients worldwide.

"We have a relatively set focus ... to use information technology for areas in a broad environmental sense," he says. This "broad environmental sense" applies to environmental science/planning, earth science and natural resources.

Among ALL's current projects is one for the Groundwater Protection Research Foundation (GWPRF) and the federal Bureau of Land Management. Specifically, ALL must find ways to use the water that is produced when coal bed methane is extracted from wells. According to Arthur, this coal seam aquifer water is of good quality, but historically, has been dumped into rivers instead of being used beneficially.

"In the kick-off meeting for the project, we asked, 'What could this water be used for so it's not wasted?'" he says. "It's another natural resource that you don't want to go to waste." From stock watering and irrigation to dust control and wildlife watering, ALL is looking at a variety of ways to safely use this water.

Another major project: ALL is working with the country of Oman on the Arabian peninsula to develop a

system that during pumping, separates oil and water before it reaches the surface. This will increase oil production and prevent pollution.

"We're working on some incredible projects," Arthur says. Working with U.S. government and foreign agencies could seem daunting for some people, but not for Arthur. Before ALL, he was an enforcement officer for the U.S. Environmental Protection Agency in Chicago and was in management at CH2M HILL, a consulting firm. Both gave Arthur an opportunity "to get involved in a lot of environmental issues and meet a lot of people" and gave him experience in negotiating with high-level representatives.

Though he does not consider himself a conservationist, Arthur does see himself as an environmentalist. "I'm pro-development in an environmentally prudent manner," he says. "Making choices that make sense. Those are really neat things to be involved in."

Where does his interest in the environment come from? Other than enjoying nature, Arthur believes it comes from the way he was raised. He grew up on a dairy farm in southern Missouri in a community a few miles outside of Bucyrus, Mo. "You get to do everything — and make sure you keep the cows from doing their thing over the water well," he says.

And the innovating spirit? Elmer and Edna Arthur, his grandparents, were the first people in the area to have running water. "My grandfather was sick of pumping water for the cows," Arthur recalls. The solution: a mail-order windmill from Sears Roebuck that pumped water into the wooden storage tanks in their attic.

Of course, Arthur, who resides in Tulsa, Okla., gives credit to his time at UMR. He met his wife, **Joan (Maruska)**, ChE'84 and his business partner, Mark Layne, at UMR, where he was a member of the Sigma Pi fraternity. "I had lots of really good friends at Rolla," he says.

As for future ventures, Arthur hopes to be "president of a 300-person consulting company," naturally.

by *Tricia Murphy*
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brian Ash



Photo by Bob Phelan/Photomasters

Scenes from an Italian restaurant

The first thing you notice when you enter Brian Ash's Bambino's Italian Café is the bar. It looks like a smaller version of the bar from *Cheers*; all that's missing is Norm and Cliff sitting at the end. The hardwood floor is scuffed but clean, and the decor is sports-bar eclectic: Square tables, covered with green checked plastic tablecloths surrounded by mismatched chairs. A TV showing sports in one corner. A local band sets up for a show in another.

The air is filled with the scent of warm bread and pasta. Customers, from children to senior citizens, chat with each other while they wait for their food. The entrees are served in very large portions at reasonable prices with excellent service. The waitress encourages customers to get a drink refill in their Bambino's cup on their way out the door.

FROM BYTES TO BITES

Computer programmer Brian Ash has a hit with his restaurant, Bambino's

Brian Ash, CSci'87, MS EMgt'93, left the world of computer programming to become a restaurateur. Along with Andy Faucett, a childhood friend from first grade, Ash opened Bambino's Italian Café in Columbia, Mo., in 1994. The restaurant, named after baseball hero Babe Ruth, serves variations of Faucett's family recipes in an atmosphere adorned with memorabilia.

By 1996, business at Bambino's in Columbia had taken off, so the team expanded westward to another college town, Lawrence, Kan. Faucett left Columbia to manage the new Bambino's, leaving Ash in charge of the original restaurant. Recently, another childhood friend from this same first grade class, **John Sweaney**, ME'88, opened a third Bambino's in the trio's hometown of Springfield, Mo.

Before going into business with Faucett, Ash spent six years as a computer programmer at McDonnell Douglas in St. Louis, where he designed software for F-18 military planes. When his bosses at McDonnell Douglas were ready to promote him to a managerial position, Ash started to look at where his career was going. He couldn't stand the thought of being stuck in middle management. "When I am somewhere 30 years, I want to be running the place, not just a couple of levels up the corporate ladder," says Ash.

So Ash called his friend, Andy Faucett. "I decided I was going to do something completely different and I knew Andy was a success story waiting to happen." Faucett had worked in restaurants while growing up and had helped his mother start several small businesses. Ash knew Faucett had the know-how, but not the means, to start a restaurant. Cashing in Ash's McDonnell Douglas stock, the duo had their collateral. "I figured that if we lost it all I'd be young enough that I could go get a 'real' job," says Ash. That was more than eight years ago.

The day after he proposed to his wife Diana, he told her of his plans to start up a restaurant. "I did the old bait and switch on her," Ash says. "She thought she was marrying this stable engineer guy, not one who'd be crazy and open a restaurant." They married in 1993. Diana started working at Bambino's in 1996. Now they have two children: Amanda, 5, and Alex, 3.

In addition to owning Bambino's, the couple owns another business right down the street, The Palamino For Private Gatherings. Diana has been running The Palamino since 1999.

Ash, 37, says his engineering background helps him effectively run the restaurant. "I am very pro-computer and am very analytical in how I approach everything," he says. "There are a lot of good things about having an engineering background in anything that you do, because it is all about being precise and by the book."

Ash is satisfied with his career change and enjoys being his own boss. "I take great joy in solving problems and seem to think I know the answer — whether I do or not."

by Claire Faucett
denboc@umr.edu

Carving a new path in an old profession

David Bayless decided one thing when he was young: He would not be an engineering professor like his father **Jerry Bayless**, CE'59, MS CE'62, the associate dean of the UMR School of Engineering. He would join the Navy to get away from his native Rolla.

But, in the Navy, David Bayless, ME'87, learned leadership skills that he realized would make him an effective educator. "The Navy is a great place to get a start as an engineer," Bayless, 37, says. "The skills I learned in managing a group of junior officers helped me learn to ... keep morale up, effectively use people's time and not micromanage."

Then there was the teaching. He loved it. When Bayless taught his classes as a nuclear propulsion officer and instructor, he felt like he was on stage. He would strive to see his students' eyes change when they grasped the meaning of a lesson. "It became very clear to me that I wanted to teach," he says.

Despite all of his young intentions, he pursued a career in engineering education. In 1992, Bayless earned his master's degree in industrial engineering from the University of Central Florida. He then earned his mechanical engineering Ph.D. in 1995 from the University of Illinois at Urbana-Champaign.

Bayless is now what he once swore he would never be. As an associate professor of mechanical engineering at Ohio University, he's followed in his father's footsteps.

"We complain about common things, like budget cuts," Bayless says. "He gives me updates on Rolla, and tells me how the Miners are doing."

Unlike his father, though, Bayless doesn't plan to go into administration. "As a professor, I meet a lot of great people and have a lot of great students," Bayless says. He does get a taste of administration, though, as the co-director of the Ohio Coal Research Center at Ohio University and the program manager of the university's Coal Research Consortium. "My wife, Sally, says I didn't want to be a professor, and now the very last thing I want to do is get into administration," he says. "She tells me, 'Watch out or you'll be a department chair.'"

Bayless hopes not. He wants to be where the action is — in the lab. That action became popular science when some of his research gained media attention.

Last year, ABC News and the Office of Science for the U.S. Department of Energy reported on his research that will determine whether green algae can convert carbon dioxide to oxygen through photosynthesis in the smoke stacks of fossil-fueled power plants.

Bayless has also been conducting research that hasn't received as much media attention, yet. He has a patent in electrostatic precipitation that was licensed and sub-licensed by industry. He's also been awarded a provisional patent for his laminar electrostatic precipitator. "It works in a lab," he says. "If it works commercially, it will trap all the fine particles released when coal is burned" in fossil-fueled power plants.

He hopes his research will help lessen the environmental impact of the power industry. Around 800 million tons of coal are burned every year in the United States. Of that, 24 million tons are sulfur and 50 million tons are mercury. And those fine particles released when coal is burned? They contribute to serious respiratory diseases.

That makes Bayless think of his wife and their two children: Michael, 6, and Laurel, 2. "I love being a dad," he says. "I think about what pollution control means for my kids and my future grandkids. It's taken a different meaning for me."

He shares these views with his students by telling them that it's "lifetime employment" to give industry options to replace old technology with innovative, cleaner technology. "People need to understand fundamentals of how and why cleaning emissions is important," he says.

His hope? That in 20 years, people will understand that very concept. "It's great to think that we are building a knowledge network starting from our little lab in Athens, Ohio."

*by Tricia Murphy
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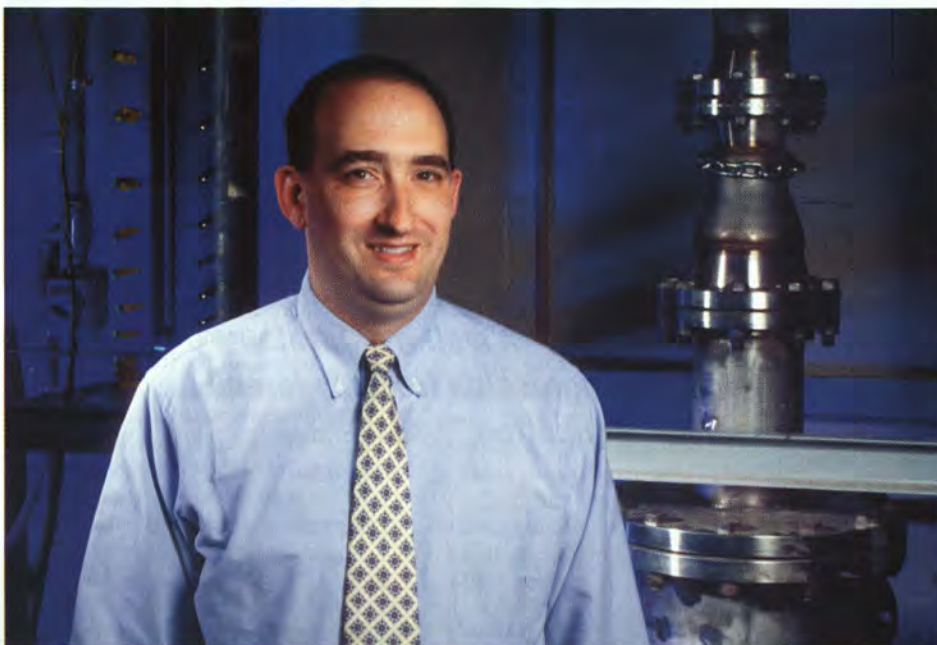


Photo courtesy of David Bayless

david Bayless

ON THE WEB

Ohio Coal Research Center:
www.ent.ohiou.edu/~ohiocoal/

A natural-born entrepreneur

When he was 12 years old, **Steve Birdwell** distributed to his neighbors a brochure he made proclaiming himself a "Slave for Sale." Birdwell, 38, was willing to do just about anything to make a buck that summer. "I was mowing lawns, washing cars, walking dogs — and everything had a price on it. I made about \$300 a week that way."

Birdwell, MS GeoE'87, was seemingly born with the entrepreneurial spirit. "I've always been an entrepreneur," he says. He's been working for himself — "making money somehow" — since junior high school.

Since boyhood, he's wanted to go into business for himself. During an undergraduate business course at Baylor University, Birdwell wrote a business plan that ended up being the basis for his company, Remedial Construction (or RECON), a Houston-based environmental and geotechnical contracting business.

In the environmental industry, an entrepreneur can either be a consultant and work with design aspects or can focus on the remediation and construction side, Birdwell explains. "I've just grown up around construction all my life so it was kind of a natural fit for me, having the education I did, to jump into that end of the industry." His father has run an industrial construction company, G.R. Birdwell Construction Inc. (BCI), in the Houston area since 1977.

Birdwell founded RECON in 1989 as a spin-off of that parent company to meet the increasing environmental demands of BCI clients. It has grown into a company of 200 employees with \$35 million in revenues. RECON is a licensed contractor in 25 states, but has completed projects in all 50 states, Canada, Chile and Mexico. "We're the largest bio-polymer trench contractor in the country," Birdwell says. "We're also the third-largest slurry trench contractor in the country and one of the largest jet grouting contractors in the country."

All the areas RECON specializes in "are specialty technologies that require a thorough understanding of the subsurface," Birdwell says, and that's where his UMR education comes into play. "In everything we do, we're modifying the ground in some way." Whether he's building a wall to control groundwater flow, changing the strength or permeability of soil, or turning a sludge into a solid, "it's all a natural progression from my formal education."

The biggest challenge Birdwell faces is keeping the company's focus during its growth. RECON has averaged annual growth of 20 percent to 30 percent. "Going from running a small business (two or three employees) to running a large business (about 200 employees) kind of stretches your capabilities," Birdwell says. "You have to constantly re-evaluate your abilities and identify your weaknesses. As a manager, you have to grow faster than the business."

Birdwell and his wife, Ashley, have four kids — Cody, 9, Avery, 7, Bethany, 2, and Audrey, who was born in July. The Birdwells enjoy waterskiing and spend as much time as they can at their lake house on Lake McQueeney in Texas.

by Mary Helen Stoltz
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ON THE WEB:
Remedial Construction:
www.recon-net.com



Photo by Brett Coomer

steve Birdwell

Whether he's building a wall to control groundwater flow, changing the strength or permeability of soil, or turning a sludge into a solid, "it's all a natural progression from my formal education." -Steve Birdwell

joel Brand



Photo by Sandra Elliott Orsillo/Natural Expressions

Partnership, UMR style

Joel Brand and Aron Gaus first met in 1988, when Gaus was getting ready to graduate with his bachelor's degree in ceramic engineering. But the seeds of their future business partnership weren't planted until their grad school days in the physics department.

"We had a sort of common bond, because we both had done our undergraduate work in engineering," Brand says. "But actually, we really started getting to know each other because we started driving back and forth to St. Louis to see our future wives," Gaus adds.

Brand, 37, earned his bachelor's degree in chemical engineering to get a "good solid foundation in engineering," following in his father's footsteps (Glenn Brand, ChE '39). "But my dad always said that every educated person ought to take modern physics," he says. Brand enrolled in a physics course and was hooked, but realized he didn't have enough mathematical background to really understand physics, so he got a master's in mathematics before completing his Ph.D. in physics.

Gaus, 36, had a similar experience at UMR, starting out in ceramic engineering before moving to physics. "I had always strived for a more fundamental understanding of physical processes than what engineering generally offered," Gaus explains. "This, combined with my desire to work with elaborate instrumentation (as was present in the UMR physics department) got me to switch to physics for my Ph.D."

After leaving UMR, both Brand and Gaus went to work for major companies

aron Gaus



Photo by Bob Phelan/Photomasters

— Brand as director of engineering at Monitor Labs in Denver, and Gaus as director of product support for Eaton, a semiconductor equipment manufacturer in Austin, Texas. When Gaus left Eaton, he did some contract work for Brand at Monitor Labs, and during that three-month period in 1999, Brand-Gaus LLC was conceived. Gaus realized, "Hey, we could go do this on our own if we wanted to."

"We had talked about starting a company for a long time," Brand says. Gaus earned a master's in business administration from the University of Texas during his last year at Eaton and that gave them the business background they needed.

ON THE WEB
Brand-Gaus LLC: www.brandgaus.com

"Joel and I always thought we could handle all the diverse aspects of running a business," Gaus adds. "We're not purely techie guys. We do have a little bit of business sense about us. You want the challenge and control of offering a product to the world and making a business around it."

Gaus and Brand met the challenge in 1999, when Brand-Gaus LLC was formed. The Austin, Texas-based company is made up of the two of them. Gaus focuses on the engineering development and operations side in Texas, while Brand is more of the marketing and research and development guy. "We share the product development role 50-50," Gaus says.

The partnership's product design philosophy is to provide high-quality, reliable instrumentation products that are simple and cost-effective to use. Brand-Gaus designs and manufactures two types of instrumentation devices — temperature controllers and gas analyzers for continuous emissions monitoring. Temperature is important for any analytical experimentation, Brand says. "Essentially, everything is a thermometer — everything is temperature-dependent." These general purpose controls are used in everything from industrial furnaces to injection-molding devices and are sold to a wide variety of consumers, from NASA and Boeing to small chemistry labs.

The other side of the business, developing the emissions-monitoring system, is "very, very specific and is more the focus of our business," Brand says. The systems are manufactured primarily for combustion-turbine power plants, which the Environmental Protection Agency requires to limit their emissions. To do that, they must use a monitoring system. Enter Brand-Gaus.

The two entrepreneurs credit their broad educational backgrounds for their business success. "It's really surprising how differently engineers and scientists think," Brand says. "Engineers are much more problem-solving and pragmatic; scientists are more conceptual." Being able to combine aspects from both backgrounds makes a truly well-rounded company.

While they do hope to expand the business, they acknowledge the start-up process is a difficult one. "At this point, it's not about making money," Gaus says.

by Mary Helen Stoltz
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Sam Conzone: giving biotech his best 'Schott'

Sam Conzone always considered himself good at planning. But sometimes even the best of plans can benefit from a bit of good timing.

Such was the case for Conzone, MS CerE'96, PhD CerE'99. Shortly after being hired in a business development role by Schott Glass Technologies three years ago, Conzone began to look into opportunities in the area of DNA microarrays. The company was also looking at the possibilities of new business in biotechnology.

It was a perfect match. Today Conzone, 29, is the technical leader of Schott's biotech efforts, which began in May 2001 in Duryea, Pa. The group's plan is to combine biotechnology with photovoltaics — the harnessing of power that occurs when radiant energy falls on the boundary between dissimilar substances, such as two different semiconductors. The company hopes the resulting technology will generate hundreds of millions of dollars in new business for Schott by the end of the decade.

Even though Conzone believed he would do well at Schott, his quick rise has surprised him. "I thought I would be successful," Conzone says, "but I never thought I would achieve this level of responsibility so quickly. At times it has been overwhelming, but every day I gain more confidence."

Based in Mainz, Germany, with 16 divisions in North America and more than 19,000 employees worldwide, Schott has a reputation for giving its young workers a great deal of responsibility. "The company is at a transitional point and is currently attempting to generate new business," Conzone says. "There are a lot of opportunities for young, entrepreneurial individuals."

Schott has been around since 1884 and still produces traditional glass products, such as optical and ophthalmic glass, glass filters for night vision, and avionics displays and glass used in cookware. Often described as the "Corning of Europe," Schott ventured into the biotech sector in 2001.

Conzone became interested in biotechnology while working with **Delbert Day**, CerE'58, Curators' Professor emeritus of ceramic engineering at UMR. Day was Conzone's advisor while he was in graduate school and was "the most important business/technical mentor in my life," Conzone says. He worked alongside Day in developing biodegradable, radioactive glass microspheres to treat rheumatoid arthritis and other ailments.

Conzone also gained an interest in microarrays while reading information on the subject during the time he worked in business development. Between that and the experience he gained at UMR, Conzone has become a key member in the research and development team that is now dealing with a potential multi-million dollar industry.

"Schott intends on building a biotech business capable of generating hundreds of millions of dollars by 2010 through the sale of products and services based on microarray technologies," Conzone says. The products and services would be "almost exclusively used for drug discovery," he adds.

Conzone's technical group has grown from one to 13 over the past year, "and we will grow to 20 to 25 members by next year as we have recently received \$4.6 million of state and federal funding." The group is launching its first product, a substrate to be used with DNA microarraying applications.

sam conzone



Photo courtesy of Sam Conzone

Conzone's work has also made him one of northeastern Pennsylvania's lead spokespersons on the topic of biotechnology. He has begun to publish articles on the subject and has also been asked to make presentations and even chair sessions on biotech subject matter at technical and scientific conferences.

One plan that Conzone had when he was a student at UMR was to obtain an innovative job in industry where he could make a difference — both in terms of creating new products and creating new jobs. It's probably safe to say that things have worked out according to plan.

by John Kean
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Sweet home (Coker) Alabama

John Dalton has moved a few times in his life. He moved from Portage, Wis., to Mountain Grove, Mo., when he was 15. Now at 37, he's added Oklahoma, Illinois, Ohio and Louisiana to his list of former residences. But nothing compares to his current home: Coker, Ala., where he has continued his career, become a politician and started a family.

It all began in 1996 with one of those offers he couldn't refuse. Dalton, ME'88, MS ME'91, was working as a project engineer for Conoco in Ponca City, Okla., when he got a call from Hunt Refining in Tuscaloosa, Ala. "It gave me an opportunity to improve my well-being," Dalton says. So, he decided to join the privately owned refinery as their new project engineer.

Actually, he was the only project engineer for the 50,000 barrel-a-day plant. That in itself was an opportunity, and his first positive Alabama experience. "I had the chance to learn all about the plant," he says.

Now a senior project engineer (there are two of them), Dalton puts that knowledge to good use. And, while other



Photo courtesy of John Dalton

refineries go belly-up, Hunt keeps on going. Dalton thinks it's because of the employees' teamwork. "Even though I'm in engineering, there's a lot of communication" among employees across departments, he says. "It's rewarding to see what a small change of a new idea can do to help the bottom line."

Along with the group dynamics, Dalton enjoys the flexibility of working in a smaller environment. "Every day something else comes up," he says. "It's not the same job over and over."

That flexibility gives Dalton the opportunity to work his second job as mayor of Coker, Ala. Established in 1999, the city covers six square miles and has 808 residents, mostly retirees and commuters, who wanted to establish a city to "avoid being gobbled up by two bigger cities: Tuscaloosa and Northport," Dalton says.

The position takes up to 10 hours of Dalton's time every week. It used to be more, until Coker hired a city clerk this past February. Before then, Dalton, who was elected as mayor in March 2001, had been acting city clerk since 1999.

Though the city is "still in diapers," according to Dalton, Coker is progressing. Income for the city comes from sales tax, business licenses and franchise fees from utilities. There are plans to improve the city's only major intersection by replacing the stop signs with a four-way flashing light. The city has an independent water authority, elementary school and volunteer fire department, and Coker's 70 licensed businesses include a petting farm and an airplane parts machining shop. Development plans, Dalton says, include constructing a city sewer, an industrial park, a community tornado shelter, and an activity center by the elementary school.

"It's a nice, quiet town," Dalton says, and this seems to be a 'round the clock trend. "I've had the opportunity to be returning the recycling trailer at 1 a.m. It was so peaceful." (Dalton pulls the town's recycling trailer every two weeks with the same 1976 pickup truck he drove while at UMR.)

Dalton lives in Coker with his wife of three years, Kristina, and their Chow-Chow dog, Gypsy. "It's a nice place to raise a family," he says. Raising a family is in the future. Dalton's five-year plan includes kids, the 10-year plan includes teaching community college night classes, and the 20-year plan includes retiring from industry and teaching full-time at a small college.

Dalton sums up his overall appreciation for his time in Alabama simply. "I met my wife, bought a house and got a dog since I've been here," he says. "Alabama has been good to me."

by Tricia Murphy
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All that you can't leave behind

As you would expect, most of our 40 under 40 held on to their St. Pat's green after graduation. Here are a few other things they've kept from their time on campus.

"I made a needlepoint pillow of Joe Miner for Bob that we still have." - Katherine (Stone) Phillips, NucE'90

"Cross-stitch Joe Miner pillow Kathy made for me, and my UMR swimmers jacket." - Robert Phillips, LSci'90

"This pesky ulcer that won't go away." - Jeremy Squires, EE'93, MS CSci'96

"Two bricks from the burned down Pike House." - Jim Fiechtl, BioS'96

"My Homecoming queen crown." - Cheryl Walker, EE'86

"My diploma. My nickname ("Square"). My friends." - Jerry Hertzler, Phys'88

"The *Rollamos* and some bumper stickers." - Gonzalo Rodriguez Risco, EMgt'93

"Every day I drink out of some of the old 'recycle' mugs I collected from the UCE cafeteria. I must have a dozen of them, and they hold a good helping of orange juice (my drink of choice)." - Jeff Schroeder, Phys'95

"Almost all of my textbooks. I don't know why, but I just can't throw them away." - Timothy Hufker, ME'87

"I kept some of my old projects that I did while I went through the mechanical engineering program and a bunch of pictures from fraternity parties." - Brett Ware, ME'92

"A Joe Miner large print; Cavern mug for Diet Pepsi; football letter jacket; M-Club awards." - John Dalton, ME'88, MS ME'91

"My Sigma Pi pledge paddle." - Dan Arthur, PetE'86

"My diploma, tassel and other memorabilia are in a shadowbox that has hung on the wall of every office I've had since I graduated — five offices in three cities so far." - LeAnn Herren, PetE'90

"My GDI jacket." - Joel Brand, ChE'86, MS Math'94, PhD Phys'94

"An old UMR T-shirt, a couple of coffee cups and a concrete paperweight in the shape of the state of Missouri with UMR over the top of it." - Michael D. Smith, ChE'92, MS ChE'99

"I have all my yearbooks and a clock we made in one of my early introductory ME classes." - Bach Melick, ME'93

"I still have my CE graduating class picture and T-shirt as well as a Chi Epsilon sweatshirt." - Sarah Young, CE'94

"Yearbooks, several UMR pens, a UMR notepad Delbert (Day, CerE'58, UMR Curators' Professor emeritus of ceramic engineering) gave me and my Joe Miner Award from the alumni association." - Erik Erbe, CerE'87, MS CerE'88, PhD CerE'91

"I have my diploma, obviously, but also before St. Pat's became a four-letter word down there I was actually a knight and got thrown into Alice. I still have the shamrock medallion they gave us." - John Hegger, CerE'86

He's a HOG — and proud of it

Cruising down a Milwaukee highway, the wind in his face and Lynyrd Skynyrd booming out of 14 strategically placed stereo speakers, **Kevin R. Davis**, EE'85, heads to work on his Harley-Davidson Ultra.

Davis, 39, doesn't just own a Harley. He also helps design them. He has what you might consider a "fun" job. Davis is a staff engineer for Harley-Davidson. His specialty: Lighting and "infotainment."

"I have main responsibility for all the lights for all the vehicles, all model years," explains Davis.

"Infotainment" at Harley-Davidson involves equipping a "Hog" with a lot of amenities you might expect to see in a car — navigational equipment ("If you're out in the country trying to figure your way back to town — or trying to avoid going back to town"), CD player, additional speakers, DVD player and TV screen — all on a motorcycle. With such extras, a biker could take to the open road, listen to Steppenwolf and watch *Easy Rider* all at the same time. But Davis wouldn't recommend it.

One of the biggest challenges Davis faces is trying to package all those goodies on a motorcycle. "If you look at automotive design, that's pretty easy compared to motorcycles. We've got no package space, and the weather is just incredible. Everything just sits out in the open."

To the untrained observer, a Harley-Davidson motorcycle seems to have changed very little in the past 40 years. "You look at a bike and you say, 'Well, it doesn't look much different from what you were doing back in the '60s,'" Davis says. "Well, that's true; however, the technology is so much more advanced. There's a lot that has changed." The challenge is to make it look old — classic — but still take full advantage of the latest technology.

"Each Harley has its own personality," says Davis. But their distinctive sound makes them unique among other bikes. "We actually tried to patent that sound because it is different. We call it the potato-potato," Davis explains, laughing. "Because of the configuration of the engine, it has that specific sound."

Davis appreciates the creative freedom Harley-Davidson gives its employees. "This is a cool organization because a lot of times if you come up with an idea, you can sell it to management and actually run the project," Davis says. "It's still a fairly small company so you can do stuff like that."

Davis has done this himself. After hearing customers request additional brake lights for their bikes, Davis developed a package that allows the rear turn signals to double as auxiliary tail lights. "I figured it out, told the guys up in Parts and Accessories, and they're actually selling it and it's quite popular."

As for Davis' bike, of course it has lots of bells and whistles. A standard bike comes with a radio and four speakers — two up front and two in the back. Normally, to listen to the music, riders must wear special headsets inside their helmets. Davis' Ultra is a little different. "Being part of infotainment and with stereos as my hobby, I've put two batteries on it, an extra amplifier and 14 speakers." Where are they? "Hidden all over. If you walk up to it, you couldn't see anything." With all those speakers, Davis doesn't even need the headset. "Actually, that one I can feel in my back. It's quite loud."

It may sound like Davis has enough to occupy his free time. But in addition to his membership in the Harley Owners Group

Kevin Davis

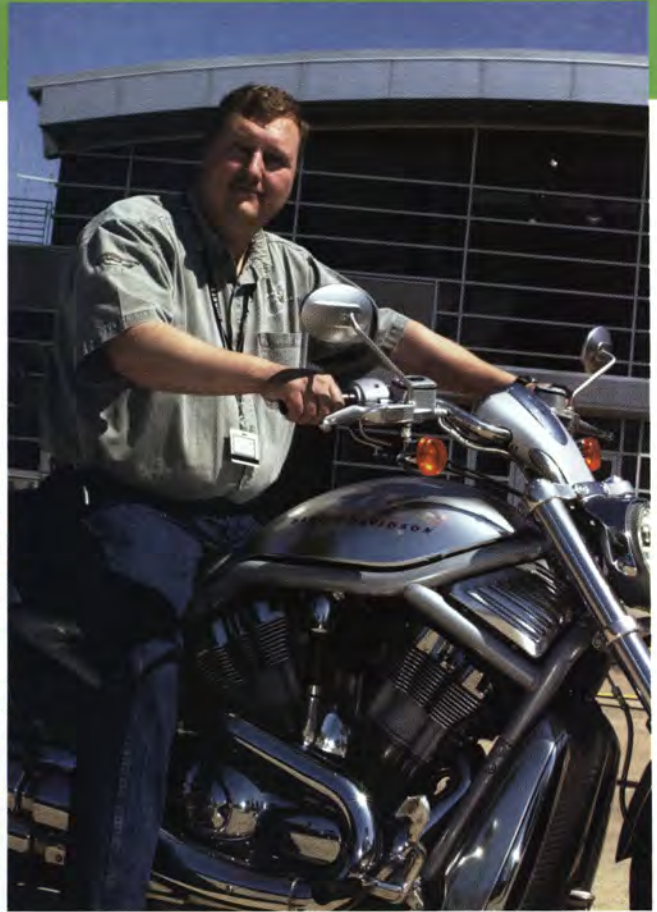


Photo courtesy of Harley-Davidson

(HOG), he is also an entrepreneur. "As a family, we're trying to put a business together." Davis, his wife, Janet, and their three kids — Ian, 13, Elizabeth, 10, and Collin ("the Collinator"), 5 — are raising corals to sell for use in home aquariums. "You get a lot of salt water and you start buying corals, which are actually little animals, and put them in it. Then you do what they call 'fragging' — you actually fracture or separate the corals and get them to grow on their own." They recently performed their first frag and are hoping new growth appears. It should be a couple of weeks before they see any real changes. "It's very dependent on things like light and water quality," Davis explains.

From a very young age, Davis knew he wanted to be an engineer. After graduating from UMR, where he married his high school sweetheart, Janet, Davis worked for General Motors and Ford Motor Co. But Davis grew up riding dirt bikes, so when the opportunity to work at Harley-Davidson presented itself, he jumped on it.

Right now Davis only has one bike, his Ultra, but he would love to add a V-Rod, Harley-Davidson's newest liquid-cooled custom bike, to his collection. Janet doesn't have her own bike but often rides with her husband. They've actually taken a few trips on the bike, including one recent trip all around the Upper Peninsula of Michigan. "It was a blast," he says.

So how would Davis describe the feel of riding down the highway with nothing but your Harley between you and the road, experiencing the freedom of taking corners on two wheels? "That's one of those questions where if you have to ask, I couldn't explain it." You'd just have to be there.

by Mary Helen Stoltz
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ON THE WEB
GEO Consultants LLC:
www.geoconsultantsllc.com

Jeff Douthitt



sharon Douthitt

Jeff and Sharon Douthitt: doing their home work

Never take your work home with you. That's common advice for most American workers. But it's easier said than done — especially for entrepreneurs like **Jeff and Sharon Douthitt**.

The Douthitts co-own GEO Consultants LLC, an environmental services and geological engineering firm in Keokuk, Ky. At the Douthitt home, it is common for work matters to be brought up over dinner or during the drive to one of the children's ballgames.

"People often ask us what it's like to work with a spouse," says Sharon, Econ'89. "It has, of course, been challenging at times, but overall it's great. We never worked directly together before starting GEO, but we did work in the same working community and were occasionally in the same meetings."

It was in 1997 that the couple decided to join Ross Miller, who worked with Jeff at Lockheed Martin, to form GEO. The operation started in the basement of Miller's home and the first contract work came in February of the following year. By the end of 1998, the Douthitts and Miller all left their jobs to concentrate on GEO.

"When we left our previous careers to devote all our attention to GEO, we had 3 1/2 year old twins (Claire and Ollie, both of whom are now 8) and 1 1/2 year old Lily (now 6)," Sharon says. "Needless to say, people thought we were crazy. I had been fortunate to work on a part-time basis after the twins were born and often worked at home. That was actually good preparation for owning a business with my spouse."

Even before starting the consulting venture, the couple had spent plenty of time together on various projects. They were still students at UMR when they got married, and both worked out of Mines and Metallurgy Dean Don Warner's office in McNutt Hall for a time. They also spent time together in many meetings while Jeff, GeoE'88, MS GeoE'89, was employed with Lockheed Martin and Sharon was with various consulting firms involved in the remediation of Oak Ridge Operations Complex. Lockheed Martin held the prime contract with the U.S. Department of Energy to manage the cleanup of the Oak Ridge complex. But when the federal government decided to rebid the

company's contract in 1997, Lockheed Martin withdrew from consideration. That was when the Douthitts and Miller decided to start GEO.

"The Department of Energy announced that the contract would require outsourcing 90 percent of the project," Jeff, 37, says. "Because the contract value was in the billions of dollars, this created a tremendous opportunity. After considering the options, we thought we would be just as well off on our own as a subcontractor."

"It is one thing to think about starting a company but quite another to quit your jobs to do it," says Jeff. "You have to have a lot of confidence in your ability, your vision and your assessment of the market conditions that have created the opportunity."

Miller was able to convince the couple that starting a company would pay dividends. "He really gave us the confidence it takes to quit well-paying jobs to start a company," Jeff says.

Today, GEO, which works on various environmental, energy and water supply projects, is small in size but certainly not small in stature. The 20 GEO employees meet and work with some of the top scientists and engineers in the country. With this sort of background, GEO's approach to quality assurance, project controls, project management and financial management is sophisticated for a firm of its size.

Now, it appears that the Douthitt children are learning about running a company too. With so much shop talk in their presence, it's hard not to notice.

"The kids are very tolerant of us," Sharon, 35, says. "And now at the ages of eight and six, they understand that owning a company means that we have a lot of responsibility for our employees. But it also gives us a lot of freedom to take time off for their events, add a fun trip to a business trip and so forth."

Working at home may not be so bad after all.

by John Kean
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Erik Erbe's uphill climb

Drive, determination and will. These words describe four-time Tour de France champion Lance Armstrong. They also describe one of Armstrong's biggest fans, **Erik Erbe**.

Armstrong's book, *It's Not About the Bike: My Journey Back to Life*, occupies a prominent spot on Erbe's office bookshelf. On the office wall hangs a framed print of Armstrong climbing a mountain, a competitor hot on his trail, during the 2000 Tour de France. "That photo just captured a lot for me," says Erbe, 37. "Hey, life is often about riding a bike uphill, which is pretty damn tough. You've just got to tell yourself you're going to do it and persevere, and if you have that attitude, you're 90 percent there."

After graduating from UMR with his Ph.D., Erbe worked for 3M for about five years. He then left to work for what was then a small start-up company called Orthovita, a Pennsylvania biomaterials company focused on the development of BioStructures — high-tech materials designed to repair tissues in the body.

In 1995, Erbe, CerE'87, MS CerE'88, PhD CerE'91, was the fifth person in the door at Orthovita. Seven years later, he holds the top technical spot of a company of 72 people and \$10 million-\$12 million in sales and growing. "It was a very good move," says Erbe, whose title is chief scientific officer. "It was very exciting to be part of growing a successful company. I really love what I do and I've really been able to mold certain aspects of the company to my own design."

Early on, Erbe was kind of a jack-of-all-trades. "I was product developer, engineer, inventor, I hired employees, worked with intellectual property for patents, merger acquisitions, fundraising, helped build the facility," Erbe says. "We didn't even have a research lab and now we have an analytical facility, research lab and manufacturing area with clean rooms."

Orthovita develops three main products. One of them, Vitoss, a calcium phosphate scaffold to promote new bone growth, was featured in a special report on new medical technology frontiers in the June 24 issue of *Newsweek*.

The trend in spinal repair is to allow for motion, rather than fusion, Erbe says, so Orthovita is exploring new materials that can be injected at various points in the degenerative spinal disease to improve mobility.

Although he's in a management position, Erbe's job continues to take a hands-on approach to his work. Recently, more clinical aspects have been added to his duties. "A lot of the products have to go through clinical trials, both in the U.S. and Europe, with anywhere from 20 to 500 patients over a course of anywhere from one to four years." Erbe arranges those trials, enrolling patients, training and working with the surgeons, developing the procedures, and then coordinating the collection of data and submission to the regulatory agencies for approval.

Married during his sophomore year, both of Erbe's kids were born while he was at UMR. "I was pretty focused throughout school, because I had to be, I had a family. Every hour was occupied." In addition to two other part-time jobs, Erbe worked at the Graduate Center for Materials Research, mainly with **Delbert Day**, CerE'58, UMR Curators' Professor emeritus of ceramic engineering.

erikErbe



Photo by Bob Phelan/Photomasters

One of Day's lectures about glass microspheres "fascinated" Erbe, "so I volunteered to help out in the laboratory." The following semester, Day offered him a job. "It was great. I got to work in the lab and get exposed to a lot of learning and get paid for it." He later quit the two side jobs and went to work for Day's company, MoSci, doing engineering grunt work.

"Actually," he says, "I was a fairly highly technically trained grunt." He built electrical glass melting furnaces, pulled fibers, and worked on a myriad of contract research jobs.

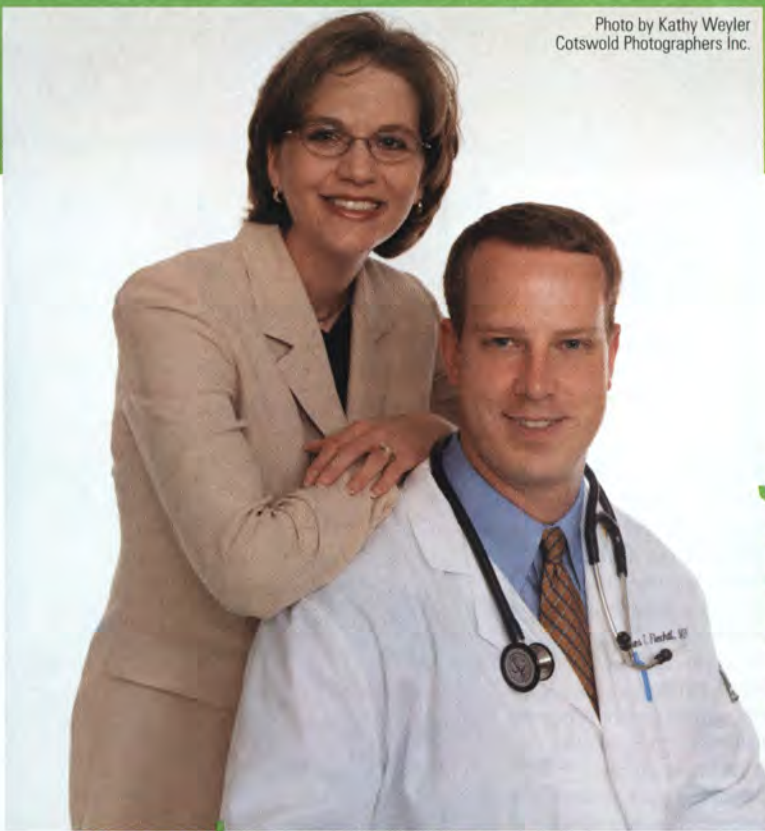
Erbe considers Day very important to the framing of his career. "I can look back at critical junctures where people were mentors in my life and my career and had made the difference. Delbert was certainly that," he says. Erbe assisted him not only in the lab on campus, but also on various consulting jobs that "a student just usually doesn't get access to."

"My grades may have suffered a little bit, but I think in the grand scheme of things it was worth it," Erbe says. "I've learned that grades aren't the only criteria that's important. Experience and a positive attitude are invaluable."

Even with his busy work schedule, Erbe makes his family a high priority. "We're all very close and we do a lot together," he says. Both kids are very involved in sports — Ashley, 16, is a certified life guard; and Ryan, 12, plays lacrosse and is an avid ice hockey player at the AAA level.

Like his role model Lance Armstrong, Erbe is a bicyclist. When the Erbes traveled to Europe last summer, Erik's wife, Shannon, checked out London with Ashley, while Erbe and Ryan took an 8-day biking tour through the South of France at the same time the Tour de France was being held.

by Mary Helen Stoltz
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rebecca Fiechtl

Jim Fiechtl

The couple started dating two weeks before she graduated from UMR. "We were in Blue Key together and knew of each other for a while before we started dating," Jim says. After Rebecca graduated, she worked for Sprint in Kansas City, Mo., but she and Jim kept in touch, seeing each other nearly every weekend. Rebecca and Jim got married in 1996, on the same weekend that Jim graduated from UMR.

No joke: a doctor and a lawyer who get along

The stereotype that doctors and lawyers don't get along doesn't apply to **Jim Fiechtl**, BioS'96, and **Rebecca (Light) Fiechtl**, EE'95. He's a doctor, she's a lawyer, and the two get along quite well.

Their busy professional lives leave them with little spare time, so they try to make the most of it. Jim, 28, is well on his way to becoming an orthopedic surgeon as he trains at Carolinas Medical Center in Charlotte, N.C., and Rebecca, 29, is a patent attorney with Alston and Bird LLP in Charlotte.

The couple started dating two weeks before she graduated from UMR. "We were in Blue Key together and knew of each other for a while before we started dating," Jim says. After Rebecca graduated, she worked for Sprint in Kansas City, Mo., but she and Jim kept in touch, seeing each other nearly every weekend. Rebecca and Jim got married in 1996, on the same weekend that Jim graduated from UMR.

In 1997, the couple moved to Memphis, Tenn., where Jim attended medical school at the University of Tennessee at Memphis and Rebecca went to work for FedEx. Rebecca then attended law school at the University of Memphis.

"Making it through law school was a big accomplishment for me," says Rebecca. "It was very challenging."

"Staying married through our education and training has been a big achievement," Jim adds, "and our relationship continues to grow stronger."

As a patent attorney, Rebecca writes patents for companies and inventors. Because of her UMR education, most of her work focuses on electrical inventions. "I get to see technology from a high level," she says.

Jim has five years left in his orthopedic surgery residency, including one year of research. His usual day includes making patient rounds in the morning, attending an hour-long conference, operating, and seeing new patients for the remainder of the day.

Rebecca and Jim were drawn to UMR for very different reasons. Originally from Rolla, Rebecca had known of UMR all her life. She says it seemed natural for her to attend UMR after graduating high school. "By growing up in Rolla I knew it was a good school," she says. Her sister, **Anna (Light) Coats**, ME'92, is also a UMR graduate.

Jim's decision to attend UMR was less directed. He graduated from high school in Kennett, Mo., and came to UMR with a high school friend, **Ross Thomasson**, EE'96. "Deep down I knew I wanted to become a doctor," he says, "but I wanted to have a backup plan in engineering in case I changed my mind." Jim enjoyed his life sciences courses so much, however, that he scrapped the backup plan.

As UMR students, they were involved in many different organizations. Rebecca was a member of Kappa Delta, Panhellenic Council, Tau Beta Pi, Blue Key and Eta Kappa Nu. "These organizations opened up a lot of opportunities for me and I made a lot of good friends too," Rebecca says.

Jim was a member of Pi Kappa Alpha, Blue Key and Theta Tau Omega. At the end of his sophomore year he considered transferring, but friends persuaded him to stay. "My friendships with the guys in Pi Kappa Alpha were the main reason that I decided to stay," and he says staying at UMR was one of the best decisions he has made.

One might think that such a career- and goal-oriented couple would have their whole life planned out before them, but that is not the case. "We take life in stages," says Rebecca. "Right now we are going to keep on doing what we are doing and see where that takes us."

by Claire Faucett
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Haas' Orion looks to the skies for power

ON THE WEB
Orion Energy:
www.orionenergy.com

While attending graduate school at Stanford in the early 1990s, **Michael Haas**, AE'87, became increasingly aware of how fossil fuel power plants were contributing to air pollution. He decided that increasing the world's base of renewable energy would help address that problem. So he ended up starting Orion Energy LLC, a company that specializes in developing and operating wind energy projects in the United States and abroad.

Haas, 38, is the president of Orion, based in Oakland, Calif., and managing director of Renewable Development Co. Ltd., Orion's affiliate in Great Britain. He started these companies in 1997 after working at Kenetech Corp., the largest renewable energy company in the world at the time. Since its inception, Orion has harnessed enough wind power to meet the annual needs of more than 100,000 U.S. households. Additional projects in development throughout the United States, Great Britain and Canada will supply electricity to more than 800,000 homes when completed, Haas says.

Before starting Orion, Haas gained valuable experience at Kenetech, where he was involved in wind energy ventures in more than 20 different countries. "I had the opportunity to work with people from all over the world and was able to gain experience in business development, financing, and closing transactions," he says.

Haas' biggest challenge remains demonstrating wind's viability as an alternative energy source — "to show how wind energy is competitive with traditional forms of electricity generation." Utility companies are finally beginning to value the environmental benefits and the "hedge" against volatile fuel costs that wind provides over traditional fossil fuel energy, he says.

Getting involved in wind energy hadn't crossed Haas' mind during his UMR years. He came to UMR with plans to become an astronaut. But those plans changed the day the Space Shuttle *Challenger* exploded. "It was incredible," he says. "Everyone was glued to the television. That was a very difficult day."

Despite his change of plans, "I have nothing but the most terrific memories of people that I met and I am still close to some today. Some of the professors I had at UMR were also influential in my early career."

As a UMR student he was involved in the intramural sports, Blue Key and Sigma Gamma Tau and was chair of the American Institute of Aeronautics and Astronautics.

Haas could not pass up the chance to go to California, the place where the sun always shines and the nights are fair. Now, having been in California several years, Haas misses some things about Missouri. "I miss having seasons. Here the weather is always the same," he says. "I especially miss snow. It is a good thing Lake Tahoe and the Sierras are a reasonable drive from home."

Overall, Haas enjoys life in California, especially since that is where he met his wife, Rocia, more than seven years ago. The couple married two years ago and recently had a son, Matthias, who is not yet one year old. "My son is by far the best experience that I have had," he says.

by Claire Faucett
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michaelHaas



johnHegger



Haas' biggest challenge remains demonstrating wind's viability as an alternative energy source — "to show how wind energy is competitive with traditional forms of electricity generation."

ON THE WEB
Anheuser-Busch:
www.anheuser-busch.com



Photo by Bob Phelan/Photomasters

It's all about the beer

John Hegger holds what many UMR engineering students would consider their dream job: He works for the world's largest brewery.

Working for Anheuser-Busch really is something of a dream come true for Hegger, ChE'86. "We all sat around in school and said, 'Wouldn't it be great to make beer?' ...Well, it is!"

Hegger is an assistant brewmaster at Anheuser-Busch's St. Louis brewery, the company's largest. "Our brewery is divided into four sections: brew house, fermenting, finishing and process support," he explains. He serves the process support area, focusing on maintenance. "I don't really have anybody who actually turns a wrench working for me, because they all report to their different areas, but I influence how that happens," Hegger says. "I make sure we're doing the right things, following the right procedures.

"We're trying to move our maintenance from a reactive, sort of run-it-till-it-breaks mentality to be more proactive," Hegger explains. "We're trying to be a little more intelligent and use our brains a little to catch the problem before it kills us. Part of what I do is to implement the programs that make that happen."

The biggest challenge Hegger faces is keeping ahead of problems and making sure he doesn't repeat the same mistakes. "If we find out, for example, that a pump or a valve is going to need to be replaced every two years, well, let's do it every 18 months," says Hegger. "Then it won't fail on us at a critical time, resulting in massive lost time and loss-of-quality issues." Hegger believes Anheuser-Busch is a successful company because everyone — all the way to August Busch III, who retired as company president and CEO over the summer — understands that the consistency of the taste profile is a high priority. "People know when they buy one of our products, they will enjoy it," he explains. "No surprises. That's just not allowed to happen."

Anheuser-Busch operates 14 breweries — 12 in the United States and two overseas. The company brews approximately 30 varieties of beer for sale in the United States.

And Hegger's favorite beer? "Budweiser, of course, just like Frank and Louie (the animated Budweiser lizards) say on the radio: 'The King of Beers since 1876.'" Shipped to more than 70 countries, it's also the largest-selling beer in the world, a title held since 1957. It is estimated that one in every five beers purchased is a Budweiser.

Hegger, 38, didn't always dream of working with beer. As a kid, he wanted to be an astronaut. But a lazy eye and poor depth perception made that impossible. His optometrist told him it was no big deal; he just wouldn't be able to fly a plane. "Okay, so if I couldn't fly a plane," Hegger told the doctor, "I probably wouldn't be able to fly a rocket either now, would I?" So he shifted his focus to engineering and decided to attend UMR, just like his father (**Al Hegger**, MetE'62).

Along with the encouragement of his father, Hegger gives a lot of credit for his success to X.B. Reed, professor of chemical engineering at UMR. "There were always horror stories about him and how difficult his classes were, and we all kind of made fun of him," Hegger says. "He would tell us, 'There's no partial credit in the real world. If you're going to be a chemical engineer, you've got to do the things that chemical engineers do and say the things that chemical engineers say.' I hate to say it, but he was right. Understanding the basic principles I learned at UMR has allowed me to understand what really is going on in the world."

In his spare time, Hegger, and his wife, **Becky (Brinkley)**, ME'88, divide their time between karate and gymnastics with their three kids: John, 10, Betsy, 8, and Lily, 4.

by Mary Helen Stoltz
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Teaching green, wearing green

Twelve years and almost 900 miles separate **LeAnn Herren**, PetE'90, and UMR. But time and distance hasn't blurred this environmental engineer's memories of her alma mater.

Now the director of industrial ecology at the University of South Carolina School of the Environment, Herren launched her UMR education while she was still in high school. "During my junior year in high school I went down to UMR for the one-week summer program," she says. The quality of UMR's Introduction to Engineering program sticks in Herren's memory. "It's a great program — one of the best summer programs I've seen."

She remembers how it felt to live the life of a college student: taking the morning and afternoon classes, meeting with professors and campus department representatives, sleeping in a dorm room, getting an ID card and having no one talk down to her for an entire week. "When you're 16 or 17 you think these things are so cool," she says.

The program changed Herren's perspective. In high school, students who took advanced courses and joined the physics club were different and labeled as "geeks." But at UMR, "being different because you were smart and worked hard for your education wasn't a big deal. You could be smart and have fun."

So, in her senior year in high school, Herren decided to attend UMR.

"I only wanted to go to Rolla," Herren says. Though she was born and raised in Springfield, Ill., Herren, 34, knew about UMR because her father was the personnel manager for a utility company that recruited UMR students.

"My parents were thrilled when I told them I wanted to go to UMR," she says. "They knew that so many people there were friendly."

At UMR, Herren dove into her coursework and social life. She pledged Zeta Tau Alpha, where she "found some great friends"; joined the Gold Miner Dance Team, where she remembers wearing knee-high white leather boots; and enjoyed a short stint as a flag football player, until she ended up on crutches. "There was a lot of silliness," she says. "I was always going and doing."

On the academic side, Herren appreciates UMR's mentoring system and small school atmosphere. "Rolla is laid back. ... It's not too political," she says.

After earning a master's degree in environmental engineering from the University of Illinois, Herren spent some time in industry. Now at the Industrial Ecology Program, Herren focuses on educating industries and communities about the benefits of conservation and sustainability, along with environmental health and safety compliance and environmental justice.

Helping turn one company's trash into another's treasure is one aspect of her work.

"We go to large and small companies and help them market their waste to another company," Herren says. "At one company, 3,000 to 4,000 pounds of PVC laminate was wasted every day. We struck up a deal with another company that would salvage it, grind it up and use it again." Another project, involving mail-order music clubs, helps recycle a growing junk mail problem: free CDs, also known as "coasters." When

LeAnnHerren



Photo courtesy of LeAnn Herren

ON THE WEB

University of South Carolina
School of the Environment:
www.environ.sc.edu

At UMR, Herren dove into her coursework and social life. She pledged Zeta Tau Alpha, joined the Gold Miner Dance Team and enjoyed a short stint as a flag football player, until she ended up on crutches.

customers don't want these CDs, they return them to the post office, where they remain by the thousands until they are thrown away. IEP found an organization that was willing to accept the CDs and disassemble, clean and resell them to the independent music companies.

Through the conservation and sustainability, Herren's identification with UMR also remains. She still has a petroleum engineering department paperweight on her desk and she wears her St. Pat's green every year. "I wear my sweatshirt by myself," she says. "It would be nice to have someone else here with the greens on."

Even in the environmental education business, UMR gives new meaning to being "green."

by Tricia Murphy
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ON THE WEB
 Jerry and
 Cathy Hertzler:
home.ccci.org/hertzler/
 Campus Crusade for
 Christ International:
www.ccci.org

jerryHertzler

Cathy Audrey Jerry Andrew

Photo courtesy of Jerry and Cathy Hertzler

Computer crusader

Coordinating a global organization's information technology needs is no easy task. But **Jerry Hertzler** doesn't back away from challenges. "I'm a problem solver," says Hertzler, Phys '88. "I love to look at the problems and the challenges."

It's a good thing. As the person in charge of implementing IT for the international ministries division of Campus Crusade for Christ International, Hertzler works with a fraction of the budget usually allocated for IT — and spends 10 percent of his time raising funds to pay his own salary to do it.

Hertzler, 36, leads a team of seven IT consultants who develop Campus Crusade's computer network. The team is responsible for connecting 11 regional offices around the globe, from Budapest to Bolivia. "We're a few years behind the for-profit world in how to implement technology effectively," he says. "Our leaders are focused on people and not on technology."

Still, as religious organizations go, Campus Crusade is among the leaders in using technology to spread the ministry's message. Established in 1951, Campus Crusade grew out of a ministry founded by Bill and Vonette Bright at UCLA. Since then, the evangelical organization's focus has grown from campus-based ministries to a global outreach. A big part of that globalization involves the use of the Internet, Hertzler says.

"We have begun using Internet technology as a means of reaching students directly," he says. College students are still among the most Net-savvy computer users worldwide, and are likely to use the Internet for spiritual purposes. "Wherever bandwidth is available, students are usually the first to access it," Hertzler says.

Hertzler first got involved with Campus Crusade while he was a UMR student. He was a leader in Campus Crusade's UMR chapter, which held weekly meetings and special events to share the evangelical message with students. After graduation, Hertzler married Cathy, who earned degrees in psychology and sociology at Southwest Missouri State University, then spent a year working at McDonnell Douglas in St. Louis. But the

Hertzlers felt a strong call to ministry. "Being involved in evangelism and personal ministry (through Campus Crusade) was very meaningful," Hertzler recalls. "I thought, 'Hmmm, doing that or doing physics? I think I'll do ministry.'"

So Hertzler and his wife joined the crusade in 1989. They originally planned to lead a campus ministry, but when Campus Crusade leaders learned of Hertzler's knowledge of computers, they asked them to report to headquarters in San Bernardino, Calif., to begin building the ministry's computer network. (Campus Crusade moved its headquarters to Orlando in 1991.)

Five years ago, Hertzler switched to Campus Crusade's International Ministries division. "We began helping our regional administrative offices get their e-mail systems improved." Of the 11 international offices, "roughly half of them don't have any dedicated IT staff," so Hertzler and his team handle the IT responsibilities for those sites. They do so on a very limited budget. Campus Crusade spends about 2.5 percent of its revenues on computer and Internet technology, Hertzler says. "But we have expectations of most other organizations that spend 10 percent of their revenues on IT."

While Hertzler's work may not be a "ministry" in the traditional sense, he approaches it with missionary zeal — right down to the fund-raising aspects. "I raise every penny I get paid," he says, as do five of the other seven members of his team. "We have a high commitment to the organization and the cause."

Hertzler also sees his role as vital to helping Campus Crusade accomplish its global goals. His motto describes the importance of his team's work to the overall mission: "Infrastructure is not built in a day, but once it's built, ministry can respond in a day."

by Andrew Careaga
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timHufker



Photo by Bob Phelan/Photomasters

ON THE WEB

Centrics Technology:
www.centrics.com

searsphotos.com:
www.searsphotos.com

Tim Hufker: a picture of success

Centrics Technology, a subsidiary of CPI Corp. in St. Louis, is a leader in digital imaging technology, and 38-year-old **Tim Hufker**, ME'87, is at its helm. Hufker is president and chief executive officer for Centrics and executive vice president for CPI Corp., Centrics' parent company.

Centrics, founded in 2001, offers automated store systems, consulting services and imaging technology to retailers, and operates searsphotos.com, a partnership with Sears that lets digital camera users get prints of their digital files and traditional film photographers to get their pictures in a digital format.

Right after graduation from UMR, Hufker went to work for CPI Corp. as an assistant product engineer. "I have since worked my way up through the ranks," he says. "Working at CPI has opened a lot of doors for me, especially when things started going digital."

Hufker credits his engineering degree with giving him an edge at CPI. Now that he is in management, he sometimes misses the hands-on aspects of engineering. But overall Hufker is satisfied with where his career has taken him. Being able to "create and build a new company from scratch" is one of the most satisfying aspects of his position.

Hufker has hired many UMR graduates to help build Centrics, and the company is a regular at UMR career fairs. "UMR is one of the only schools that CPI/Centrics hires from on a regular basis," he says. "I know where to get good people." The company offers more than 10 internships yearly, and they often lead to permanent jobs. "Interns bring the cutting-edge technology, which helps us keep up to date," Hufker says.

At UMR, Hufker was part of the St. Pat's Board. He was mom in 1985 and master guard in 1986. Still a big fan of UMR's St. Pat's Celebration, he and his wife, JoAnn, bring their

"UMR is one of the only schools that CPI/Centrics hires from on a regular basis. I know where to get good people." -Tim Hufker

children to Rolla every year for the parade. He and JoAnn met at a UMR Tau Kappa Epsilon party, even though Hufker is not a TKE, and have been married for more than 15 years. They have two sets of fraternal twins: Katie and Amy, 5, and Timmy and Kurt, 1. Twins are common on JoAnn's side of the family.

For fun Hufker enjoys fishing, camping or just about anything else that involves being outdoors and with his family. One hobby that he has given up since having children was home-brewing his own brand of beer, called "Hufkerbrau." "It was a cool hobby for an engineer because it was actually very technical," he says.

by Claire Faucett
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Photo by Brett Coomer

ON THE WEB
Dynegy Inc.:
www.dynegy.com

lisa Krueger

“Do whatever needs to be done. Don’t consider any job beneath you. It doesn’t matter if the job is making coffee or giving an impromptu presentation to the board of directors — be willing and take the initiative.” -Lisa Krueger

Lisa Krueger steps up to the plate

While waiting to meet a prospective employer in the Career Opportunities Center, **Lisa Allee Krueger**, ChE’86, was approached by a recruiter in need of assistance. “A gentleman came out of one of the interview rooms and asked me if I could show him where the material was on a particular company,” Krueger says. “I showed him the material in the file drawer. A few minutes later he stepped out and called my name for my interview. He was surprised when I stood up. He had assumed that I worked in the office.”

Krueger got the job — in large part because of her willingness to “step up to the plate and do what needs to be done.” Her approach with the Amoco Oil Co. recruiter at UMR reflects the can-do philosophy that has led her to her current position as a vice president for one of the nation’s leading energy companies.

Krueger, 38, is now vice president for environmental health and safety at Dynegy Inc., a Houston-based energy company that serves customers in North America, the United Kingdom and Europe. Krueger joined Dynegy in February 2000, after the company acquired her previous employer, Illinois Power. She had worked for Illinois Power since 1989 and was in charge of the company’s power transmission before taking the top environmental job at Dynegy.

In her current position, she leads the development of Dynegy’s long-term environmental management strategies, keeping tabs on myriad issues — from legislative efforts to global environmental concerns — while working to ensure the company complies with current environmental regulations and prepares for future changes. “We need to make sure we’re adjusting our business strategies for the future,” Krueger says,

noting that the regulatory climate is in a state of constant flux. A previous stint working for the Illinois Environmental Protection Agency — a job she held after Amoco and before Illinois Power — has given Krueger a working knowledge of how regulatory agencies function. Krueger’s job also involves steering Dynegy’s eco-friendly initiatives, such as the company’s restoration of 100,000 acres of hardwood forest in the Lower Mississippi Valley.

A native of California, Mo., and the youngest of 11 children, Krueger transferred to UMR from Southwest Missouri State University. She credits her UMR degree for opening doors for her in the traditionally male-dominated energy field. “My degree from UMR gave me instant credibility in the work force,” she says. “No matter what kind of job I’ve had, it (her UMR affiliation) has always been a door opener. But then it was up to me to prove myself.”

For Krueger, proving herself means being willing to do any job. It’s a philosophy she recommends any UMR student adopt. “Never say, or think, ‘It’s not my job,’” she says. “Do whatever needs to be done. Don’t consider any job beneath you. It doesn’t matter if the job is making coffee or giving an impromptu presentation to the board of directors — be willing and take the initiative.”

Krueger and her husband, **Curtis A. Krueger**, ChE’86, have been married since 1989 and have one daughter, Kelsey, age 12. Krueger is pursuing an executive MBA degree from Rice University in Houston and will graduate in May.

by Andrew Careaga
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Tri, tri again

For many rank-and-file employees, the “rat race” is still a fitting analogy for life in the working world. But higher up the corporate ladder, where executives talk in terms of long-term strategic plans, you’re more likely to hear comparisons between running a business and running a marathon.

Such singularity of focus is too narrow for **Daniel Lindgren**, Econ’90. Lindgren, who competes in triathlons as “a stress reliever,” sees many parallels between succeeding in business and triathlons.

“On a daily basis, I need to be focused on the long term and not burn out in the short term,” says Lindgren, the chief operating officer and co-owner for Innovative Imaging Inc., or “I-Cubed.” The Sacramento, Calif., company manufactures and distributes medical imaging equipment for ophthalmology. “We provide our customers the highest quality imaging and technical support so that they can provide superior patient care,” Lindgren says. I-Cubed’s systems can be found at major eye institutes worldwide and in teaching hospitals across the United States.

Lindgren, 35, has been training and competing in triathlons for three years. The most recent was the grueling Donner Lake Challenge in the Sierra Nevada Mountains July 21. At 6,000 feet above sea level, Lindgren and his fellow triathletes swam 1.5 kilometers, biked for 40 kilometers with a total ascent of 2,200 feet, and finished with a 10-kilometer run around the lake. “For a race of this distance, it’s truly difficult, but the incredible scenery and the feeling of accomplishment makes the physical challenge well worth it.”

In running I-Cubed’s day-to-day operations, Lindgren keeps the company on track. In a business where technological advances occur seemingly overnight, that is no easy task. “Technology changes so quickly that it is difficult to feel comfortable about what is the right technology injection to make in the company and our products,” he says. “It seems that immediately after an investment is made, the cost of the technology drops dramatically, or a new, more powerful technology becomes available.”

Because of the hectic and competitive environment, I-Cubed focuses on making its technology “supportable and upgradeable.” I-Cubed’s imaging equipment is built to last a lifetime, Lindgren says. “There’s no planned obsolescence,” he adds. In addition, the company emphasizes clinical applications training for the physicians and ultrasound technicians who use the equipment. “We’re not only building a machine but teaching appropriate techniques that result in better patient care,” he says.

I-Cubed was founded in 2001 by Lindgren’s sister and brother-in-law, Susan and Rainer Nickel. Lindgren joined the company in the spring of 2001. Prior to that, “I’ve worked in different roles for multiple companies in preparation for running my own. It was intentional in my career to exercise my skills in a variety of industries and business processes.” Just as



Photo courtesy of Daniel Lindgren

danielLindgren

competing in triathlons requires the ability to switch from one kind of race to another, so Lindgren’s job requires a fair amount of flexibility. “I need to efficiently transition between responsibilities such as new product development, budgeting, inventory management and international purchasing, all in a day.”

He is responsible for manufacturing, engineering and regulatory affairs, information technology, customer service, administration and accounting. As a co-owner, “There is no one else to defer responsibility and decision-making. ... This is especially true regarding the business culture and setting the tone of respect and open communication that makes everyone clearly focused on our goals.”

When he isn’t managing the race for I-Cubed, Lindgren enjoys spending time with his wife, Charity, and 4-year-old son, Canon, whom Lindgren is exposing to the joys of triathlon training at an early age. “I push him in a jogging stroller,” he says. “I also have a bike trailer and he rides in tow. The idea is to ‘train heavy and race light.’”

More good advice — for triathletes and entrepreneurs alike.

by Andrew Careaga
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Dumb and dumber

EVEN SMART COOKIES MAKE MISTAKES. A SAMPLING OF THE DUMB THINGS OUR 40 UNDER 40 DID WHILE AT UMR:



"My freshman year, I slept through my 7:30 a.m. biology lecture nearly the whole semester. I deservedly received an F for my efforts, and I had an uphill battle to fix my GPA throughout my time at UMR."

Daniel Lindgren, Econ'90

"Went to a Judas Priest concert in Springfield the night before the EIT — in a snowstorm. (I passed.)"
Jorge A. Ochoa, ME'85

"With a massive slingshot, we launched a water balloon from the seventh floor of TJ, which sailed completely over the parking lot and landed on the windshield of a moving cop car traveling down Highway 63. ... The police car screeched into a sudden U-turn and headed into TJ. Somehow he knew to come straight up to the seventh floor."
Jeremy Squires, EE'93, MS CSci'96

"Too numerous to count! 1) Slept through a final. 2) Drove eight hours to see my girlfriend (wife to be) while she drove eight hours to see me. 3) Wrecked my car under a semi-tractor trailer on the football recruiting trip to see if I wanted to go to UMR. 4) Graduated with a master's degree in 11 months (way too many hours at one time)."
Mathew Pitsch, EMgt'85, MS EMgt'86

"Got busted for a minor in possession of alcohol only a few months before turning 21. The judge told me, 'You can vote and you can go to war, but you can't drink beer until you're 21!'"
Brian Ash, CSci'87, MS EMgt'93



"Agreed to be cudgel chairman for Zeta Tau Alpha. That was the messiest job and the most work I've ever seen, but we did finish it in time to enter in St. Pat's. I was given half of it as a graduation gift and it sat on my patio until the weather finally got it a few years later."
LeAnn Herren, PetE'90

"With the help of a couple of fellow (St. Pat's) Board alumni, we stole the court truck one night and took it for a joy ride while Mom (Jim Kempf, ME'87) was getting much-needed sleep. Then we returned it to him in the morning. Unfortunately, we burned up the voltage regulator when we hot-wired it, and Mom had a dead battery for the rest of the week. Sorry, Mom!"
Timothy Hufker, ME'87

"Won the quarter-barrel chug contest."
Michael Haas, AE'87

"I was pulled over by the campus police while driving the Formula SAE car behind the ME buildings."
Kyle Tucker, ME'93



"I went on a canoe trip down the Buffalo River with all my roommates and it was about 21 degrees outside. We spent the whole time worrying about getting wet and dying. It was insanely cold."

Steve Birdwell, MS GeoE'87

At the BSU we were having an auction to raise money for missions. For a couple of dollars I bid on a grocery bag of items, not knowing what it contained. Inside was a pair of smelly old brown suede cowboy chaps that the Salvation Army didn't want. My friends dared me to wear them to class all day and in turn they put up \$125 for the missions. It was humiliating, but I took them up on their offer."
Sarah Young, CE'94

"Growing hair down to my waist and projecting a wild rebel/outcast image (when I was basically mellow and conservative) just because I was too shy to talk to people."

Joel Brand, ChE'86, MS Math'94, PhD Phys'94



"I accepted the M-Club Knighthood during 1991 St. Pat's and met 'Alice.' With all of my years in football, I never got beaten up like I did in those two minutes by the St. Pat's Court."
John Dalton, ME'88, MS ME'91

"My second semester junior year I really overdid it between school and activities. A lot of people thought I would get kicked out or that I wouldn't make grades at all, but I managed to pull out a 2.3. The bottom line is I still graduated and I still got a great job. I have nothing to regret."
John Hegger, ChE'86

"We drew mustaches on posters all across campus — anything hanging on campus with a face on it was our target."
Kevin R. Davis, EE'85

"I don't think the statute of limitations has run out yet."
Steve Sullivan, EE'89

"Competing in the goldfish-eating contest during Greek Week."
Bach Melick, ME'93

Space-age moving day for astronaut Sandra Magnus

By the time you read this, **Sandra Magnus** should be days away from becoming the third UMR graduate to fly into space — a trip that fulfills a longtime dream.

"It's not like I saw a film or anything to make me want to become an astronaut," Magnus, Phys'86, MS EE'90, said in an *MSM-UMR Alumnus* article ("Reaching for the Stars," spring 2002). "No light bulb went off. It's just something I latched on to. The whole idea of exploring and being on the edge, that whole sense of adventure, it just appealed to me."

Magnus, 36, is scheduled to launch into space on Sept. 26 on the shuttle *Atlantis*. The mission, however, was under review due to the discovery of tiny cracks in the shuttle's fuel lines. Once Magnus gets the green light for STS-112, she'll join alumni **Tom Akers**, AMth'73, MS AMth'75, and **Janet Kavandi**, MS Chem'82, as UMR space sojourners.

Once *Atlantis* reaches the International Space Station, Magnus will drive the spacewalk mission while colleagues David Wolf and Piers Sellers install a large piece of truss to help anchor an array of power-generating solar panels on the space station. "The station arm (which transports the spacewalkers) is pretty huge and it's a pretty exciting piece of equipment to operate," Magnus, a native of Belleville, Ill., told the *Belleville News-Democrat* last spring. "And, I'm also going to be doing a lot of work with the storage and transfer activities between the shuttle and space station, because we'll be taking a lot of equipment, food and clothes to the station and bringing back things that are no longer needed.

"It's kind of like moving a house or small apartment in the space of a few days and keeping track of everything."

One of Magnus' mentors at NASA is Shannon Lucid, one of the first female astronauts, who lived in space for a record 188 days in 1996 on the Russian space station Mir. The two shared an office at the Johnson Space Center in Houston. "She comes from a generation that had to knock down a lot of walls," Magnus said. "She made it easier for my generation. Hopefully, I'll be able to make it easier for the next."

by John Kean
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Photo by Brett Coomer

sandramagnus

Special Agent Man

Bach Melick, ME'93, was not one of those people who always knew they wanted to join the FBI. It wasn't until his first year at Loyola University New Orleans School of Law that he considered working for the FBI. After speaking with an FBI recruiter at a career fair, Melick decided that working for the agency would be an interesting and rewarding career.

"To become an FBI special agent, you have to have a degree from an accredited four-year college or university, plus either an advanced degree or at least three years of work experience," Melick explains. "Although it's not necessary, the FBI likes applicants with law and accounting degrees, so I figured I would be competitive after I finished law school."

Joining the FBI is anything but a quick process, however. "It's about being in the right place at the right time," Melick says. "It took me 22 months from the time I first called the FBI field office for an application to when I began my 16 weeks of training at the FBI Academy in Quantico, Va. The one thing the FBI recruiters tell you is to be patient, and don't quit your day job."

Melick's day job during those 22 months was at Montgomery, Barnett, Brown, Read, Hammond, & Mintz LLP, a New Orleans law firm specializing in products liability and insurance defense cases. This position gave him the opportunity to put his mechanical engineering background to work. Melick was assigned to a case defending the manufacturer of "pedicle screws," devices screwed into the spine during back surgery to serve as internal braces. A group of patients filed a lawsuit against the manufacturer, claiming the screws were defective and would corrode or break. Melick's role on the defense team was to provide knowledge about the device's mechanical properties.

"All these biomechanical products which were alleged to be defective had to be designed and manufactured and tested at some point," he says. "I was able to use both my engineering and legal backgrounds to educate attorneys about the technical aspects of these products, and to educate the technical expert witnesses about the legal aspects involved in products liability cases."

While working as an attorney, Melick finally received the call telling him he had been approved for application to the FBI. But that was just the beginning of a long hiring process involving several phases of testing, including written exams and an interview before a panel of agents. After that, he moved on to the polygraph examination, drug screening and physical tests. Then he had to pass a thorough background check into his finances, criminal history, education and employment.

Melick, 30, now works in the Dallas field office, where he is assigned to a white-collar crime squad investigating fraud against the government. Most of these federal criminal violations involve some sort of fraud or embezzlement. "People have learned how to defraud or embezzle money from every government program out there – in housing, education, small business, banking, etc."

One of the more publicized cases Melick has worked on at the FBI is the investigation of the U.S. Department of Housing and Urban Development's "Officer Next Door" program. The program, which has since been dissolved due to abuse, was launched by the Clinton administration to encourage police officers to move into low-income (and often high-crime) neighborhoods. Their presence was intended to help put residents' minds at ease, reduce crime and improve the relationship between the residents and police officers.

As part of the program, HUD would sell homes to eligible law enforcement officers at half their appraised value on the condition that the officers live there at least three years. Several officers abused the program. Some bought houses but never lived in them, choosing instead to charge rent payments as much as three times the mortgage payment. Others turned around and sold their houses for the full market value before the three-year period ran out. Although Melick's investigation focused on North Texas, the nationwide investigation resulted in around 30 indictments and convictions.

Melick doesn't see his job as dangerous. "Danger is relative, and what may seem dangerous to many people isn't with the proper training and attitude," Melick says. "We may put ourselves in situations that seem dangerous, but we take calculated risks because we are properly trained to act and think in those situations."

One of Melick's goals is to make the SWAT team; he is currently in training for the team tryouts. "Most of the 56 field offices have

a SWAT team, which is trained to deal with certain tactical situations such as serving high-risk search or arrest warrants, or dealing with barricaded subjects who may possibly have hostages," Melick explains. "Serving on a field office SWAT team is a collateral duty, meaning that you still work in the area to which you are assigned." If he makes the team, Melick will continue his main focus of fraud investigation. "The SWAT team trains regularly but is called out only when there is a critical situation requiring its tactical training and expertise."

Melick plans to spend the rest of his career with the FBI. "I plan to retire with the FBI. This is a great and rewarding job. You never know what you may encounter from one day to another."

by Mary Helen Stoltz
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ON THE WEB

The Federal Bureau of Investigation: www.fbi.gov



bachMelick

Photo courtesy of the FBI



scott Mitchell

ON THE WEB

Internet.com's 4GuysFromRolla.com
site: www.4GuysFromRolla.com

AndThenThereWasJustOneGuyFromRolla.com

Web developers the world over who have never heard of Rolla, Mo., have heard of 4GuysFromRolla.com, a Web site created by **Scott Mitchell**, CSci'00, and three of his college buddies. Mitchell and his friends — **James Atkinson**, CSci'00, **Justin Miller**, CSci'00, and **Scott Pope**, Math'99, CSci'00, MS Math'01 — created the site in the fall of 1998 to share information about Web development with the online world. In the beginning, Pope wrote articles about basic programming, Miller wrote about the open-source operating system Linux, Atkinson wrote about HTML and maintained the site's humor section, and Mitchell wrote about a relatively new Web development tool called Active Server Pages, or ASP.

Mitchell, 24, learned about ASP the previous summer while working in Kansas City, Mo., as an intern for Empower Trainers and Consultants Inc., a company founded by **Michael A. May**, CSci'85. Empower used ASP for its Intranet, and Mitchell "just really embraced it and enjoyed it."

While the Web was clogged with sites about Linux, HTML and general programming, information about ASP was scarce. "When I first started learning ASP, there were only like two Web sites about it," he says. "So I was pumped to add a Web site." Mitchell's ASP content filled a niche in the online world, and programmers and web developers hungry for information about the new tool flocked to 4GuysFromRolla.com, and started chatting up the site on Internet message boards and newsgroups. This word of mouse worked well for the budding entrepreneurs; before long, dot-coms with big ad budgets started sending Mitchell e-mails inquiring about the site's ad rates.

"I really didn't know what to charge or what fair rates were" for banner ads, Mitchell says. So he let the demand set the price. "My algorithm was, as more people came to me, I just kept raising rates."

By the summer of 1999, when Mitchell went to work as an intern for Microsoft, only two guys from Rolla — Mitchell and Atkinson — were running the site. Sams Publishing had

discovered the site, and contacted Mitchell about writing an ASP manual. He and Atkinson ended up co-authoring the 800-page tome, *Sams Teach Yourself Active Server Pages 3.0, in 21 Days*. He followed that with a solo effort, *Designing Active Server Pages* (O'Reilly, 2000), and a collaboration with six other programming pros, *ASP.NET: Tips, Tutorials and Code* (Sams, 2001).

By the time graduation day rolled around, Mitchell was the lone guy from Rolla behind the Web site, which had evolved into strictly an ASP content site. He continued to crank out articles, edit others' contributions, and rake in ad revenue. "It was doing well enough financially that I didn't need another job," he says. So after graduation, "I actually just picked up and started driving on out to the southwest." He looked around Los Angeles for a few days, then settled in San Diego.

One day in the summer of 2000, Mitchell received an e-mail from online behemoth Internet.com, which wanted to buy his site. "They didn't have any ASP content," he says, "and I did." He cut a deal with Internet.com in which he continues to manage the site. He's also busy writing the second edition to *ASP.NET* and pursuing his master's degree in computer science from the University of California-San Diego. And he's written ASP.Net Forums, a message board system that he recently sold to Microsoft. "I was planning to publish it myself," he says, "but the company came along and made one of those offers you can't turn down."

His plans after grad school? "I'd really like to teach," he says, but he's not so sure about pursuing a Ph.D. One thing that's out of the question: a nine-to-five job. "I'm not much of a working world kind of guy," he says.

by Andrew Careaga
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Sports injury pain, bioengineering gain

A highlight of **Jorge A. Ochoa's** high school years came when his school's basketball team made it to the national championship game for private schools in Mexico. The David vs. Goliath parallels were obvious: Ochoa's American High School of Guadalajara, with a graduating class of 28, played the role of David. The opponent was American High School of Mexico City, which had a graduating class of hundreds.

The game was also a turning point for Ochoa. For one thing, it ended all prospects for a future in college basketball. When the 6'5" Ochoa tried a slam-dunk ("I was hot-dogging") he landed wrong and ripped the meniscus of his right knee and the ligaments across the joint. (The meniscus is the crescent-shaped cartilage that acts as a spacer between the upper and lower leg bones.) He ended up requiring surgery.

Before the injury, Ochoa was entertaining ideas of becoming a physician, like his father. But the surgery piqued Ochoa's interest in the mechanics of the human body and influenced his decision to pursue an engineering degree. (Another influence was a family legacy: his great grandfather on his mother's side, **A.P. Green**, '35, and great uncles **A.P. Green Jr.**, ME'32, and **Robert S. Green**, CE'33, who hailed from Mexico, Mo., founded AP Green Co., a longtime leader in the refractory industry.)

Today Ochoa, ME'85, is vice president of research and development with DePuy Orthopaedics, the world's oldest manufacturer of orthopedics products. Founded in 1895 in Warsaw, Ind., the company was acquired three years ago by Johnson & Johnson. Ochoa's research and development team of 101 DePuy staffers does more than come up with new concepts for products; the researchers stay involved in product development from beginning to end — "from the basic research all the way to marketing and sales."

"It keeps people engaged; there's a shared ownership," he says. "If everybody's involved in the product development process, there's an increased chance for better quality."

Ochoa, 39, isn't the only "frustrated athlete" to pursue a career in orthopedics, he says. "A lot of biomechanical engineers and orthopedic physicians have some background in sports. You can always find somebody to kick the soccer ball around or shoot hoops."

Originally intending to major in engineering management at UMR, Ochoa "really took to the technical end of things." He switched to mechanical engineering during his sophomore year. UMR's "fantastic academics" and "great balance between the theoretical and empirical aspects" of engineering laid the foundation he needed to succeed in the corporate world, Ochoa says.

"By the time I was ready to graduate, I'd worked in a foundry and machine shop, I'd applied strain gauges, I'd worked on an engine," he says. "That kind of practical, hands-on engineering education sets UMR apart."

After earning his Ph.D. in mechanical engineering from Purdue University, Ochoa went to work for Johnson & Johnson.



Photo courtesy of DePuy

jorgeochoa

After Johnson & Johnson acquired DePuy, he took the helm of DePuy's research and development. In recent years his team's work has led to innovative hip and knee replacement systems that are designed to be longer lasting and more durable than previous systems.

When not developing new orthopedic products, Ochoa loves to spend time with his daughter, Olivia, 8, and his wife of 11 years, Heidi. He's also involved with the MSM-UMR Alumni Association as an at-large member of the board of directors, and is involved in a number of professional organizations — from the American Society of Mechanical Engineers to the Society of Hispanic Professional Engineers.

With such a busy career, Ochoa strives for balance and flexibility in his life and priorities. He encourages others to do the same. "The person who can be balanced in every aspect can deal with fuzziness and uncertainty," he says. "Engineers have a tendency to be rigid, but we need to remain flexible."

by Andrew Careaga
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Study partners for life

Bob Phillips and **Kathy Stone** first met during “trig review” the summer before their freshmen year at UMR. They soon became study partners, and they’ve been studying together ever since.

These days, however, their studies focus on issues related to public health and family medical practice. Bob, LSci’90, is now Robert L. Phillips Jr., M.D., MSPH, the assistant director of the Robert Graham Center for Policy Studies in Family Practice and Primary Care, a medical policy think tank in Washington, D.C. Kathy, NucE’90, is Katherine A. Phillips, Ph.D., an educational researcher who collaborates with her husband on a variety of research projects while rearing the couple’s two sons, 4-year-old Blake and Ethan, 1.

Bob’s research work at the Graham Center, a research arm of the American Academy of Family Physicians, involves studies related to family practice, primary health care and issues associated with the lack of universal health care coverage in the United States. He conducts research into a broad array of issues: from patient safety and rural health care to the alleged improprieties in the residency match process for medical students. The AAFP then uses this research to help develop policy at the federal level.

While he manages to stay out of the D.C. spotlight, Bob, 34, is called upon from time to time to share his health care expertise with lawmakers and regulators. On the day of his *Alumnus* interview, he was scheduled to meet with members of Sen. Edward Kennedy’s staff to discuss rural health care. (Kennedy chairs the Senate Health, Education, Labor and Pensions Committee.)

Building a case for good health care policy may consume more interest inside the Beltway, but Bob will tell you that his wife has the more important job of staying at home in Fairfax, Va., with their children. Kathy also puts her pedagogical skills to work — her Ph.D. is in education, with an emphasis on science education — by collaborating with Bob on various projects. On the recent study on the residency match program, for example, Kathy helped design the interview protocol and then interviewed students who suspected improprieties in the process.

The couple’s mutual interest in science attracted them to UMR. Kathy, 33, credits her mother, a junior high science teacher in their hometown of Warrenton, Mo., for instilling in her a keen interest in science. She came to UMR intent on becoming an aerospace engineer, “because I wanted to be an astronaut.” But through UMR’s Freshman Engineering Program, she learned more about nuclear engineering and switched to that field. She spent the summer after her sophomore year conducting health physics research at Argonne National Laboratory in Illinois, and the following summer in D.C. on an internship sponsored by the American Nuclear Society.

“We both like research a lot,” Kathy says. “I would say it started at UMR.”

Bob agrees. He came to UMR from nearby Dixon, Mo., where his family moved after his father retired from the military. “I was going to be a bench researcher,” he says, “but between

Photo by Bob Phelan/Photomasters




bobPhillips

kathyStone-Phillips

my junior and senior year I went to the National Institutes of Health and worked at the clinical research lab.” That experience, coupled with work he did at UMR with **Paula Lutz**, LSci’76, who was studying the effects of lead on children’s immune systems, got him interested in public health research.

The couple married two weeks after graduation, then headed to the University of Florida, where Kathy attended graduate school through a Department of Energy fellowship. Bob enrolled in medical school there, earning his M.D. in 1995. The couple then returned to Missouri, where Bob completed his residency at the University of Missouri-Columbia’s department of family and community medicine. Kathy, meanwhile, pursued her Ph.D. in education from UMC. After his residency was up in 1998, Bob stayed on as an academic fellow and clinical instructor, while Kathy taught science at Jefferson City High School.

The couple returned to D.C. in 2000, when Bob joined the Graham Center. Because it combines his interests in research and public policy, the job is perfect for him, he says. “I’ve always had an interest in both policy and research,” he says. “I’ve always wanted to do something that had a greater impact



"I've always wanted to do something that had a greater impact for society than work in a clinic, and you don't find many niches like this in medicine." -Bob Phillips

"I think the real big-picture issues are your family and what makes you happy in your life." -Kathy Stone-Phillips

for society than work in a clinic, and you don't find many niches like this in medicine." He also remains involved in family practice one day a week at Georgetown Family Practice, and serves as an assistant professor of family medicine at Georgetown University.

While Bob deals with "big-picture" issues related to health policy, Kathy deals with some important issues of her own. "I think the real big-picture issues are your family and what makes you happy in your life," she says. "I think people are more in touch with that when they're not worried about which senator said what."

While being a full-time mom remains top priority for Kathy, she hopes to return to the high school science classroom someday. She prefers teaching high school students because "they're old enough that you can reason with them, but young enough that they still have some enthusiasm for school."

by Andrew Careaga
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Old haunts Favorite hangouts while at UMR:



Brewster's — Daniel Lindgren, Econ'90 ("I had my personal mug hanging on the ceiling above the bar — back when Schaefer's beer used to taste really good on a Thursday night"); Kyle Tucker, ME'93; Aron Gaus, CerE'88, PhD Phys'94

Bruno's — Jorge A. Ochoa, ME'85; Lisa (Allee) Krueger, ChE'86; Bach Melick, ME'93

The Cavern (*later Brewster's*) — John Dalton, ME'88, MS ME'91 ("Thursday night was Social 101"); LeAnn Herren, PetE'90 ("We were there every [Thursday] at 10 o'clock — right after we finished watching 'Knot's Landing' in the chapter room."); Michael Haas, AE'87 ("I still remember most of the tunes on the jukebox by heart!")

Nuclear engineering computer lab — Katherine (Stone) Phillips, NucE'90

Gasconade River — Bill Thomas, CE'87

Katherine Stone's apartment "listening to Jack Buck do play-by-play for the Cardinals (KMOX) while we studied" — Robert Phillips, LSci'90

Top Hat Lounge — Sabin Yanez, CE'85; Brian Ash, CSci'87, MS EMgt'93; Bill Thomas, CE'87 ("best burger in town")

Fire tower outside of town — Jeff Schroeder, Phys'95 ("My friends and I would make frequent trips down there in the wee hours, climbing the tower — it's probably a hundred feet high — and watching the stars or seeing how far we could spit.")

The Grotto (*formerly The Cavern and Brewster's*) — Jim, BioS'96, and Rebecca, EE'95, Fiechtl; Sam Conzone, MS CerE'96, PhD CerE'99

The UMR Library — Mat Pitsch, EMgt'85, MS EMgt'86 209

209 Tavern — Tim Hufker, ME'87

The Tater Patch — Brett Ware, ME'92

Lion's Club Park — Joel Brand, ChE'86, MS Math'94, PhD Phys'94

TJ Hall, the deli at the university center and the Black Culture House — Michael D. Smith, ChE'92, MS ChE'99

Chi Omega — Steve Sullivan, EE'89

Baptist Student Union — Sarah Young, CE'94; Kevin R. Davis, EE'85

"I lived in this green house, I don't even know if it's still there, and everybody hung out on the front porch of that green house." — Steve Birdwell, MS GeoE'87

Dairy Queen — Erik Erbe, CerE'87, MS CerE'99, PhD CerE'91

"I don't suppose it would go over well to say the sorority houses, would it? That wouldn't be true, though. For a while there I thought the chemical engineering building was becoming my favorite hangout — that and the library."
John Hegger, ChE'86

The man with the plan

Sprawled in an old wooden classroom chair and surrounded by other UMR students at an American Society of Engineering Management meeting, **Mathew Pitsch**, EMgt'85, MS EMgt'86, pondered the hours of homework he had ahead of him that night. Eyes closed and stomach growling, he tried not to think about whether he would have a chance to grab something to eat before his 9 p.m. study group. Then, forcing himself back to reality, he opened his eyes and focused his attention on the man speaking at the front of the room. What he heard from the speaker sparked something inside of him. Forgetting his hunger, he leaned forward in his chair, as if by getting closer, he could absorb more of the speaker's wisdom.

The speaker, a UMR graduate employed at Anheuser-Busch as a regional vice president, was talking about his "career plan" to get a master's degree and sell himself to the highest bidder on the market. "That's it," thought Pitsch, "I need to get myself a plan."

So Pitsch mapped out his career strategy. The first phase of the plan was to get his master's degree immediately after his bachelor's, then go as hard and fast as he could as a professional engineer for 21 years. The last phase of his plan would have him retiring from industry at the age of 42, leaving the rest of his life to "do good for society."

"After completion of my master's degree I was 21 years old," says Pitsch. Amazingly enough, it took only 16 years for Pitsch to reach the point where he could retire from industry. This put him five years ahead of his plan. He was 37 years old when he retired in 2001.

Pitsch's career moved steadily upward after graduation. "I am not one to look back," he says. After five years at Whirlpool Corp. in Fort Smith, Ark., he became head of engineering at the age of 26 at ARKLA Gas Corp. in Paragould, Ark. Pitsch attributes a major part of his career success to the education he received while attending UMR. "Going to Rolla has opened a lot of doors for me," he says. Pitsch went on to work at a couple of other companies before becoming president of McCourt Manufacturing in 1991. "I loved being president of a company. It allowed me to learn so much about every aspect of business."

Today, at age 39, Pitsch is the head of engineering at the University of Arkansas-Fort Smith. Engineering courses are being offered for the first time this fall, and Pitsch designed most of the curriculum for the degree. "I have a strong desire to do good for society," he says, "and I think I may have found a way to do that in teaching."

While Pitsch attended UMR, he played both football and baseball and was a member of UMR's conference championship football team in 1983.

mathewPitsch



Photo by Bob Phelan/Photomasters

Pitsch was still in college when he married his wife, Seanna. Then, before he graduated with his master's, she was expecting their first child. It took Pitsch only 11 months to obtain his master's degree. His advisors, Yildirim "Bill" Omurtag and Henry Wiebe, thought he was out of his mind to pursue a degree that hard, but strongly supported his efforts anyway. "My advisors told me that I would never have been able to do that if I hadn't been married — and they were right," he says. Seanna was able to support him financially as well as emotionally as he finished his degree. She holds a degree in fashion marketing from Kansas State University and was employed at JC Penney's in Rolla at the time. Now the couple has four children, two boys and two girls, ranging from high school to grade school age.

Even with all his success in business and education, Pitsch is a family man at heart. "My greatest achievement is having a successful marriage and four great kids," Pitsch says. "They're the pride of my life."

by Claire Faucett
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Photo courtesy of Gonzalo Rodriguez Risco

A dramatic career move

For Gonzalo Rodriguez Risco, EMgt'93, attending UMR was a family tradition that began with his father, **Daniel Rodriguez Hoyle**, MGeo'50. Siblings **Mariana Rodriguez Risco**, CE'80, **Daniel**, Econ'79, **Diego**, EMgt'93, and the late **Rafael** also studied at UMR. But while his family pursues more traditional fields related to their technical educations, Rodriguez has used his engineering background to set the stage for a career as a dramatist. The 30-year-old Rodriguez, who lives in his native Lima, Peru, is gaining a reputation as one of Peru's premier playwrights. He has written seven dramas for the stage, including his award-winning first effort, *Un Verso Pasajero* (A Fleeting Verse). He also has translated six plays and two musicals (*A Chorus Line* and *The Rocky Horror Show*) into Spanish, and is working on translating a third (*Little Shop of Horrors*). But becoming a full-time playwright is still a dream for Risco, who continues to work in management for his family's company, DRH Edificios S.A.C., while pursuing his passion on the side.

Why did you become a writer?

I always liked writing and reading, and of course loved theater. Even in Rolla, I would never miss a play (regional tour in St. Louis or local at the auditorium) and was a regular at both the UMR Library and the Rolla Public Library. But when I arrived at Lima after graduation, I decided to look for a job, and that task took me six months, sending résumés, applying, interviewing. In my spare time I started writing a series of monologues which would become my first play, *Un Verso Pasajero* (A Fleeting Verse). After six months I found a job, and

ON THE WEB

Gonzalo Rodriguez Risco, Peruvian Dramatist: www.geocities.com/locoteatro/

for two years I applied myself to a mining company, forgetting writing for a while and loving my job. Then one day a friend of mine told me he was taking an acting class, and I offered him my play to practice. He took it to his teacher, his teacher asked me to team up with him and enter the play in a contest. The play was staged and entered in the contest, and I won first prize. Suddenly, I was a playwright, an award-winning one at that, so I started taking lessons and kept writing.

Do you hope to become a full-time writer someday?

It's difficult to be a full-time playwright in Peru. Going to the theater is hardly more expensive than going to the movies and people usually prefer the movies, so it is a labor of love more than a good business. I work as manager at my family's company and write, rehearse and produce plays in whatever spare time I can get. I hope to be able to earn a living from writing in the future, particularly since my Web page is visited from many countries and I get various offers to stage my plays. So perhaps in the future I will be able to be a full-time writer, but not for the time being.

I am also recognized as a translator. ... The translation business, coupled with writing, may allow me to earn a living writing.

What has been your greatest accomplishment as a writer?

Seeing the first scene of my first play, and the last scene of the latest one I wrote — each and every one is an accomplishment. Each one fills me with pride and pushes me to do more.

Which writers have had the greatest influence on you?

My approach to writing came from varied sources. I must admit that the first book I truly enjoyed was *Firestarter* by Stephen King (I was 13 years old), and since then I have collected and read all his books. In terms of influence, I would have to say my favorite novelist is Gabriel Garcia Marquez, and in theater: Peter Shaffer, Tony Kushner, Tennessee Williams, Eugene O'Neill, Shakespeare of course, and any play I can get my hands on. They are all influences and you can learn from all of them, even the bad ones. In Peru we have many great playwrights and I have read and met many of them. I'm now part of a group called Dramatis Personae, which joins many Peruvian playwrights.

How did your UMR experience influence your work as a playwright?

Studying an engineering degree gives you the tools you will need for the rest of your life, no matter what you decide to do. It has taught me to be responsible for my work, to always keep within schedule, to do effective research. The first time I showed up to rehearsals for a new play with a detailed project plan (day-by-day and task-by-task plan), the actors looked at me and said: "We can tell you studied engineering." They loved knowing exactly what we had to do to get the play onstage.

Is your alma mater mentioned in any of your plays?

Since my plays take place mostly in Peru, I haven't mentioned UMR. But this interview has given me a great idea for a play set in Rolla. Perhaps someday it will open there.

by Andrew Careaga
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Charting new territory in cyberbusiness

Do the unexpected, and make yourself happy. **Jeff Schroeder**, Phys '95, has made a point of doing this since ditching a "safe" career to become an entrepreneur. He has since founded or co-founded three Internet-based companies.

Schroeder started his first company, neoBox, a Web and database development company, in 2000. The firm remains his primary business venture. In the beginning, neoBox was named L5 because Schroeder intended for the business to focus on the aerospace industry. (L5 is an astrophysics term referring to a gravitational balance point.) Instead, he found more job opportunities by broadening his scope to include general Web development. He renamed the company neoBox to reflect the new direction of his business.

"It is fun naming a company," says Schroeder, who lives and works in Superior, Colo. "It's sort of like naming a child or dog. You want it to be distinctive and have a fun ring to it."

His second company, BitRelay, is going into its second year. For this company, a client contracts Schroeder to host Web sites and corporate e-mail. Schroeder co-founded the third company, Red Wire Networks, a network security company, this year. "They are at different levels of maturity as far as my involvement with them, and I hope to continue to grow them," says Schroeder.

Schroeder creates his clients' Web sites the old-fashioned way — doing all the complicated coding, such as HTML and scripting, instead of using a Web composer. "I need it to lay out just right, and that is the only way to make sure it happens," he says.

Clients from as far away as Hawaii have sought Schroeder's Web expertise. He has created Web sites for real estate ventures, natural food companies, design firms, resort houseware providers — even a cheerleading program. "It's completely random and wild," he says. "It is really interesting to meet with the customer and figure out what it is that they want, and then make it happen."

Because Schroeder works for himself, he has a lot of flexibility. "I am able to work on so many different things," he says. "In any given day I probably work on three or four different projects using completely different applications."

Prior to starting these companies, Schroeder worked at Hughes Aircraft and Raytheon Space Systems in Aurora, Colo., for four years performing satellite orbital analysis. Schroeder met his wife, Laralee, on a project there, and they got married seven months later. They have three children: Alex, 5, Kyra, 4, and Zack, 1.

"I had no idea I would be where I am now," he says. "In the last seven years, my career has taken a couple of sharp turns, but I feel that I've done pretty well and I'm enjoying it, so I plan to keep doing it as long as I can."

If the 30-year-old entrepreneur plays his cards right, that will only be for one more decade. "My ultimate career goal is to

jeffschroeder



Photo by Don Murray Photography Inc.

retire by the time I am 40." He intends to devote more time to writing science fiction. Right now it is a hobby, but he would eventually like to be published. He has been writing a novel for several years and has also written a few short stories.

While a student at UMR, Schroeder was a residential assistant at Thomas Jefferson Hall for three years. "I really learned a lot of leadership and organizational qualities from being an RA," he says. "I think my experience and education at UMR really helped me get where I am today." Schroeder also helped build the ultimate Frisbee team at UMR. He and his wife still play ultimate in the summers in Colorado.

by Claire Faucett
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"I had no idea I would be where I am now. In the last seven years, my career has taken a couple of sharp turns, but I feel that I've done pretty well and I'm enjoying it, so I plan to keep doing it as long as I can." -Jeff Schroeder



Photo by Matthew Shies/Picture This Photography

andrewSears

ON THE WEB

The Association of Christian Community
Computer Centers: www.ac4.org

"I had to find a way to combine both my technical engineering skills with helping people. I found that I am more motivated by the meaning in my work than by how much money I make."

-Andrew Sears

Bridging the digital divide

Always driving himself beyond the limit, pushing himself to be the best of the best — that was **Andrew Sears** when he was a student at UMR. And when he went to MIT to pursue a master's in technology and policy and computer science, he pushed himself even harder. "I had ambitions to be the next Bill Gates," says Sears, EE'95.

At UMR, Sears was active in Student Council. While StuCo president, he founded the National Student Government Internet Headquarters, which connects 75 colleges and universities around the world. He was also active in Sigma Chi, Toastmasters, Phi Eta Sigma, Intercollegiate Knights, IEEE and intramural sports. He volunteered for the City Union Mission, a homeless shelter in his hometown of Kansas City, Mo., and for Big Brothers/Big Sisters in Rolla. He also spent a summer working with street children in South Africa.

After graduating from UMR with honors and a 3.97 GPA, Sears attended MIT and co-founded a research group called the Internet and Telecoms Consortium (itel.mit.edu). After graduating from MIT, he co-founded an Internet start-up company — his ticket to high-tech success. The company was short-lived, however, because, like most dot-coms, "it didn't make the millions it was supposed to." He then worked as a consultant to St. Paul Venture Capital in Boston and with Sprint until he came to the life-changing realization that having a lot of money wasn't going to make him happy.

"I had a dilemma," says Sears, 29. "I had worked summers with the homeless, and during the school year I studied engineering. I had to find a way to combine both my technical engineering skills with helping people. I found that I am more

motivated by the meaning in my work than by how much money I make."

With his newest venture, the Association of Christian Community Computer Centers (AC4), Sears has been able to find the balance in life that he has been seeking. "I made the shift from wanting to be Bill Gates and making millions of dollars, to working at a not-for-profit that really means something to me," says Sears.

Sears co-founded AC4 in 2000. The nondenominational social service organization supports more than 250 Christian community computer centers across the world in their efforts to provide computer classes needed to succeed in today's digital world. AC4 assists organizations that provide a variety of computer classes and support, including after-school programs for students, computer classes for unemployed adults and at-risk youth, adult basic education courses, free walk-in computer centers for low-income areas, Web and graphic design courses, and the refurbishing of computers for redistribution to individuals with low-incomes.

"We believe that learning computer skills is one of the best ways for people to be able to make a living," Sears says. "We also believe that a good spiritual foundation is the best way for people to make a life and find happiness."

Sears has certainly found his happiness since his career change. Two years ago he married Heather, whom he met at church. The couple resides in Dorchester, Mass. "For me the most significant thing is when I can tell that I have touched and helped someone's life," he says.

by Claire Faucett
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ON THE WEB

The National Society of Black Engineers
www.nsbe.org

Photo by Stephen Barrett

Dr. Mike, a.k.a. Father NSBE

Known as Dr. Mike by his co-workers, **Michael D. Smith**, ChE'92, MS ChE'99, could easily have become Chef Mike.

"I always wanted to be a chemist or a chef," says Smith, 32. He almost went to culinary school, but loved math and science so much he decided to be an engineer first. "I decided I could go to school and become an engineer, make all this money. ... Then when I get older and retire I can still go to culinary school and open my own restaurant."

While studying chemical engineering at UMR, Smith discovered the National Society of Black Engineers. "I was introduced to NSBE during my freshman year in 1987," Smith says. "It was the prominent black engineering professional organization on campus, and I was drawn to it. I've always had a passion for the organization since joining."

While in school, Smith became so involved with NSBE that he became known as "Father NSBE."

"I was just very in tune with NSBE," he says. "I had a passion for the organization and people could see that through my continued involvement with the organization. Thus, the name Father NSBE. I still have that passion."

NSBE, the largest student-managed organization in the country, consists of more than 270 chapters on college and university campuses, 75 alumni extension chapters and 75 pre-college chapters. The organization strives to increase the number of black engineers who excel academically, succeed professionally and have a positive impact on their communities.

"In a nutshell, I am programs guru at NSBE," explains Smith, whose official title is programs manager. "I manage a staff that is ultimately responsible for all NSBE programming." Smith directs a budget of nearly \$1 million and uses it to find new and innovative ways to develop, coordinate, implement and assess all of NSBE's programs. These programs include the

Academic Technical Bowl, the Try-Math-A-Lon, Undergraduate Students in Technical Research and the Graduate Student Poster Session.

Smith worked in several different aspects of engineering before joining NSBE. After graduating from UMR, he worked as a chemical engineer for DuPont Specialty Chemicals, Amoco Production Co. and others. Then, he experimented with the higher education side of engineering as an instructor and program coordinator with the College of Engineering at Texas A&M University, where he received his doctor of engineering degree. All this fueled his drive to be involved in the education of future engineers.

"After working in the technical field and through my graduate studies, I gained great interest and a passion for engineering education — pulling more underrepresented youth through the engineering pipeline." NSBE is the perfect outlet for his passion.

One of the biggest hurdles Smith faces in his work is getting the word out that engineering is a great career. "It's a challenge convincing the world that math and science is important and pertinent to our future existence. We engineers are the world's problem solvers."

In his spare time, Smith enjoys volleyball (collegiate, professional and recreational) and traveling. His job frequently requires him to travel, but he also travels for pleasure. "I like Vegas and Atlanta, but I also enjoy international travel," he says. "My most recent trip was to Zimbabwe and South Africa."

Smith still aspires to be a chef someday, and he likes to cook in his spare time. His favorite thing to cook — and his specialty — is cheesecake.

by Mary Helen Stoltz
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Hollywood insider

When it comes to great HBO programming, “Perversions of Science” may never attain the highbrow status of, say, “Band of Brothers” or “The Sopranos.” But while working on the opening credits of that short-lived science fiction series, **Jeremy Squires** discovered a key to his future status among some of Hollywood’s finest visual effects artists.

Among the 20-some artists crafting the opening credits, Squires, at 26, was the old guy of the group, and the only one with an engineering background. The team’s state-of-the-art computer system couldn’t handle the stress of graphics-intensive data files — the year was 1996, and powerful processors were rare — so the scenes were taking forever to render. While the artists watched the hourglass on the monitor, waiting for the file to open, Squires, EE’93, MS CSci’96, decided to do a bit of on-the-fly software engineering. “I went away to my desk and figured out a way to create these clipping planes,” computer codes that allow the artists to “clip” huge polygonal models into smaller, more manageable parts.

Within 30 minutes, he returned to the group with his solution. “Where did you find the formulas?” asked the astonished artists. “What do you mean, ‘Where did I find the formulas?’” Squires replied. “I derived them myself.”

That was when it dawned on Squires that his UMR education gave him an edge in the special effects business. “Just about everybody else in this business has an art background. But over and over, I found that I was using my math skills a lot of the time.”

When most people think of special effects in Hollywood, they think of George Lucas’ visual effects behemoth Industrial Light and Magic. (Another UMR graduate, Steve Sullivan, works there. See story on page 36.) But much of the computer-generated special effects that show up on the big screen is the result of small companies like VisionArt Design and Animation, where Squires worked from 1996 through 2001. At the Santa Monica-based

company, Squires created computer-generated effects for a diverse mix of movies, from the critically acclaimed *Anna and the King* to the effects-laden blockbusters *Doctor Dolittle* and *Godzilla* and a couple of box-office bombs *Little Nicky* and *Dungeons & Dragons*. For most projects, Squires and his colleagues would hole up in windowless suites for 18- to 20-hour days, weeks or months at a time. “There’s no daylight in Hollywood — at least for me there wasn’t,” says Squires.

VisionArt is now out of business, and Squires, 32, is out of Hollywood — for the time being anyway (more about that later). He recently partnered with fellow alumnus **Mark Ely**, LSci’96, the founder of Global Information and Multimedia Productions, a Chicago-based company that offers Web hosting, database-driven Internet applications (“where I definitely use my software engineering skills”) and media-rich Web development. The Internet side of the business pays the bills for the four-year-old, eight-employee business, but Squires is devoting much of his energy developing the company’s creative, multimedia side. In the GIM Productions studios, Squires marries his graphic design talents with his other passion: composing music.

The visual and the musical “have always gone hand in hand with me,” Squires says. While a UMR student, Squires produced and released a CD of his own New Age keyboard music, *More Than Words*. (These days, he’s more likely to listen to Linkin Park or Aphex Twin than New Age. “I can’t recall when New Age got bad and I stopped listening to it.”) Currently he’s experimenting with visual and audio effects for multimedia Web sites, animated videos and other products. One of Squires’ latest projects has him developing music, sound effects and animation for a series of CD-ROM storybooks for children.

Since joining Ely in Chicago last year, however, he’s been recruited to work on another film: *Bulletproof Monk*, starring Chow Yun-Fat of *Crouching Tiger, Hidden Dragon* fame as the mysterious monk. The call came from Boy Wonder Visual Effects, a company owned by Burt Ward, who played Robin on the old *Batman* TV series. Looks like it’s back to the batcave for Squires, for more of those 18-hour days in digital darkness.

by Andrew Careaga
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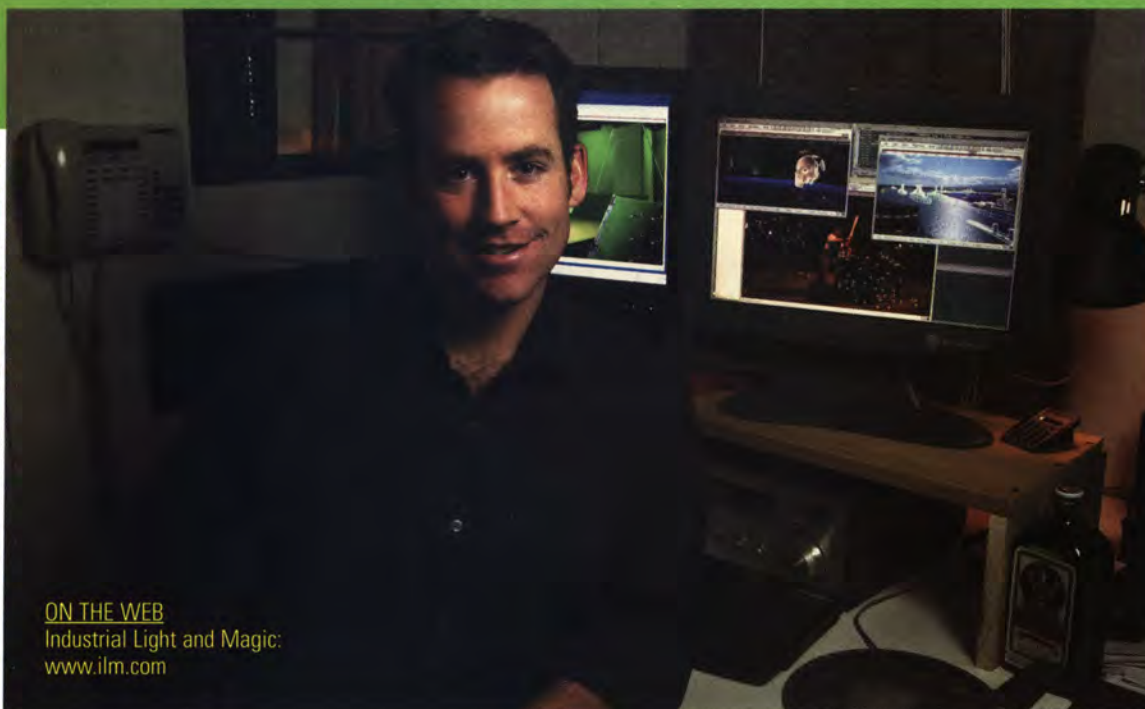
Photo courtesy of Jeremy Squires



jeremy
squires

ON THE WEB

Two media-rich sites Squires has created
NWA Consulting (www.nwaconsulting.com)
BxB Chicago (www.bxb.net)



ON THE WEB
Industrial Light and Magic:
www.ilm.com

Photo courtesy of Steve Sullivan

And the Oscar goes to...

A long time ago, in a movie theater far far away, **Steve Sullivan**, EE'89, watched in awe as the cinematic wonders of George Lucas' *Star Wars* played across the big screen. Sitting in the darkened theater, he never dreamed he would one day work for Lucas.

Today the 36-year-old Sullivan is the principal engineer in the research and development group at Industrial Light and Magic, Lucas' visual effects company. The job earned him an Academy Award for Technical Achievement in 2001.

Sullivan's job is "different every day," but it involves applying computer vision techniques to film. Sullivan uses computer software to generate and manipulate special effects in movies.

"*Pearl Harbor* is a good example of what we do," Sullivan says. Film makers flew over modern-day Pearl Harbor, shooting aerial footage of the landscape below. "Before we could use that footage in the movie, we had to digitally remove the modern buildings and replace them with buildings that were there in 1941."

In the past, to do this and make it look realistic was a challenge involving a lot of guesswork. Now using ILM's Motion and Structure Recovery System (MARS), the process is much more efficient and results in more authentic-looking footage.

Sullivan and fellow ILM technician Eric Schafer developed MARS, ILM's newest matchmoving and tracking software. The program analyzes camera motion and object motion and their dimensions, using sophisticated algorithms and a rich set of user-interface tools. Using MARS, an ILM artist marks several points on a frame — for example, a point on the roof of a building, a rock, a flag pole or a target intentionally placed into the scene. Then, when the computer tracks the image to the next frame, it can follow those points and see the way they move. "If you do that for 15-20 points, there is a consistency," he says. "You can see where the camera must have been to shoot all those points and where those points must have been in 3D." Then computer-generated images can be inserted with the proper perspective.

In March, Sullivan and Schafer received an Academy Award for their work on MARS. (Although they didn't receive the golden Oscar, they did get a very nice embossed certificate presented by actress Charlize Theron.)

"The way movies and special effects have evolved, almost everything shot has moving parts in the image that need to be fixed with computer-generated images," Sullivan says. "Now film makers can shoot whatever they want and no longer have restrictions on how they shoot the footage. We can come back in and fix it the way they want."

Sullivan never aspired to work in the movie business. In fact, he didn't know what he wanted to do. After receiving his Ph.D. in computer engineering from the University of Illinois, he watched a show on the making of *Jurassic Park* detailing the difficulty the movie makers had creating special effects in moving shots. "They were doing it all very laboriously, very primitively." He knew more automatic approaches were possible. The rest is history.

Sullivan is grateful for the engineering background he gained at UMR. "Engineering experience is critical for my work," he says. "My electrical engineering background is often more useful than my computer background." One aspect of his job involves finding the most cost-effective solution to a problem, and Sullivan feels in those situations it is more important to take a problem — often one that is very mathematical in nature — and engineer a solution rather than think of an abstract way to get it done. "And all that stuff I thought I'd never use from school, I use all the time."

Some of Sullivan's recent projects include *Star Wars Episode II: Attack of the Clones*, *Planet of the Apes*, the re-release of *ET: The Extraterrestrial* and *Minority Report*. "We usually have five or six movies going at once," Sullivan says.

by Mary Helen Stoltz
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Photo courtesy of William Thomas

William Thomas

"You have to surround yourself with great people. You have to empower them and give them freedom to maximize their ... skills and talents. You have to make sure that everyone has the opportunity to achieve their goals in life." -William Thomas

William Thomas: building businesses on principles

After graduating from UMR, William Thomas, CE'87, never thought he'd own his own business. It was not in his life plan.

Now he owns three.

It all began with principles. About two years after graduating from UMR, Thomas, 39, started to work for a large contracting company that specializes in concrete and masonry restoration. He enjoyed his work and thought it was a great company. But there was a problem — some of the company's business practices ran contrary to his own value system.

"I was raised to have exceptional manners and work ethic, to treat others as I'd want to be treated myself, having a Christian background," Thomas says. He didn't think that the company supported these principles, so he needed to decide whether he should become what some individuals in the company wanted him to be, or uphold his values. "I thought I could create a better work environment."

Cashing in every asset he had, including his 401K, Thomas began commuting between Des Moines, Iowa, and Kansas City, Mo., where he was building his first company. Along the way, he created a "road map" on paper that outlined his goals for the business, from its preliminary budget to long-term goals.

"I risked everything," Thomas says. But his wife, Leslie, supported his plan. "She stood by me and believed in me every day."

The work, support and values that drove Thomas to start the

project also drove him to success. His first business, C&M Restoration, a concrete and masonry restoration company, was established in 1995. Now with five administrative/office personnel and 16 field workers, C&M handles about 225 sales a year. The company is currently working on two high-profile projects in Kansas City, where employees are working several stories off the ground, restoring the exterior facade of the Broadway Square and Missouri Bank buildings.

His second business, Gunite of Missouri, was acquired in 1999. Gunite specializes in restoring concrete on bridges, dams, parking garages, kiln interiors, furnaces, smoke stacks and boilers. "It's hot, nasty, dirty work," Thomas says. Except for the occasional restoration of in-ground pools. "It's nice to give the guys something clean to do once in a while," Thomas muses.

With three administrative/office employees and eight field workers, Gunite finished restoring the Bowersock Dam in Lawrence, Kan., last January, and the "lazy river" pool in Shawnee, Kan.

Business No. 3 is an investment company, ILICO LLC. Established in July 2000, it's Thomas' "baby" company, and it is a charm. "It's a good baby," he jokes. "It doesn't have any employees and it behaves all the time."

Even with three companies to oversee, Thomas manages to uphold his values of respect and commitment. "You have to surround yourself with great people," he says. "You have to empower them and give them freedom to maximize their ... skills and talents. You have to make sure that everyone has the opportunity to achieve their goals in life."

Thomas, who lives in Lee's Summit, Mo., has learned how to set priorities, too. Each day, Monday through Friday, approximately seven hours are for sleep and one hour is for exercise. ("You have to take care of yourself.") About four hours each day, he spends time with his wife and three children: Kristin, 12; Will, 8; and Faith, 4. "The rest is all business," he says.

Thomas' reasoning for setting priorities is simple. "Yes, money makes the world go 'round," he says. "But what's most important is a smile. That's what makes me go. That's what makes me do."

by Tricia Murphy
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Cruisin'gineering

Kyle Tucker, ME'93, grew up with dreams of becoming a professional race car driver. His dream changed when he realized it wasn't the sport of racing that drew him to fast, fancy cars, but how the cars were put together.

Tucker, 33, and his wife, Stacy, now own Detroit Speed and Engineering, a Brighton, Mich., company that builds and rebuilds muscle cars, street rods and hot rods using custom-made parts. "Our services provide you with a vehicle that may retain the traditional look of an old hot rod, muscle car, or street rod, but it will ride and drive like a late-model high-performance car," Tucker says.

While at UMR, Tucker started working on a 1969 Pro Touring Chevrolet Camaro. The car was rusted out in some places and had missing parts. Tucker spent the next five years on full throttle, taking the entire car apart, repairing or replacing each piece, and then putting it all back together. After graduating, Tucker took a job at General Motors in Detroit but continued tinkering with the Camaro in the evenings until he had it in perfect condition.

Since being refurbished, this Camaro, named *Twister*, has been featured in more than a dozen auto magazines, including *Popular Hot Rodding* this past April. *Twister's* fame had prospective customers seeking Tucker's services. "People heard about the *Twister* Camaro and started calling me up, asking me to make parts for them." That was just the beginning. Tucker sold *Twister* to a collector and he and his wife used the profits to start Detroit Speed and Engineering. "This started off as a hobby and grew," he says. "Now it is a full-time career."

He and Stacy married in 1995, and both went to work for General Motors as suspension engineers in Motor City. They make a good team because of their engineering backgrounds, Tucker says. Stacy holds a bachelor's in mechanical engineering from Purdue University and a master's in engineering science from Rensselaer Polytechnic Institute. She still works for General Motors, but helps Tucker with Detroit Speed and Engineering in her spare time.

Detroit Speed and Engineering's customers come from all over the country, including California, Texas and Mississippi. Street rods have become a hobby for successful entrepreneurs and are often used as showpieces at cruise-ins. In some cases they can be used as race cars, Tucker says. "It is really interesting to work with people from all over, especially since I get to make their pride and joy."

Tucker believes that UMR showed him how to tackle and solve problems. "I had to learn how to handle the challenges that UMR threw at me," he says. "It was the best engineering school that I could go to and I am still proud to tell people where I went to school."

While at UMR, Tucker's interest in automobiles extended beyond that '69 Camaro. He was president of UMR's chapter of the Society of Automotive Engineers and team leader of the SAE Formula Race Car Team.

by Claire Faucett
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Photo courtesy of Kyle Tucker. Pictured with his wife, Stacy and his famous Camaro, *Twister*, in the background.

kyleTucker

An attorney's ounce of prevention

Cheryl (Smith) Walker, EE'86, practices transactional law with Bryan Cave Law in downtown St. Louis. But she prefers to call it "preventive law."

"I try to structure deals and draft documents to prevent bad things from happening," she says. "Many other types of law deal with what has already happened."

While Walker loves her current profession, law was not her first interest. After she received the results from a standardized career test while in high school, she was steered in the direction of engineering. "At that time being an engineer made me think of some goofy looking person running around with a slide rule," she says.

But involvement in a pre-engineering program changed her perceptions. While in high school, Walker was accepted into a program at McDonnell Douglas designed specifically to encourage African-American high school students to pursue engineering. Walker spent two summers in this program, learning speed reading, blueprint reading, and higher levels of math while spending time in a work environment. "It was working at McDonnell Douglas that made me say the engineering, science and math are not too bad, and I thought 'Hey, I can do this.'"

The summer after Walker graduated from high school she participated in UMR's Minority Engineering Program. "UMR was high on my priority list because of its engineering reputation," Walker says.

ON THE WEB

Bryan Cave: www.bryancave.com

While attending UMR, Walker had mixed experiences. On the one hand, "I got a wonderful education and walked away with my closest friends." But she also describes how racism haunted her and her friends in the community. Perhaps the biggest disappointment occurred when Walker and a friend attempted to lease an apartment off campus. "About a week after the lady took our down payment she mailed the check back to me stating that she couldn't rent to us because we were black. Turns out her neighbors had threatened to make sure she got put into a nursing home if she rented to us," Walker says. Despite these negative experiences, Walker holds firm that UMR is an excellent school academically.

"I have good memories of UMR too," says Walker. She was elected UMR's Homecoming queen in 1983, crowned during a downpour at halftime of a Miner football game. The rain plastered her hair to her head and smeared her makeup. "I looked like the homecoming queen from hell," she says.

During her last semesters at UMR, Walker decided that she was interested in law instead of engineering because she enjoyed working with people. While still at UMR, Walker took some classes in civil engineering that were very similar to pre-law classes. After she graduated from UMR she received a scholarship from Washington University in St. Louis to attend law school. She graduated in 1990 and has been practicing law since.

Walker, 39, and her husband, Thomas, have a 4-year-old son, Kamau, which means "quiet warrior." But Walker says Kamau is anything but quiet. She also has two daughters by marriage: Neisha, 18, and Alexis, 8.

Walker thinks that all of her training in engineering has influenced the way in which she practices law. Unlike other lawyers, Walker likes to solve "potential" problems before their effects are seen and felt. She equates this to the way an engineer solves problems: "analyze existing facts and see what can be done to make it run more smoothly."

by Claire Faucett
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Photo by Bob Pappian/Photomasters

cherylwalker

Making words *DANCE*

Cheryl Walker's father was a professional jazz musician who performed with Duke Ellington, Count Basie and Earl Hines, as well as St. Louis bands like the Eddie Randle Band and the St. Louis Gateway Festival Orchestra. Walker feels she did not inherit any musical ability from her father, but has found a way to express herself in poetry, and the influence of jazz resonates in much of her work. She is a member of The Eugene Redmond Writer's Club, and her chapbook, *Silence Isn't Quiet*, was published by Southern Illinois University.

Silence Isn't Quiet

Silence isn't quiet
when its set atop a raging river
when it breathes brisk night air
& imagines Branford blowing harmonious
riffs on the shores of East Boogie

Silence isn't quiet
when words kiss indigo breeze
when it fancies 'Trane sharing sweet snatches of
Afro Blue from atop the Arch

Silence isn't quiet
when satin touch sends electric shock down spine
when it closes its eyes and dreams
breathtaking melodies of Miles
sung from the heartbeat within your chest



Lured by good vibrations

Every fisherman yearns to catch “the big one.” It’s the dream that leads to tall tales about “the one that got away.” **Brett Ware**, ME’92, and his partners at Ambush Lures say they have created a fishing lure that will put these tales out of business.

It started even before Ware and his partners established Ambush Lures in 1996. They spent three and a half years studying fish — how fish move, their color preferences, their habits; you name it, they studied it. The result was two products to help fishing enthusiasts in their quest for the big catch: The Stealth Diver and the Scented Polymer Matrix.

The Stealth Diver lure uses a patented internal passageway called a “vibration booster” to achieve a natural vibration pattern. Ware, the company’s product developer and business plan manager, put his mechanical engineering education to work in developing the product. An expert in vibrations, Ware says other lures on the market emit one vibration; but the Stealth Diver’s double vibration pattern more closely resembles a live fish. “Vibration is the key element to get fish to strike,” he says. “Most lures only have one vibration power, but we found a second and it is proving to be very successful.”

Ambush’s Scented Polymer Matrix is the only fishing weight on the market that is as dense as a lead weight but is non-toxic. “Conservation and stream experts are starting to outlaw lead in streams and rivers around the country because of the adverse effects that lead has on the quality of life in streams,” Ware says.

Before Ware and his partners started Ambush Lures, Ware worked at Winchester Ammunition in St. Louis for eight years. An avid outdoorsman, Ware dreamed of starting a business in either hunting or fishing. He decided to pursue fishing so that he would not have a conflict of interest in his “day” job.

The other three investors are Ware’s close college and high school friends. Ryan Gruhn, the company’s plastics expert, helps build the lures and other products. Ware first met Gruhn in the Sigma Phi Epsilon fraternity while they were both attending UMR. While Ware went on to finish his degree at UMR, Gruhn transferred to Iowa State University. The other partners, Todd Gray and Tim Tadlock, are two of Ware’s high school buddies.

“We have a really great team,” Ware says. “Putting us together has success written all over it. We are close, which gives us a good trust network.”

Ware, 33, credits UMR for providing him the education he needed to be a success. “UMR gave me a good education and discipline for mechanical engineering and laid the foundation for me to be a great design engineer,” he says.

Photo courtesy of Brett Ware



brettWare

He took this technical knowledge and combined it with an MBA from the University of Southern Illinois to form the base of education he needed to successfully launch a business. “This is proving to be an unbeatable combination of knowledge for what I am doing,” he says.

Competition is steep in the fishing lure business, but not because of competing products. “We have no competition in respect to the quality of our products, but it is extremely hard to get shelf space,” he says. “Trying to penetrate the market is tough.”

Ware says the company has created a grassroots approach to marketing. “We are trying to get into the Bass Pro Shops and I frequently go to sport shows to get the name of our products out to our target market,” Ware says. It helps that Ware has a cousin that is an attractive young woman modeling and showcasing their products on the Web site and at sport shows.

Ambush Lures has customers from all over the country. In fact, even though they are based in Maryville, Mo., most of their customers are from Texas and the east and west coasts.

Ambush Lures is not yet a full-time operation. All members of the team still hold “day jobs,” but they hope to soon run the company full time. “When you are going into a business you can’t afford to pull money out of it,” says Ware. “We have our sights set on developing a long-term tackle company.”

Ware has been married to his high school sweetheart Jennifer for eight years, and has two young children, Jacqueline and Brenden. The family resides in Denton, Kan.

“I’m definitely not a city boy,” he says. “I enjoy the country setting.” They live near their family farm of 320 acres and several stocked ponds. “It is really convenient to have the stocked ponds,” says Ware. “If I have a new product I want to try out, I can just go out there and plop it in the water.”

by Claire Faucett
denboc@umr.edu

Photo courtesy of MoDOT



sabin
Yanez

ON THE WEB:
Kansas City Scout:
www.kcscout.net

“I tell our engineers that you need a combination of three things for a good public works project — engineering, policy and politics,” says Yanez. “I enjoy the challenge of these kinds of projects. What they challenge you to do is look for win-wins, and it isn’t always the ultimate design that wins.”

-Sabin Yanez

Scouting for “win-wins”

As a rule, engineers — even those who pursue public works careers — aren’t too interested in politics. But **Sabin Yanez** is an exception. So when it came time to develop a high-tech traffic-management system that would involve two separate state agencies from two separate states, Yanez, CE’85, was the right person for the job.

“I tell our engineers that you need a combination of three things for a good public works project — engineering, policy and politics,” says Yanez. “I enjoy the challenge of these kinds of projects. What they challenge you to do is look for win-wins, and it isn’t always the ultimate design that wins.”

From 1997-2001, Yanez directed an ambitious bi-state intelligent transportation system (ITS) project to create Kansas City Scout, a high-tech traffic-management tool managed jointly by the Missouri Department of Transportation (MoDOT) and the Kansas Department of Transportation (KDOT). After nearly a decade of study, planning and design work, Scout construction began in 2001. By the end of 2003, the system will cover 75 miles of the Kansas City metropolitan area’s most congested highways on both sides of the state line. With sensors, closed-circuit cameras, electronic message boards, Highway Advisory Radio and the Internet, Scout helps make commutes “safer, smoother and smarter,” Yanez says.

Scout is the outcome of federal legislation passed in 1991 that called for the nation’s 75 largest metropolitan areas to use technology to better manage traffic. Kansas City was one of those areas, and one of the few that straddled a state line. In the early 1990s, MoDOT and KDOT officials worked together to develop a plan and conduct a two-year feasibility study. When it came time to design and implement Scout, MoDOT chose Yanez to oversee the project. He was a project development engineer in MoDOT District 4 in Kansas City at the time.

“It was very exciting work, very non-traditional work,” Yanez says of the Scout project. Working with two state agencies with vastly differing management styles was one of the biggest challenges for Yanez, who is now district engineer for MoDOT’s District 4. But dealing with the two agencies and the project’s various constituencies all connects with Yanez’s interest in engineering, policy and politics.

Yanez’s engineering interest seems to run in his family. A Kansas City, Mo., native, Yanez, who turned 40 earlier this year, decided to follow in the footsteps of his two brothers (**Brian A. Yanez**, AE’81, and **Damian P. Yanez**, AE’82) and attend UMR. “They liked the school and they were very good at math and sciences,” he says. “I was very good at math and sciences, too. I wasn’t sure what I wanted to do but I thought UMR might be a good place to go.” He became even more certain after reading about UMR’s Minority Engineering Program on a bulletin board at his high school.

Unlike his AE brothers, however, Yanez decided he wanted to be more involved with the public. “I always felt like I had a stronger suit in public speaking, and civil engineering had that public works side to it.” He went to work for MoDOT immediately after graduation. While still a UMR student, he married his wife, Angel. The couple has four children: Nate, 17, Adrienne, 15, Alexis, 10, and Anna, 7.

Since his promotion in 2001 to district engineer, Yanez has had to distance himself from the Scout project. But he still sees Scout as his baby. “I spent 4 1/2 years in that job,” he says. “I’ve become a pretty good expert and so I’ve stayed involved in the project, although now more from an overseer level. I do stay involved, but not as much as I’d like.”

*by Andrew Careaga
acareaga@umr.edu*

Engineering a higher calling

At age 18, **Sarah Young**, CE'94, felt called to missionary work. She was torn, however, because she also felt a pull toward developing clean water supply and sanitation systems in underdeveloped countries. "I didn't know how my faith and the engineering could come together," Young says.

When she transferred to UMR after a pre-engineering course at Southeast Missouri State University in 1992, Young got her answer during the first meeting that fall of the student chapter of the American Society of Civil Engineers. The speaker, **Roddy Rogers**, CE'81, MS CE'83, MS EMgt'90, director of water engineering with the City of Springfield, Mo., discussed a trip he had taken as a volunteer with a group called Engineering Ministries International. "I knew right then that's what I wanted to do," Young says.

Although it has taken her 10 years to reach her goal, Young, now 30, works for EMI.

EMI assists Christian missions and ministers in underdeveloped countries around the world, wherever they're trying to serve the poor. The organization provides free design and construction management services for the construction of hospitals, schools, orphanages, bridges, water supplies, electricity and more. EMI staff facilitate the projects by assembling and leading teams of volunteers skilled in whatever profession is needed — architecture, surveying, construction management or civil, structural, mechanical or electrical engineering.

Young joined EMI last February and is being trained for leadership. In May, she co-led her first project — the Women's Development Center in Cambodia. "This project was really close to my heart," she says. The center rescues young girls (ranging in age from 16-22) who had been forced into prostitution at an early age. "The ministry provides a lot of valuable support — medically, physically, emotionally — and provides them with vocational training to try and give them a new start." The center currently houses 20 girls, but with EMI's assistance, they hope to eventually house as many as 100.

Although Cambodia gets a lot of rainfall (more than 51 inches per year), there is no method in place at the Women's Development Center for collecting and storing that water for use. As part of the project, EMI is helping develop a system to allow that rainwater to be added to their current water supply.

This was Young's first trip as an EMI staff member, but she had traveled with EMI previously as a volunteer to Vladivostok, Russia, in 2000. "A Christian ministry was able to buy an old Soviet army base to convert into a center for Bible study and vocational training — part of the center served as the equivalent of a halfway house," she says. The buildings on the base were crumbling and Young's group helped with restoration plans. "There's no one on staff at EMI who didn't go on a trip first as a volunteer."

In addition to her engineering duties, Young also serves as EMI's volunteer development coordinator. That involves "answering questions and getting potential volunteers hooked up with an appropriate trip."

"Several UMR alumni have served as volunteers through EMI since the mid-'80s when the organized short-term projects



Photo by Sandra Elliott Orsillo/Natural Expressions

sarahYoung

began. "My first employer, **Sam Smith** (CE'64), CEO of Smith & Co. Consulting in Poplar Bluff, Mo., is one," says Young. "He went to Haiti on an EMI project and later returned on his own to complete an irrigation project."

Even before starting work with EMI, Young had a desire to put her engineering background to work helping others. After working in the consulting business for a few years, Young went to work for the U.S. Public Health Service. She lived on an Indian reservation in Montana, where she designed and managed construction for projects as part of the national Sanitation Facilities Construction Program.

In her spare time, Young enjoys getting outdoors to journal, sketch or camp in and around Colorado Springs, Colo., where she lives with her two cats, Jack and Darlin'. She used to spend her free time volunteering for projects like those EMI carries out. Now she does that full time.

"I just really feel a calling to serve God, and I do that through serving people," Young says. "EMI is the best way I've found to do that."

by Mary Helen Stoltz
mhstoltz@umr.edu



When I grow up I wanna be...

"A baseball broadcaster." *Sabin A. Yanez, CE'85*

"A professional ballerina or astronaut."
Katherine (Stone) Phillips, NucE'90

"Most definitely a special effects artist for movies. I used to love watching 'Movie Magic.'" *Jeremy Squires, EE'93, MS CSci'96*

"A writer." *Robert Phillips, LSci'90*

"To work in the field of computer science, biology or law. As children we seem to have these romanticized notions of what work will be like, and it's not until we get some real work experience under our belt as adults that we discover we really just want to be a kid when we grow up." *Scott Mitchell, CSci'00*

"A paramedic." *Andrew Sears, EE'95*

"An astronaut. No, wait, a movie producer. No, a science-fiction author. A fighter pilot, surfer, professional stuntman, baseball player, physicist, talk-show host, cartographer and geologist. I may not be a kid anymore, but I still don't know what I want to be when I grow up. Maybe I'll just retire and save myself the trouble!" *Jeff Schroeder, Phys'95*

"A teacher." *Rebecca Fiechtl, EE'95*

"Brain Surgeon." *Jim Fiechtl, BioS'96*

"1) Six feet tall. (My family is short.)

2) A pro football player. (My dad was a coach.)

3) Famous and rich." *Mathew Pitsch, EMgt'85, MS EMgt'86*

"A doctor, then a lawyer." *Cheryl Walker, EE'86*

"Professional basketball player." *Brian Ash, CSci'87, MS EMgt'93*

"A fireman." *Tim Hufker, ME'87*

"Centerfielder for the Royals, or an astronaut." *Michael Haas, AE'93*

"A race car driver. What happened?" *Kyle Tucker, ME'93*

"A doctor at an early age, but an engineer once I entered high school." *Brett Ware, ME'92*

"A fisherman." *Sam Conzone, MS CerE'96, PhD CerE'99*

"Rich. Ha!" *Jerry Hertzler, Phys'88*

"You mean I have to grow up and decide that now? I still feel like a big kid sometimes." *Bach Melick, ME'93*

"A baseball player." *Steve Sullivan, EE'89*

"An explorer, an artist or a cowgirl." *Sarah Young, CE'94*

"An entrepreneur. I always knew I wanted to run my own business." *Steve Birdwell, MS GeoE'87*

"I always wanted to be involved in some sort of exploration, space exploration, like an astronaut. That's what drew me to UMR, actually. But when I got here I liked ceramic engineering better. I realized all of science is really a field of exploration, not just space." *Erik Erbe, CerE'87, MS CerE'88, PhD CerE'91*

"Believe it or not, an engineer. Scary, huh?" *Kevin R. Davis, EE'85*

Read any good books, lately?

A sampling of the latest books our 40 under 40 have read:

Third Chimpanzee: The Evolution and Future of the Human Animal, by Jared Diamond (Scott Mitchell, CSci'00)

The Old Man and the Sea, by Ernest Hemingway (Jerry Hertzler, Phys'88)

The Tipping Point: How Little Things Can Make a Great Difference, by Malcolm Gladwell; *Good to Great: Why Some Companies Make the Leap ... and Others Don't*, by Jim Collins (Jorge A. Ochoa, ME'85)

The Civil War Trilogy, by Michael Shaara (LeAnn Herren, PetE'90)

Jesus CEO: Using Ancient Wisdom for Visionary Leadership, by Laurie Beth Jones (Sabin A. Yanez, CE'85)

Medal of Honor, by Allen Mikaelian and Mike Wallace (Daniel Lindgren, Econ'90)

CEO of the Sofa, by P.J. O'Rourke (Robert Phillips, LSci'90)

Smart Couples Finish Rich, by David Bach (Sam Conzone, MS CerE'96, PhD CerE'99)

The Autobiography of Martin Luther King Jr. (Andrew Sears, EE'95)

The Lord of the Rings and *The Silmarillion*, by J.R.R. Tolkien (Jeff Schroeder, Phys'95)

The Testament, by John Grisham (Rebecca Fiechtl, EE'95)

Cambridge Illustrated History of Medicine, by Roy Porter (Jim Fiechtl, BioS'96)

The Great Game of Business, by Jack Stack (Brian Ash, CSci'87, MS EMgt'93)

Jack: Straight From the Gut, by Jack Welch (Steve Birdwell, MS GeoE'87, and Tim Hufker, ME'87)

Now, Discover Your Strengths, by Marcus Buckingham and Donald O. Clifton (Jeff Douthitt, GeoE'88, MS GeoE'89)

The *Left Behind* series, by Tim LaHaye and Jerry B. Jenkins (Sharon Douthitt, Econ'89)

Debt of Honor, by Tom Clancy (John Dalton, ME'88, MS ME'91)

Rising from the Plains, by John McPhee (John Arthur, PetE'86)

Robert E. Lee on Leadership: Executive Lessons in Character, Courage, and Vision, by H.W. Crocker III (Bill Thomas, CE'87)

God Knows, by Joseph Heller (John Hegger, CerE'86)

The Unseen Hand, by A. Ralph Epperson (Kevin R. Davis, EE'85)

It's Not About the Bike, by Lance Armstrong (Erik Erbe, CerE'87, MS CerE'88, PhD CerE'91)

A Fine Balance, by Rohinton Mistry (Sarah Young, CE'94)

Girlfriend in a Coma, by Douglas Coupland (Steve Sullivan, EE'89)

Black Hawk Down, by Mark Bowden (Bach Melick, ME'93)

How to Become a CEO, by Jeffrey J. Fox (Michael D. Smith, ChE'92, MS ChE'99)

A Walk Across America, by Peter Jenkins (Joel Brand, ChE'86, MS Math'94, PhD Phys'94)

Built to Last: Successful Habits of Visionary Companies, by James Collins (Aron Gaus, CerE'88, PhD Phys'94)



In conversation with Neil Smith

Neil Smith, UMR's vice chancellor for University Advancement since 1994, will semi-retire from UMR at the end of this month. Smith, whose UMR career began in 1971 as a grants and contracts officer, also served as vice chancellor for Administrative Services from 1983-1994.

What do you consider to be the highlight of your 31-year career at UMR? That's easy. It's the people — the alumni and staff — I have had the opportunity to meet and work with during my career. There are so many talented and creative individuals associated with a university campus. It's just exciting being able to interact with them on a day-to-day basis.

What have been the most significant changes you've witnessed during your time on campus? I have jokingly said that the one change that saved my career was the transition away from carbon paper. More than one colleague would have killed me if they had to revise, and then re-revise and revise again, my thoughts in the old carbon paper mode. In a more serious vein, I have witnessed state support for higher education dwindle from 68 percent to about 40 percent on our campus. I've also witnessed our campus mature from more or less a teaching institution to a pretty darn good research university.

As a long-time administrator on campus, what have been some of your most significant accomplishments? That's a tough one — particularly since most of the credit for accomplishments justifiably belongs to the individuals I've had the pleasure to work with over my career. I enjoyed being involved with the acquisition of quite a bit of the real estate that now makes up the northwest mall area, where McNutt Hall and the Engineering Management Building were built,

(continued on page 46)

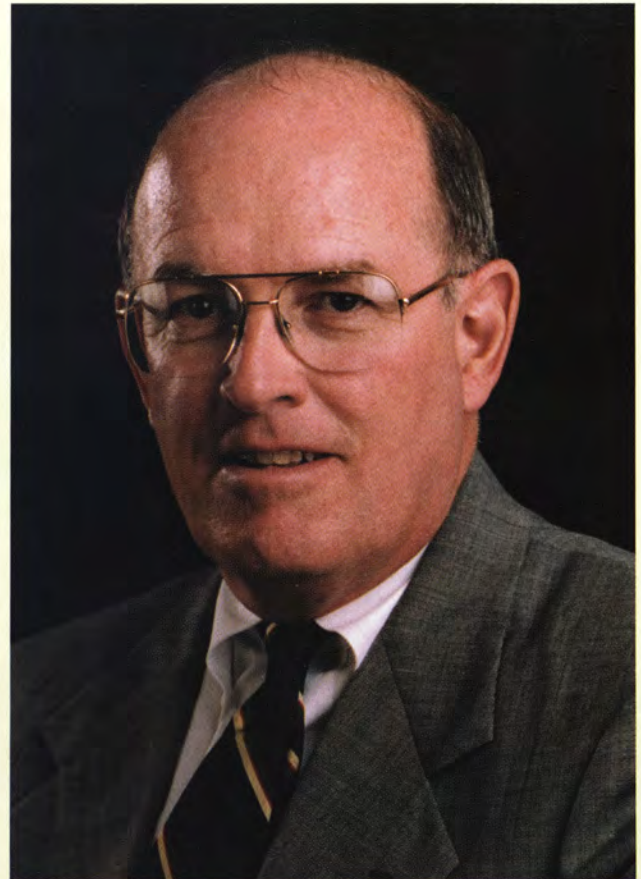


Photo by Bob Phelan/Photomasters



When you start seeing double (That's Neil with look-alike jokester Sherry Adams, manager of records) and you're talking to clowns (could that be Neil's executive staff assistant Molly Mills) maybe you've given enough (31 years) to MSM-UMR and it's time to kick back for a while and enjoy a nice round of golf. Best Wishes!!

My time at UMR has been truly rewarding. Again, it's the colleagues and environment of the place that make it so.

I have to say I've thoroughly enjoyed almost every minute of my time on campus.

ACADEMIES

ALUMNI ENTER UMR ACADEMIES

TWENTY-FOUR ALUMNI WERE INDUCTED into the UMR Academy of Civil Engineers, the UMR Academy of Chemical Engineering, the UMR Academy of Electrical and Computer Engineering, and the UMR Academy of Mines and Metallurgy at the groups' annual meetings, held on campus this past spring. In addition, 10 alumni were inducted into the UMR Academy of Mechanical and Aerospace Engineers last fall. The academies honor outstanding graduates for their contributions to their profession and their involvement with UMR students and faculty. In addition, academies also serve as an advisory group to the department.

ACADEMY OF CIVIL ENGINEERS

David Busse, CE'81, MS CE'83, of Edwardsville, Ill., chief of the Potamology Section, U.S. Army Corps of Engineers, St. Louis District.

Gary Durney, CE'70, of Chesterfield, Mo., manager of production at Missouri Water Co.

Ray L. Purvis, CE'74, of Jefferson City, Mo., state research, development and technology engineer for Missouri Department of Transportation (MoDOT).

Joseph Reichert, CE'59, of Kansas City, Mo., assistant to the city engineer for the Kansas City Public Works Department.

Roddy Rogers, CE'81, MS CE'83, MS EMgt'90, of Springfield, Mo., director of water engineering for City Utilities in Springfield.

ACADEMY OF CHEMICAL ENGINEERS

Charles "Dick" R. Altheide, ChE'56, of Hannibal, Mo., retired vice president of operations at Continental Cement Co. in Hannibal.

Ronald M. Canon, ChE'70, MS ChE'72, PhD ChE'74, of Knoxville, Tenn., manager of radiochemical processes and facility design for the nuclear science and technology division, and director of the heavy isotope management group at Oak Ridge National Laboratory chemical technology division in Knoxville.

John D. Culter, PhD ChE'76, of Naples, Fla., president of Advanced Materials Engineering Inc. in Naples.

Dale W. Harris, ChE'58, MS NucE'59, of Riva, Md., program manager at Praxis Inc. in Alexandria, Va.

Harry C. Hershey, ChE'60, MS ChE'63, Ph.D. ChE'65, of Worthington, Ohio, professor emeritus of chemical engineering at The Ohio State University.

Kenneth G. Mayhan, Ph.D. ChE'65, of Sonora, Calif., president of KGM West Associates Inc. in Sonora.

Gary K. Patterson, ChE'60, Ph.D. ChE'66, of Rolla, UMR professor emeritus of chemical engineering.

Eric B. Rapp, ChE'69, MS ChE'73, of Spring Green, Wis., vice president of Cardinal Glass Industries in Spring Green.

Richard G. Soehlke, ChE'52, of Delaware City, Del., retired refinery plant manager for Star Enterprises in Delaware City.

Robert A. Steinkamp, ChE'62, MS ChE'64, Ph.D. Chem'67, of Hemphill, Texas, retired manager of Polymers Research and Development in Baytown, Texas.

ACADEMY OF ELECTRICAL AND COMPUTER ENGINEERS

Gary L. Fulks, EE'71, of Springfield, Mo., director of engineering and operations at Associated Electric Cooperative Inc. in Springfield.

ACADEMY OF MECHANICAL AND AEROSPACE ENGINEERS

Diane Beamer, ME'73, of West Chester, Ohio, president of GE-IAI Aviation Services International in Evendale, Ohio.

David Berg, ME'57, of Columbia, Mo., retired regional director of Honeywell Inc.

James P. Dycus, ME'66, of Paola, Kan., an engineering projects manager for Honeywell Federal Manufacturing and Technologies in Kansas City, Mo.

Timothy Houghton, ME'68, of St. Louis, retired president of Hutchison Foundry Products Inc. of Alton, Ill.

Gerald Lee, ME'76, AE'76, of Springfield, Mo., senior manager of City Utilities of Springfield.

Stuart Obermann, ME'80, of Huntsville, Ala., chair and chief executive officer of Mobular Technologies Inc. of Huntsville.

Charles E. (Ed) Schmidt Jr., ME'67, of Vichy, Mo., president of Baron Aviation Services Inc. of Vichy.

O. Morris Sievert, ME'44, of La Jolla, Calif., retired president of Deposition Technology Inc. of San Diego, Calif.

Richard C. Smith, ME'77, MS ME'86, of Columbia, Ill., manager of technical services and development for Ameren Energy Co. of St. Louis.

Gary Stripling, ME'69, of Woodway, Texas, an engineering fellow at Raytheon Aircraft Integration Systems Co. in Waco, Texas.

ACADEMY OF MINES AND METALLURGY

Dianna Tickner, MinE'79, of Collinsville, Ill., vice president of Generation Development, Thoroughbred Energy Campus, at Peabody Energy Inc. in St. Louis.

Stephen Suellentrop, PetE'74, MS PetE'75, of Dallas, Texas, vice president of Peru Hunt Development at Hunt Oil Co. in Dallas.

Frederick Rocchio Jr., MetE'70, of Chesterfield, Mo., president and chief executive officer at Northwestern Steel and Wire Co. in Sterling, Ill.

Thomas O'Keefe, MetE'80, MS MetE'84, of Glen Carbon, Ill., production superintendent at Olin Corp. in East Alton, Ill.

James Neustaedter, MinE'43, of Palm Coast, Fla., retired manager of engineering for the Raw Materials Division of Alcoa Inc. in Pittsburgh, Pa.

William Mount, MinE'73, of Viburnum, Mo., general manager of the Mining and Milling Division at Doe Run Co. in Viburnum.

Gazanfer Mohajir, PetE'67, of Kansas City, Mo., chairman, owner and founder of Mohajir and Associates Inc. in Overland Park, Kan.

John Farmer III, of Russell, Kan., PetE'63, president and owner of John O. Farmer Inc. in Russell.

In conversation with Neil Smith (continued from page 44)

as well as the site for Castleman Hall on the south edge of campus. I also played a small role in the process that led to facilities such as Engineering Management, McNutt and Castleman Hall. I had the opportunity to learn about intercollegiate athletics firsthand and work with some great people in that area in the early '90s, although I must admit I also made a mistake or two in that arena. It was also fun to work with so many great people (over 250) in Administrative Services — what I still consider to be a real first-class, professional organization. More recently, I had the pleasure of working the last eight years with the broad cross-section of professionals that make University Advancement the great division it is. And of course, as a part of that, to help organize and lead UMR's first campuswide capital campaign was rewarding. Even this last year it has been fun securing the resources and helping assemble a truly remarkable staff to tackle the creation of a new external Web presence that was sorely needed by the campus.

How would you like to be remembered by UMR? I guess as an administrator who tried to make a difference and maybe someone who, in many different operating areas, successfully convinced campus leadership to invest resources in non-academic areas, whether it was Administrative Services, athletics, University Advancement, or the recent initiative in the Web area. I would also hope that colleagues would feel that I tried to keep the overall interests of the entire campus at heart, and was never afraid to champion causes that I felt deeply about — in my own area as well as others on campus. I would also hope that the directors and managers I have been fortunate enough to work with remember me as a supervisor who believed in them and didn't overly micromanage their areas — too much.

What advice would you give to your successor? Trust in the people who have been assembled in the University Advancement division. They are an excellent group to work with and really do know the areas they are responsible for. Be a champion for what they believe in, and work to secure resources for their dreams. Help bring passion to their ideas and beliefs. Don't be a caretaker. Risk. Make a few mistakes, maybe even an enemy or two.

Since you'll be semi-retired and assisting the chancellor, what do you see as your continued involvement with UMR? I hope I'll be able to assist in helping maintain some of the relationships that we have built with key alumni and friends of the campus. Hopefully, some of my long-standing personal friendships will assist the campus.

What else are you planning to do in semi-retirement? A colleague said: golf, golf and more golf! Seriously, my wife, Susan, and I have built our retirement home in Branson, Mo., and, while I'm sure I will devote some time to golf, I plan to stay active and spend some time building a small consulting

business — Ask Management LLC — helping higher education institutions build and enhance their development organizations.

My time at UMR has been truly rewarding. Again, it's the colleagues and environment of the place that make it so. I have to say I've thoroughly enjoyed almost every minute of my time on campus.

Putting their mettle to the pedal Students win human-powered vehicle competition

A group of UMR students used pedal power to prevail in a national competition of human-powered vehicles.



The UMR team took first place out of 10 teams in the event, held May 17-19 in Blacksburg, Va.

The competition, sponsored by the American Society of Mechanical Engineers, requires teams to design and construct human-powered vehicles, which the teams then enter in three different categories: design review and presentation; sprint race; and endurance race. UMR placed third in the design report, first in the sprint race (both male and female riders) and first in the endurance race, giving the team a first-place rating overall.

UMR's entry, the *UMR Retaliation*, reached speeds of nearly 50 mph, says **Matt Wolk**, team president and a senior in mechanical engineering. "The high speed was not only attained through brute force of the rider, but by creating the bike so it could undergo modifications for different terrain."

ONLINE

UMR student teams did well in several national and international competitions. Read how well they did online at www.umr.edu/?1070 (in the "Student Life" section under "Get Involved")



Crow named UMR's Woman of the Year

Photo by Terrill Story/UMR Publications

Mariesa Crow, professor of electrical and computer engineering and associate dean of the School of Engineering, was named UMR's Woman of the Year for 2002 in recognition of her efforts to improve the campus environment for women and minorities. As part of the award, Crow received a \$2,000 stipend funded by UMR graduate **Cynthia Tang**, Econ'85.

Crow, a member of the UMR faculty since 1991, is known for her research in the area of electrical power systems. Her accomplishments at UMR include initiating a National Science Foundation-sponsored program to attract more Ph.D. candidates into the growing field of power electronics. She also is a co-director of UMR's "Expanding Your Horizons" program to promote science and engineering to 7th- and 8th-grade girls.



Mariesa Crow, professor of electrical and computer engineering and associate dean of the School of Engineering.

Getting SMART in the battlefield

When the Army wanted to update its 50-year-old process for identifying hazards in the battlefield, it turned to UMR for help. The result: a year-long design project for UMR students, and three prototypes for the Army of wireless "smart" markers that can identify potential biological, chemical or nuclear dangers.

Each of the smart marker prototypes is designed to transmit information about battlefield hazards to soldiers in the field, allowing the military to route troops and traffic around the problem areas. These high-tech markers are a far cry from the Army's current procedure, a 1950s system involving color-coded flags posted on two-foot-high rods to identify tainted areas. The current method uses no

electronics or computer technology; soldiers simply grab a grease pencil and describe the hazards in writing on the flags, which are then dispensed around the perimeter of a hazard by an Army Fox Nuclear, Biological and Chemical Reconnaissance Vehicle.

"The goal of the project is to update the marker so that it will store data, transmit the information wirelessly to the military vehicle, make it more visible using flashing lights, and have a taller mast," says **Robert Stone**, assistant professor of basic engineering at UMR. Stone and **Nancy Hubing**, associate professor of basic engineering, have been advising students on the project over the past two semesters.

The effort began in the summer of 2001, when Army officials from Fort Leonard Wood and Soldier, Biological and Chemical Command contacted UMR

Photo by Bob Phelan/Photomasters



The students' challenge was to create a marker that would be visible from up to 200 meters, day or night, and that could wirelessly transmit data.

Ceramic engineering faculty recognized

UMR ceramic engineering faculty were recognized during the American Ceramic Society's annual meeting, held April 28-May 1 in St. Louis.

Jeff Smith, MS CerE'91, Ph.D. CerE'93, associate professor of ceramic engineering, was named fellow of the American Ceramic Society, while **Bill Fahrenholtz**, associate professor of ceramic engineering, was named vice chair of the society's Ceramic Educational Council.

Richard Brow, chair and professor of ceramic engineering, was named chairman of the Glass and Optical Division.

SME honors Elifrits

C. Dale Elifrits, MS GGph'76, professor emeritus of geological engineering, received the 2002 Ivan B. Rahn Education award from The Society for Mining, Metallurgy, and Exploration (SME). The award honors Elifrits for his involvement with the Accreditation Board for Engineering Technology (ABET) and other educational activities. Elifrits also served as associate director of UMR's Freshman Engineering Program for several years.

about developing the markers. Stone and Hubing proposed the project as part of their senior design classes — Engineering Design Methods (Basic Engineering 220), held last fall, and Engineering Design Projects (Basic Engineering 301), held in the spring. The Army agreed, and provided \$100,000 for the project.

The students' challenge was to create a marker that would be visible from up to 200 meters, day or night, and that could wirelessly transmit data about the specific hazards so that troops can avoid the tainted areas. Students enrolled in the fall class developed paper designs, based on the Army's specifications. Many of the same students enrolled in the spring semester course, turning those designs into prototypes.

Photos by Bob Phelan/Photomasters



Going...



going...



gone

UMR RESEARCHERS

demonstrated two very different technologies — one for blowing up bridges, the other for holding them together — with the 98-year-old Sappington Bridge, located near Sullivan, Mo. Researchers from UMR's Center for Infrastructure Engineering Studies (CIES) and the Rock Mechanics and Explosives Research Center (RMERC) collaborated to dismantle the structure. After explosives experts demolished the bridge, infrastructure experts removed a 55-foot span from the bridge and brought it back to campus for testing.



Pictured, left to right: Jim Jackson, senior lab mechanic, reactor operator, Craig Heimericks, Jeremy Gorelick, Dan Estel, seated, and Akira Tokuhiro, director of the reactor.

Photo courtesy of UMR Public Relations.

NRC certifies three to run reactor

Nuclear engineering students **Dan Estel**, **Craig Heimericks** and **Jeremy Gorelick** last spring became the first undergraduate students in a new training program to become certified as nuclear reactor operators. In March, the trio passed a three-part written examination given by the U.S. Nuclear Regulatory Commissions, which regulates civilian use of nuclear materials.

The newly licensed operators can now power up the UMR Nuclear Reactor for tours — about 3,000 people tour the facility annually — as well as irradiate samples for research, perform routine checks of the reactor and train others to become certified nuclear reactor operators.

New institute deals with natural hazards

UMR experts in earthquakes, floods and other natural hazards joined together last February to create the UMR Natural Hazards Mitigation Institute, a vehicle for promoting research into natural hazards and raising public awareness. One of the institute's first major projects is a two-year, \$800,000 study of the potential impact a major earthquake along the New Madrid Fault would have on the bridges and highways of southeast Missouri and the St. Louis area. The project is funded by the U.S. Federal Highway Administration and involves the assessment of existing bridges and other highway structures to determine their viability in an earthquake.

The New Madrid Fault is an active seismic zone that includes southeast Missouri and extends into southern Illinois, northeast Arkansas, and parts of Kentucky and Tennessee. The New Madrid Fault derives its name from the Great New Madrid Earthquake of 1811-1812, which occurred along this fault line. According to experts, the highest earthquake risk in the United States outside the West Coast lies along the New Madrid Fault.

Other research projects to be carried out by the NHMI include studies in Missouri's karst topography, which forms caves, sinkholes and other potential underground hazards; flooding; and the stability of slopes and embankments. **Neil Anderson**, professor of geology and geophysics at UMR, is the institute's director.

If you have any questions or comments about campus news articles, contact Public Relations at news@umr.edu or call 573-341-4328.

TRACK AND FIELD:

Skola's high mark falls short

J.R. Skola cleared the opening height, exceeding every high mark he had reached all season except for the one that got him to the NCAA Division II Track and Field Championships. Unfortunately for Skola, a junior from Camdenton, Mo., the clearance at 15 feet, 10 inches was the only one he made all night as he ended up in 11th place in the pole vault at the national meet in May in San Angelo, Texas.

Meanwhile, **Charlie Hawkins** was unable to keep up with the leaders in his heat of the 1,500 meters and placed ninth in the second preliminary heat of the event. Hawkins, a sophomore from Ozark, Mo., finished his race in a time of 4:01.97, well below his best time of the season in the event (3:50.75).

Standouts in swimming, soccer win Bullman Awards

Dave Belleville, a member of UMR swimming relay teams that won two national championships, and **Josi Wright**, a defensive stalwart on UMR's women's soccer team, received the UMR M-Club's 2002 Gale Bullman Awards last spring. The award, named for UMR's longtime former director of athletics and football coach, is the most prestigious award given to a UMR student-athlete and is traditionally given to seniors who display outstanding character and excel both on the playing field and in the classroom.

Belleville, a senior from Chesterfield, Mo., won seven All-America awards at this season's NCAA Division II Swimming and Diving Championships. He also finished third on an individual basis in the 50- and 100-yard freestyle and was part of three other relay teams that earned All-America status. In his four seasons at UMR, Belleville earned 23 All-America awards. The manufacturing engineering major also holds six school records.

Wright, a four-year letterwinner for the Lady Miner soccer team, was named honorable mention All-MIAA this season after earning second-team honors as a junior. Wright was a stalwart on a defensive unit that recorded 20 shutouts during her four seasons at UMR. An engineering management major at UMR, Wright, of Evansville, Ind., is a three-time member of the MIAA Commissioner's Academic Honor Roll and was also selected to the MIAA's All-Academic team during her career.

Jason Jaques, the assistant cross country and track and field coach at UMR, was named by the M-Club as its Coach of the Year. Jaques is in his second year at UMR. The M-Club banquet's guest speaker, **Jerry Bayless**, CE'59, MS CE'62, was given the M-M Award. Bayless, associate dean of the UMR School of Engineering, has worked with the athletic program for many years and also serves as the treasurer of the university's athletic booster club.

The 2001-02 most valuable players for each sport were also honored. They are:

2001-02 M-CLUB MOST VALUABLE PLAYERS (by sport)

BASEBALL: *Clint Moss, So., Bourbon, Mo. (Sullivan HS)*

BASKETBALL (Men): *Brian Westre, So., St. Louis, Mo. (Clayton HS)*

BASKETBALL (Women): *Candace James, Jr., McPherson, Kan. (McPherson HS)*

CROSS COUNTRY (Men): *Jason Burnes, Jr., Fenton, Mo. (John F. Kennedy HS)*

CROSS COUNTRY (Women): *Kate Hamera, So., Easton, Mo. (Bishop LeBlond HS)*

FOOTBALL: *Drew Bullocks, Sr., Blue Springs, Mo. (Blue Springs HS); Ken Okwuonu, Sr., Houston, Texas (J. Frank Dobie)*

GOLF: *Jason Cahill, So., Pickering, Ontario (St. Mary HS)*

SOCCER (Men): *Todd Wilfling, Sr., Louisville, Ky. (duPont Manual HS)*

SOCCER (Women): *Barb Porter, So., Mission, Kan. (Shawnee Mission North HS)*

SOFTBALL: *Michelle Grace, Gr., Jefferson City, Mo. (Helias HS)*

SWIMMING: *Dave Belleville, Sr., Chesterfield, Mo. (Marquette HS)*

TENNIS: *Ryan Lynch, Sr., Winona, Minn. (Winona HS)*

TRACK AND FIELD (Men): *J.R. Skola, So., Camdenton, Mo. (Camdenton HS); Charlie Hawkins, Fr., Ozark, Mo. (Ozark HS)*

TRACK AND FIELD (Women): *Kate Hamera, So., Easton, Mo. (Bishop LeBlond HS); Jamie Webb, Fr., St. Louis, Mo. (Metro HS)*

TRANSITIONS

Eads named new Lady Miners coach

Following eight years as an assistant coach for Southeast Missouri State University, **Alan Eads** is again leading a women's basketball program. Eads became the Lady Miners head coach on July 1. He takes over for Linda Roberts, who resigned from the position in April.

"It's nice to be a head coach again after eight years as an assistant coach," says Eads, who was the head women's coach at Moberly (Mo.) Area Community College from 1986-94. "I am really looking forward to the challenge at the University of Missouri-Rolla. The program had success in the early 1990s so the potential is certainly there, and the goal is to get it back to the top portion of the conference. I know that we have a ways to go, but we're going to install a work ethic and work on playing tough defense to really get after people."

Eads helped lead Southeast to a 16-12 overall record and 8-8 mark in the Ohio Valley Conference during the 2001-02 season. As a head coach at Moberly, he compiled a 199-37 record over eight years and took the Lady Greyhounds to the NJCAA national tournament on five occasions.

Vince Darnell named men's soccer coach

Vince Darnell, who spent last season assisting the men's and women's soccer programs at William Woods University in Fulton, Mo., joined the UMR staff as the new head men's soccer coach on Aug. 1. He succeeds Dawson Driscoll, who resigned over the summer to become head coach at the University of Tampa.

Darnell "brings a great deal of experience and knowledge to our men's soccer program," says UMR athletics director **Mark Mullin**. "I am impressed with his enthusiasm and excitement about leading the Miners. Vince will be an excellent addition to our department."

Darnell joined the William Woods staff last season after spending four years coaching in Florida.

Driscoll led the men's soccer team to winning seasons in each of his four years at UMR.

Member Benefits

As an alumnus of MSM-UMR, you are automatically a member of the MSM-UMR Alumni Association and are entitled to:

MSM-UMR:

Chairs, lamps, watches, rings, pendants, Platinum/Gold MasterCard, license plates for Missouri residents.

Career Assistance:

UMR's Career Opportunities Center will help you in your job search!

Services:

Online Community, including searchable directory. Access to alumni office via e-mail (alumni@umr.edu).

Alumni locator service to help you find lost friends.

Address update service so you don't miss your MSM-UMR mail.

To take advantage of these offers, contact the alumni office:

MSM-UMR Alumni Association
Castleman Hall
University of Missouri-Rolla
1870 Miner Circle
Rolla, MO 65409-0650

Phone: (573) 341-4145

Fax: (978) 926-7986

E-mail: alumni@umr.edu

Web site: www.umr.edu/alumni

Meet your new alumni director

The MSM-UMR Alumni Association's new executive vice president discusses campus ties, alumni loyalty and the association's future

A member of the alumni relations staff since 1988, **Lindsay Lomax Bagnall**, Psyc'76, became UMR's new director of alumni relations and executive vice president of the MSM-UMR Alumni Association on July 1. She recently sat down with the *Alumnus* staff to discuss her new duties and her plans for the association's future.

Why did you decide to pursue this job?

I couldn't imagine anything better than serving the needs of the alumni of MSM-UMR, my own alma mater.

What sets the MSM-UMR Alumni Association apart from alumni organizations of other colleges or universities?

I think the loyalty of our alumni sets them apart from alumni of other colleges and universities — the strong ties they feel to their alma mater, and the large percentage of them who are supportive of the alumni association and the campus. MSM-UMR alumni know they got a good education in Rolla, and that their alma mater turns out some of the best leaders in engineering, science and the liberal arts.

What opportunities and challenges face the alumni association, both short-term and long-term?

One challenge on everyone's mind right now is funding, and increasing the percentage of support for the alumni association and the campus that comes from alumni and friends. Because of the strong, independent nature of our alumni association, there is a significant endowment in place within the association to provide support for the campus — but we need to help this endowment grow to provide even more help, and less dependence on the vagaries of state funding. Another challenge in the future will be keeping alumni connected when they may have visited the campus only once, if that. I'm speaking of alumni whose degrees may be entirely completed through distance learning. The typical UMR student of the future may be very different than in the past, and we will need to find new ways of connecting with these alumni.

What's on your agenda for your first year as director?

Working with our alumni and parents association leadership to assess where we are now, and where we want to go — refining our short-range and long-range plans — and meeting and visiting with as many of our alumni as possible.

MSM-UMR Alumni Association Mission and Goals

MISSION

The association will proactively strive to create an environment — embodying communication with and participation by MSM-UMR alumni and friends — to foster strong loyalty to UMR and growth of the association. The association will increase its financial strength as well as provide aid and support to deserving students, faculty, and alumni friends.

GOALS

- Assist university with recruitment and retention.
- Improve communication with and expand the involvement of alumni, especially recent graduates and current students.
- Increase financial resources of the association and the university.
- Strengthen alumni section activity.
- Increase volunteer support to the university and its students.

The officers and other members of the association's board of directors provide leadership and actual 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.



What about down the road?

I would like to see more interaction between alumni and students, which would increase student awareness of the alumni association and what it does for students both now and after graduation. I'd also like to see greater use of technology to communicate with alumni, through the Online Community we have now and through enhancements to that community, such as an electronic newsletter for alumni and the availability of making gifts and payments online. Additionally, I hope to facilitate greater interaction between alumni association leadership and campus departments through the association's Campus Liaison program, to help the association provide greater support to the campus.

Tell us a bit about your alumni staff.

Betty Volosin, Renee Stone, Marianne Ward and Cari Chandler — they are outstanding, dedicated, capable, talented, experienced (more than 35 years at UMR among them), helpful, friendly, pleasant — the best anywhere. With the help of some outstanding students and dedicated volunteers, they are the backbone of our office and are the ones who do all the work. I am very fortunate.

What's your vision for the future of the *MSM-UMR Alumnus*?

I think the magazine will continue to improve and become an even more important part of the lives of our alumni. We have an incredibly talented and creative group of people who work on the magazine, who have great ideas and are in tune with what alumni want. The *Alumnus* is the primary vehicle for communicating with alumni, and I'm sure it will continue to provide the information alumni want and need about what's happening at UMR and with fellow alumni today.

How would you describe the relationship between the association and the university?

The MSM-UMR Alumni Association is an independent, not-for-profit entity, separate from the university. Its mission is to communicate with alumni, encourage their involvement, and foster strong loyalty to the university — basically, to serve alumni and support the university. In return for this support, the university provides staff salaries and benefits as well as housing for the alumni office. Gifts from alumni and friends to the association's annual fund provide the rest of the funding for the association's activities, which include nearly \$500,000 each year in scholarships and other support to the campus. I see it as a relationship of mutual support that makes each entity stronger.

As the first female director of alumni relations, do you predict any unusual challenges for you that might not face a male director?

Not really. I think the fact that I'm a graduate of UMR will be more relevant to alumni than my gender. I've been there, too, and I have an understanding of the history of this campus that creates a strong bond with our alumni.



Traditionally an alumni director's spouse has played an important role in alumni relations. Do you plan to continue that tradition? If so, how?

I expect my husband Kent will accompany me to some events and section meetings, as he has done in the past. After all, he's an alum, too (CE'76). There are also many others who will help by doing some of the tasks previously performed by the director's spouse. For example, Dottye Wolf, widow of (MSM-UMR Professor) Bob Wolf (ME'51), has volunteered to handle the spouse programs concurrent with alumni association board meetings, along with other duties. In some cases our core group of alumni volunteers will assist us, and in other cases duties will be taken over by staff members. I've even drafted my teenage daughter, Hannah, to go along on some of the section visits to help greet alumni; and my younger daughter, Lydia, occasionally helps out in the office.

Is there anything else you'd like to tell our readers?

I'm very happy about the opportunity to work with alumni and friends in this new capacity. It's an exciting time to be working at UMR. Despite the financial challenges we face due to the state's fiscal condition, UMR is on the upswing. We're looking forward to having an increasing number of students on campus, making Rolla a vibrant community where students are busy making things happen. I appreciate the support of all the alumni and friends who have wished me well, and I encourage all alumni to stay in touch with UMR and the MSM-UMR Alumni Association. We're working for you.

Ark-La-Tex spring meeting

The spring meeting of the Ark-La-Tex Section was held on April 6. Thirteen alumni and guests gathered for an afternoon of conversation and "attitude adjustment" at the lovely home of Loretta Moscardi in Longview, Texas.

A short business meeting was held to discuss the scholarship selection process and the current state of the section's treasury. Following the meeting the group enjoyed dinner at Johnny Cace's restaurant in Longview. The next meeting was scheduled to be held at Louisiana Downs in Shreveport, La., in July.



Air Capital alumni and their guests enjoy dinner at Picadilly Grill West.

Bay Area celebrates St. Pat's in style

Chris and Kami Cozort opened their home to San Francisco alumni and their guests for a St. Pat's dinner party on St. Patrick's Day, March 17. Nearly 30 alumni and friends gathered for "happy hour," socializing and getting reacquainted. They also enjoyed a catered dinner, coffee and dessert.

"It was a perfect St. Pat's Day, as right in the middle of the party, a beautiful, bright double rainbow appeared over the backyard," Kami Cozort says. "We thought the luck of the Irish was with us, but none could find the pot of gold."

Those attending included Chris '86 and Kami '85 Kozort; Mike Patterson '77; Scott Patterson '73 and Diane Sauer; Linda McCullough '86; Scott Hummel '97; Dinesh Venkatachalam '87 and Asha Dinesh; Molly White '99; Bill and Alison '98 Lawrence; Dave Peacock '64; Candice Luehrs '01; Steven R. '73 and '78 and Fabia Goldammer; Gerald '80 and Maren Smith; Xiangyu Fang '00; Don '69 and Maureen Bourne; Jerold K. '58 and Kay Littlefield; Kenton Williston '00; Kerry Kimmel '92, '99; Roger '64, '66 and Janie Chapin.

Air Capital dinner and elections

Fifteen alumni and friends gathered on Friday, June 14, at Picadilly Grill West in Wichita, Kan., for the Air Capital Section's dinner and officer elections. Sean Daly '96 was the event planner.

Three UMR students, who are working as summer interns at Boeing, joined the section's members. After dinner, a short business meeting included officer and committee reports and officer elections. The newly elected officers for next year are president: Jarrod Grant '98; vice president: Laura (Bandy) McLaughlin '99; secretary/treasurer: Jennifer Marshall '96; activities chair: Sean Daly '96; membership chair: Tony McLaughlin '98; student assistance chair: Aleen Stinson '86; employment chair: open; executive board members at large: Eric Hensley '97 and Kirk Peterson '95.

Those attending the event included Sean Daly '96, Jarrod Grant '98, Eric Hensley '97, Jennifer Marshall '96, Jim Parker '78, Kirk '95 and Tracy Peterson, Randy Schuetz '83, Steve '65 and Linda Smith, Aleen Stinson '86, and Willis Wilson '73. UMR interns who attended were Brian Schoene, Justin Semsch and Matt Spalding.



Linda Smith points out that her husband, Steve Smith '65, will be the one doing the cooking after winning a copy of the Chancellor's Table cookbook.

Need a copy of your transcript?

Check the Web at web.umar.edu/~regwww/official.html for information and a printable form. You can mail or fax, or call the registrar's office at 1-800-522-0938 for more information.



Austin-San Antonio Section members participated in a barbecue and family fun day June 23 at Steiner Ranch Lake Club in Austin, Texas.

Austin-San Antonio re-ignites with St. Pat's happy hour

Fado's Irish Pub served as the backdrop for the Austin-San Antonio Section's St. Pat's happy hour on March 22. Aaron Shaw '95, Doug Mitchell '94 and Nik Jedrzejewski '98 organized the event and helped revive the section.

Those attending included Julie (Sellmeyer) '97 and Scott Townsend; Yuning Shi '00 and Liang Chen; Don '62, '65 and Sharon Willyard; Sarah Jane (Hahn) '83 and David Todd; Clif Steed '69; Jim Montgomery '70; Gary Mann '68; Steve '89 and Katie '88 Hagen; Aron Gaus '88, '94; Ferrill '78 and Debbie Ford; Roger '65 and Sandy Dorf; George '80 and Connie Dickinson; Aaron Shaw '95; Nik Jedrzejewski '98; Doug Mitchell '94; and Brian Nelson '96.

Austin-San Antonio heats up with BBQ and family fun

The Austin-San Antonio Section continued to blaze a trail back into the pages of the alumni history books with a barbecue and family fun day June 23 at Steiner Ranch Lake Club in Austin, Texas.

Those attending included Aaron Shaw '95; Larry Schoeneck '68; George '80 and Connie Dickinson; Jack '72 and Evelyn Kubicek; David and Gay Vick '72; John '83 and Helen Osman; Hank '71 and Irene Sandhaus; Ferrill '78 and Debbie Ford; Xianyao Wang '01; Lingli Zhang '01; Herb '73, '75, '79 and Judy Krasner; Roger '65 and Sandy Dorf; Steve '89, Katie '88, Anna and Paige Hagen; Matt Kisler '01 and Amanda Carter '98, '01; Kirk Lawson '85, '87; and Molly Koester '01 and Nicole McGarny.

Officers and leaders will be needed to sustain the momentum of the Austin-San Antonio section. If you are willing to serve in a leadership role, please contact Aaron Shaw at gentleman_ams@hotmail.com or call him at (512) 989-9233.



CHEERING ON THE MINERS IN ALASKA are, front row, Jerry Berry, Von and Zach Cawvey, Trent and Greg Sanders, Nina Woods; and back row, Jennifer and Chuck Monie, Mr. and Mrs. John Parrott, Amanda and Benjamin Retzinger and Norman Tucker.

Alaska Section cheers on the Miners

Thirteen alumni and friends gathered to cheer on the Miners basketball team as they took on Brigham Young-Hawaii in a tournament held in Anchorage, Alaska, on Nov. 30, 2001. Once at the event, Alaska alumni met up with Jerry Berry '49 and Norman Tucker '40, who traveled from Rolla to cheer on the team. "We all sat together and had a great time cheering on the team," says Nina Woods '98, who organized the event.

Some of the alumni returned on Sunday to watch the Miners play once again. "The fun part was explaining to others why in the heck we were wearing St. Patty's Day shirts in November," Woods says.

Those attending the event included Nina Woods '98, Greg Sanders '86 and his son Trent, James "Von" '78 and son Zach Cawvey, Jerry Berry '49, Benjamin '98 and Amanda '98 Retzinger, Charles "Chuck" '82 and Jennifer Monie and Norman Tucker '40. Rolla high school graduate John Parrott and his wife also attended the game.

HAVE YOU REGISTERED YET FOR THE ONLINE COMMUNITY?

ALMOST 4,000 ALUMNI HAVE!

DON'T BE LEFT OUT.

Look for the six-digit number above your name on the label on the front of your magazine and go to <http://alumni.umn.edu> to register. Follow the links to the Online Community and use that six-digit number when it asks for your security information. (If you don't have the label handy, e-mail alumni@umn.edu and ask for your security number. We'll be happy to e-mail it back to you.)

Once you're registered, you'll have access to everything from the Online Directory (so you can find your fellow alumni) to permanent e-mail (so you can claim your own "@msm.umn.edu" e-mail alias, and message boards, upcoming events and more

Miner Music celebrates 75 years of campus music

The Miner Music Section met Saturday, May 4, during the 75th anniversary of the bands held at UMR. The 75th anniversary celebration included roundtable discussions with composers and a jazz ensemble clinician. Jazz performances, a formal banquet and a wind ensemble concert rounded out the weekend's activities. Sunday's concert featured the premiere of four commissioned works — one each by Timothy Mahr, Andrew Boysen, Younghae Kim and Barry Morse.

During the meeting on Saturday, section members voted to help purchase some equipment for the band program. Dues of \$20 also were collected. Anyone who was unable to attend the event, but would like to be a member of the Miner music section, please send \$20 to Tom Rogge, 430 Elm Crossing Court, Manchester, MO 63021-7476. For more information contact Tom at rogge@tseinc.com.

Those attending included Thomas Alleman '96; Daniel R. Bilbrey '93, '95; Tiffany L. Christensen '98; Brian De Salle '99; Emily Donaldson '97; Cynthia Millangue '91; Robert M. Moore '84; Curtis Robinson '01; Tom '93 and Karen '94 Rogge; and Jaimee Shell '00.

Houston Section holds summer party

On Saturday, June 29, the Houston Section held its summer party at Dave & Busters. All told, with alumni, current students, future



Houston area alumni served up a good time at Dave & Buster's.

students, spouses, significant others, kids and friends, 62 attended and the group was "semi-sorta" busting at the seams. President Nicole Talbot '77 conducted elections. Due to overwhelming demand and sound minds, we elected president: Nicole Talbot; vice president: Ed May '83; secretary: Shannon Walker '97; activities chair: Lori Crocker '88. Since Betty Andreas was the only one who knew how to work the digital camera, she was appointed chair of the section's history committee. The section's board of directors amended the section bylaws to make the office of historian a committee instead.

Once dinner and the business meeting were concluded, the entertainment for the night began with pool, shuffleboard and one of the largest video arcades you can imagine. The Herman Vacca '60 family had six in attendance and set up their own pool tournament. Lori Crocker tried all of the shooting games until her arms wore out. We never could get Wayne Andreas '58 on the motorcycle and ski jets, but we tried.

Alumni included Wayne '58 and Betty Andreas; Sherri Clark '78, Lori Crocker '88; Blu Englehorn '95 and five guests; Ann Englehorn '98; David Furnish '61; Gary Green; Dan '73 and Dee '75 Hinkle; Dave Jones '71; Robert Koch '00; Andy Laegeler '01; Rich and Stephanie Langenstein '87; Ed May '83; John Meyers '96; Ed Midden '95; Russ Pfeifle '74 and Nicole Talbot '77; Tim Pikey '93; Lane '98 and Lorna '98 Puls; Larry '98 and Elizabeth '00 Ragsdale; J. Robert Rives '57; Matt '97 and Gretchen '99 Riggs; Molly Schneider '00; Herman Vacca '60; R. Clarke Wilson '70, Shannon '97 and Frances '97 Walker; and Desiree Westcott '86.



Houston alumni visit during the summer party.

WE WANT YOUR NEWS!

Deadline for submissions to the winter 2002 issue of the *MSM-UMR Alumnus*

September 30, 2002

Lincolnland tournament goes swimmingly



Lori Bosch, Jerry Hirlinger, Brian Bradley and Mary Ann Dufner made up one of the co-ed teams.

Earlier rains didn't dampen the spirits of 26 Miners and their guests who participated in the Lincolnland golf tournament on May 7. A dinner followed with 34 guests attending.

The golf was hampered somewhat by wet conditions, but was still well attended. Section president Jerry Parsons showed remarkable adaptability by playing some of the wetter holes barefoot. "Jerry had to be monitored carefully by his teammates, who were fearful that the next item of clothing he decided to take off might not be acceptable to the co-ed gathering," reported one observer.

UMR head football coach Kirby Cannon and his wife Karen graciously agreed to travel to Springfield, Ill., for the event. Coach Cannon was at his best as the after-dinner speaker and was very well received by our membership.

Those attending the golf tournament included Mary Ann Dufner '71; Lori Bosch '98; Jerry Hirlinger '86; T-J May '66; Don Becker; Jerry Parsons '70; Rich Eimer '71; Dennis Hervey '71; Rich Mochel '64; Eugene D. Brenning '61; Dan Kerns '74; Mary Ellen Daniels; Kirby Cannon; Colleen Stucker '00; Terry Burke '72; and Brian Bradley '86.

Those attending the dinner included Amanda '02 and Andrew Withers; Paul Zimmer '70; Jeff Riepe '98; Sadie Burke '98; Melvin Allison '70; Larry Unnerstall '79; Nicholas Cook '01; Bill Buren '59; Bill Schuck '70; Dave '69, '71 and Mary Ellen Daniels; Jason Jones '00; Larry Eastep '69; Karen and Kirby Cannon; Jim Rechner '70; Steven Gobelman '83; Ed Midden '69; and Jack Park.



Larry Eastep shows off his door prize.



Head Football Coach Kirby Cannon accepts a gift from Dave Daniels for serving as Lincolnland's keynote speaker.

Mining engineering represented at SME annual meeting

Larry Grayson, chair of the UMR mining engineering department, was joined by Cecelia Elmore '86 (student recruiting coordinator), Lee Saperstein (dean of UMR's School of Mines and Metallurgy), and students Rachel Kuro and Megan Marler at the Society of Mining Engineering Annual Meeting in February. UMR mining engineers had a booth at the meeting.



North Alabama re-ignites, elects new officers

Twenty-four alumni and friends helped re-ignite the North Alabama Section on June 18 at Dublin Park in Madison, Ala.

The meeting was very successful in fulfilling the group's agenda, purpose and immediate goals, which included re-igniting the section, selecting a section scholarship committee and hearing an update on campus. We had 17 alumni with six accompanying spouses and guests as well as UMR's alumni sections coordinator, Marianne Ward, in attendance.

The newly-elected officers are president: Jim Keebler '75; vice president/social events chair: Jason Bridges '00; secretary: Ernest Jones '82; treasurer: John Dunbar '84, and historian: Roger Hoffman '62. "We intend to have some fun as well as take care of some business (awarding a section scholarship) while serving our term as your officers," Keebler says. "We will keep you posted on events as they are planned and developed."

Those volunteering to serve on the scholarship selection committee include Dan Buchner '94, Brad Butler '97, Clark Mikkelsen '70, James Carter '66 and Bob Schneider '80. A special thanks to Jim Keebler for organizing the event.

Those attending included Mike '96 and Kim Baysinger; Jason Bridges '00; Dan Buchner '94 and guest; Brad Butler '97; James M. Carter '66; John '84 and Lyn Dunbar; Roger Hoffman '62; L.R. "Bob" Hurst '74; Ernest Jones '82; Jim and Dorothy Keebler '75; Ron Marshall '65; Dr. Clark Mikkelsen '70; Derald '65 and June Morgan '65; Bob Schneider '80; Albert Schrenk '58; Marianne Ward; John '53 and Doris Young and Mark Zeien '01.



UPCOMING MINER ALUMNI EVENTS

**OCT. 1, 2002
SPE CONFERENCE
ALUMNI RECEPTION**

San Antonio, Texas
Marianne Ward
(573) 341-6034
mward@umr.edu

**OCT. 11, 2002
ALUMNI BOARD OF
DIRECTORS MEETING**

UMR
Alumni Office
(573) 341-4145
alumni@umr.edu

**OCT. 11-12, 2002
HOMECOMING**

Alumni Office
(573) 341-4145
alumni@umr.edu

**OCT. 29, 2002
LINCOLNLAND SECTION
FALL DINNER**

Location to be announced
Jerry Parsons '70
(217) 793-3662
parsonsjd@nt.dot.state.il.us

ATTENTION SHUTTERBUGS

We'll be glad to print photos taken at Section events or submitted with your Alumni Note or Future Miner announcement — just send them in! They need to be good quality, clear pictures.

If sending digital files via e-mail, the images need to be 240 to 300 dpi.



Please identify the people in the picture. If you send in several, we'll pick the best for publication. Unless requested, submitted photos will not be returned.

Motor City section hosts UMR's SAE Formula car team



Ray Schaffart and Ron Schoenbach visit prior to the meeting.



Students work on the SAE Formula Car before the race.

Miners from the Detroit area enjoyed the annual dinner held in conjunction with the SAE Formula Car competition on May 15. UMR's SAE team members discussed the team's progress and plans for the future. Greg Harris of the UMR development staff gave an update of happenings on campus and Marianne Ward of the alumni relations staff provided information on the MSM-UMR Alumni Association and enrollment.

Everyone enjoyed socializing, networking and meeting the team members. Alumni and students signed a T-shirt for long-time Motor City section supporter George Baumgartner '56, who missed the meeting because he was in the hospital.

Thanks go to Jeff Seaman, Janet and Barry Callahan and Bob Seaman for organizing the event. Thanks to Ray Schaffart for underwriting the cost of the banquet for the students.

Those attending were: Ray Schaffart '63, Scott Shakley '94; Don '56 and Dee Statler; Barry '99 and Janet Callahan; Michael Albrecht '83; Stacey Linart; Fred Thomas '91; Ron Gillham '56; Bob Seaman '69; Ron Schoenbach '70; Clark Potzmann '70; Brad Shortt '94; Ted Huff '86; Hans Rodgers '89; Ron Baker '78; Brad Boyer '89; David Mikels '96, Greg Schreiber '92; Nathan Siebert '99; Robert Kruse '81; James Nelson '99; Brad Davis '02; Dustin Brown '02; Greg Harris, UMR development; Marianne Ward, MSM-UMR alumni relations; Dan Stutts, Formula Car faculty adviser; Joe Boze, staff adviser; and students Michael Hess, Mike Murray, Caleb Gebhardt, Ben Wright, Ryan Hutcheson, Jim Tokos, Craig Goodloe, Chris Ford, Marc Davis, Kyle Sampson and Mike Schaefer.



Ron Gillham visits with Dustin Brown to learn the latest about the SAE Formula Car Team.

Check out the new UMR Gateway at www.umn.edu and click on alumni and friends in the "resources for" column at the left.

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Mike Party '78
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Alumni Kids and
Grandkids come
to UMR and SAVE



Your college-bound child or grandchild could save some significant money by coming to UMR. Accepted students who qualify receive up to \$5,500 through the Alumni Sons and Daughters grant.

THE REQUIREMENTS:

1. Student must be enrolled full time.
2. Parent or grandparent must be a holder of an earned degree from MSM-UMR.
3. Student must have an ACT score of at least 24 and be in the top 25 percent of his/her high school graduating class.
4. Transfer students must have a 3.2 grade point average (on 4.0 scale); and must have completed 30 hours toward a degree.
5. Student must apply prior to June 15 of the year student plans to enroll.
6. Renewal of the grant, which is limited to four years per recipient, is available to any student receiving the grant who holds a grade point average of 2.75 or above.

For an application or for more information on this grant program, please contact the UMR admissions office at 1-800-522-0938 or through e-mail at UMRolla@umr.edu.



Please Note:

This scholarship will supercede any other non-resident scholarship.

<http://alumni.umn.edu>



Don Brackhahn, Bette and Wilbur Feagan, Jeanie and Kevin Skibiski, Randall Herion, Kem Reed, Earl Burk and Merv Shanafelt.

Springfield says goodbye to Brackhahns

Eleven Miners and guests gathered at Hemingway's Restaurant in Springfield, Mo., on June 13 for a farewell dinner honoring Don and Nancy Brackhahn. Don recently retired as the executive vice president of the MSM-UMR Alumni Association. Following a wonderful dinner, Don spoke about many subjects currently affecting MSM-UMR's future, especially the recent budget cuts from the state. He also spoke about the exciting building projects under way as well as those planned for the near future. The alumni office provided door prizes.

Those attending were Don and Nancy Brackhahn, Earl Burk '70; Randy Herion '00; Wilbur '76 and Betty Feagan; Kem Reed '84; Merv Shanafelt '50; Kevin '75 and Jeanie Skibiski; and Jeanette Unsell, widow of Brownie Unsell '50.

St. Louis celebrates St. Pat's with happy hour

St. Louis celebrated St. Pat's in fine Rolla style on Friday, March 15, 2002. Christina Sfreddo organized the event at Growler's Pub.

Attendance at this event continues to grow each year, including this year. "A good time was had by all," Sfreddo says. "We look forward to more of our area alumni joining us next year."

Those attending included: Seden Kalyoncu '99, Elif Yasar '99, Laura Rickman '94, Christy Witte '95, Debra Bene '79, Deanna Venker '94 and Tom Miller, Kristine Fleming '91, Kim Oppliger '80, Ron Halbach '65, Paul Schnoebelen '77, John Robertson '83, Susan Hahnel '95, Jeff Fugate '95, Jim Swinford '94, Jane Stoll, L.G. Loos '77, '82, Brian Murphy '74, Joe Witte '74, Dominic Grana '72, Doug Vucich '95, Dan Waeltermann '69, Christy Hargrove '96, Yingwei Wu '99, Nawaz Anwarudeen '97, Stephanie Kelemetc '94, Melissa Moore '93, Jenny and Ted Ahrens '91, Stephanie Hirner '93 and Christina Sfreddo '94.



Brackhahns honored by TKEs

Members of TKE's fraternity hosted a dinner on June 14 in St. Louis in honor of Don and Nancy Brackhahn for their years of service to the TKEs. Don served as an adviser for many years to the fraternity.



HOMECOMING
2002
MISSOURI
US 66
October 10-13
<http://alumni.UMR.edu>

St. Louis golf scores big for scholarship fund

The annual St. Louis Section golf tournament was held at Wolf Hollow Golf Club in Labadie, Mo., on June 22. Eighty-eight golfers and Don Brackhahn of the Alumni Association participated in the event. The event started with a luncheon and ended with awards being given after the dinner. More than \$1,400 was raised for the St. Louis Section scholarship as a result of the event. A special thanks to Phil Jozwiak for organizing this highly successful event.

First place and a \$75 gift certificate for each player went to A Flight – 12 under par, net 59 (won score and card playoff): Bill Vondera, Tim Schmidt, and Paula and Bennie Gregory; B Flight – 12 under par, net 59: Luke Peterson and Bill, John and Bill Jr. Diepenbrock.



Milt Murry enjoys a break during the St. Louis golf tournament.

Second place and a \$50 gift certificate for each player went to A Flight – 5 under par, under 66 (won score card playoff): Jeff and Jeanne Klein, Buzz Gerber and Len Lehmkuhl; and B Flight – 5 under par, net 66: Dave Diestelkamp, Jeff Kokal, Marty Hesterberg and Andy Ledbetter.

Closest to pin on holes 5, 9, 14 and 17 and a \$50 gift certificate went to Curtis Gentile, Bob Breen, Bryan Bell and Marty Hesterberg, respectively.

Longest drive on hole No. 8 and a \$50 gift certificate went to Bryan Bell (men) and Kelley Thomas (women).

Receiving skins and \$100 for each team: on hole No. 2 with an eagle, Luke Peterson, Bill, John and Bill Jr. Diepenbrock; on hole No. 11 with an eagle, Phil, Keith and Marilyn Jozwiak

and Laurie Kutz; and on hole No. 17 with a birdie, Bill Vondera, Tim Schmidt, and Paula and Bennie Gregory.

The sponsors included: refreshments on the course, Alberici Constructors, Cochran Engineering and Surveying, Jacobs Civil Inc. and Tarlton Corp.; \$10,000 hole-in-one contest, Horner and Shifrin Inc.; hole sponsors, Anonymous, Geotechnology Inc., Midstates Technologies Options, Jim Van Buren, Ray Tauser; and attendance prizes, Dick Bauer, Edward Jones, EMC, Inc., Geotechnology Inc., Horner and Shifrin Inc., Kozeny-Wagner Inc., Midstates Technologies Options, Shannon and Wilson Inc., MSM-UMR Alumni Association, URS Corp., and Wings of Success.

Participants included Phil '66, Keith and Marilyn Jozwiak; Laurie Kutz; Marc '92 and Kelley '91 Thomas; Gary and Vicki Sanguinett; Ron Halbach '65; Denny Hobbs; Randy Dreiling '81; Mike Borgard '86; Don Dierker '75; Craig Wehrmann; Bob Wesolich; Linc York '64; Chris Boone '90; Bobby Lyerla; Chris Beer; Rick Gildehaus; Jim Van Buren; Jim '63, Ty '87, and Traci Van Buren; Greg Bennet; Sean McDermott '91; Dennis Yeh '90; Bryan Reisel; Bryan Bell '88; Gene Manning '76; Dawn Robinson; Bill Johnson; Tom Turnicliff; Luke Peterson '92; Bill, Bill Jr. and John Diepenbrock; Chuck Grbcich '88; Jerry Fitzgerald '70; Larry Krull '88; Kent Goodard; Keith Kondradi; Larry Probst '71; Ken Busch '72; Otto Sandheinrich '71; Tom Herrmann '50; Milt Murry '64; Dick Bauer '51; Neil Dowling; Dave Diestelkamp '77; Jeff Kokal '98; Marty Hesterberg '91; Andy Ledbetter '00; John Eash '79; Jake Warren '80; Chris Mallow '91; Charles Ballard; Bryan '86 and Jack Cassity; Mike Hutchison; Ray Green; Bill Sutton '63; Jerry Schwalbe '73; Rich Mills '63; Gary Dyhouse '64; Derek Koestel '97; James Reiter; Cory Hunsley '97; Ryan Fisher '98; Dan Chilton '65; Dave Visintainer '71; Mike Brynac '66; Curtis Gentile; Bill Vondera '88; Tim Schmidt; Paula and Bennie Gregory; Bob Breen '82; Roger Loesche; Mike Tempe; Scott Strothkamp; Jeff and Jeanne Klein '82; Buzz Gerber; Gene Faenger '65; Jack Bertelsmeyer '70; Gregg Carlson '77; and Rob Sutton '98.



Eighty-nine alumni and friends gathered for the St. Louis golf touney.



Above: Rob Sutton and Ryan Fisher each won a copy of UMR's history book.



Phil Jozwiak again organized an outstanding golf outing.



Bob Breen got closest to the pin on hole #9 and received a putter, made by Dick Bauer, for the prize.

19 30s

1939

Leroy Smith, EE: "It's always good to hear from the electrical and computer engineering department. The news is always interesting for me. Thank you very much."

19 40s

1948

James W. Hoelscher, PetE: "Looking forward to our 55th reunion next year."

1949

Robert C. Hansen, EE, consulting engineer, author of the recent book *Phased Array Antennas* (Wiley-Interscience) and member of the National Academy of Engineering, has received the 2002 IEEE Electromagnetics Award for his contribution to the field of antennas.

19 50s

1950

Jack E. Guth, CE: "Check out my baseball art displayed at the world champion Arizona Diamondbacks' Bank One Ballpark. My Web site is www.queen-neighborartgallery.com." • **Russell J. Judah, PetE,** has retired from Transco Companies Inc.

1951

Don V. Roloff, CerE: "Have retired. Sold my industrial supply house in Kentucky and terminated Engineered Materials Inc. Now devoting myself to volunteer work for seniors and serving as president of Mid-East Missouri area of the Silver Haired Legislature."

GOLDEN ALUMNI REUNION



CLASS OF 1952

First row: George Stevens, Peter Lucido, Harold Crane, Ed Gegg, Leslie Holdman, David Meskan, Jack Zenik, George Fish, Bill Penney, Gunther Jensen. Second row: Sam Schneider, George MacZura, Gene Huffman, Gene Edwards, Lyle Matthews, Jim Vance, John Mulholland, Paul Hausner. Third row: Don Belcher, Guy Ellison, Bill Pulford, John Bartel, Chalmers Kerr (behind), Robert McLeane, Archie Culp, Jack Mackie, John Evans, Tom Abernathy. Fourth row: Don Spencer, Emil Hrbacek, Norbert Neumann, Dick Burdick, Byron Keil, Chuck Anderson, Joe Geers, Bob Schaefer, Bob Drummond. Fifth row: Frank Almeter, Homer Coonce, Ray Hallows, Bob Proctor, Keyhan Samimi, John Priest, George Stegemeier, Ted Ruppert, Kipp Ferns, Francis Basler. Sixth row: John Finklang, Bob Owens, Jim Boyle, Vernon Potter, Joe Henry, Bill Guinn, Mike Tarr, William Wood.

FIFTY-EIGHT MEMBERS OF THE CLASS OF 1952 enjoyed their 50-year reunion in June. Joined by spouses and guests, the classmates celebrated in style with delicious meals, interesting programs and enjoyable meetings with department faculty and campus administrators, mixed with a lot of just plain fun. Chancellor **Gary Thomas** and MSM-UMR Alumni Association vice president **Larry Hendren** presented class members who attended with their 50-year pins and certificates in a recognition ceremony on the final day of the reunion.

1952

John E. Evans, PetE: "My wife, Jackie, and were at my 50th graduation anniversary. Jackie was the 1950 Kappa Sigma sweetheart at the St. Pat's ball." • **George MacZura**, CerE: "On Oct. 18, Mary and I will celebrate our 50th wedding anniversary. We've been blessed with 10 children and 15 grandchildren."

1957

Frederick J. Dietrich, EE: "Dear wife and I are enjoying retirement. Just had the 9th and 10th grandchildren — twin boys. Now seven grandsons and three granddaughters. Enjoying traveling and charity work with Habitat for Humanity and Stanford Hospital Chaplaincy office."

1958

William D. Walker, EE, was recently elected to the UMR Board of Trustees.

1959

William E. Hanneman, EE, has retired from Laser Machining Inc. • **Bill Moses**, ME: "I retired on Aug. 1, 2001, from Thermodysc, a subsidiary of Emerson. Have traveled 10,000-plus miles in a motor home since then. Planning on a year-long motor home trip after spending our last year at Payne Lake in western Michigan. Still see **Jim Patterson**, EE'59. I can be reached by e-mail at moselake@iserv.net."

1960s

1960

Michael Kearney, EE, was named Businessperson of the Year by the Kirkwood (Mo.) Area Chamber of Commerce. Kearney is the owner of Michael C. Kearney & Associates Inc. • **F.J. Taylor**, EE: "After owning my own consulting engineering business for 25 years, I recently sold majority ownership and plan to retire from full-time activity in the fall. Pat and I will never lack something to do. The 21 grandchildren can see to that."

1961

Donald S. Marler, EE: "I've retired from Emerson Electric. Live in Indianapolis, where we moved to enjoy our eight grandchildren. My Internet address is

www.marlerenterprises@webtv.net." • **Paul R. Whetsell**, PetE: "We are doing a lot of traveling in our motor home, including a trip to Talladega, Ala., for the NASCAR races. Next is a family reunion in Wichita Falls, Texas."

1962

H. Pat Duvall, Math: "Youngest daughter, Kristin, was recently accepted to the occupational therapy program at Washington University School of Medicine in St. Louis. Oldest daughter, Kim, is now a human resources professional for Wilder Construction Co."

1963

John S. Bosnak, Phys: "Retired April 30, 2002." • **Edward Kriege**, ME, received his LEED (Leadership in Energy and Environmental Design) accreditation. Kriege, the senior vice president of EDM Inc., has

more than 34 years of experience and was directly responsible for EDM's patented chiller-economizer system at Nations Bank Plaza in St. Louis.

1964

James Helm, Math: "I am the chair of the systems engineering program in the School of Natural and Applied Sciences at the University of Houston-Clearlake."

1965

J. Derald Morgan, EE, was recently installed as treasurer of the Tennessee Valley Chapter of the Sons of the American Revolution. At the installation he was awarded the bronze Good Citizen Medal. Morgan currently serves as the state Eagle Scout award chairman for the SAR. • **Arthur Nickless**, Phys: "Joan and I now have three grandchildren."

(continued on page 62)

"Before Mercury Rose: The Half-life of an Ex-Spaceman"

(Note: The article about Before Mercury Rose that appeared in the Summer 2002 issue contained errors and also omitted important information about how alumni may order the book. A corrected version of the article appears below.)

From cow country to outer space, **H. H. "Luge" Luetjen**, Phys'50, has great experiences to tell. Which is exactly what he does in his autobiography, *Before Mercury Rose: The Half-life of an Ex-Spaceman*. The book covers the first 35-plus years of the author's life, from his birth in mid-Missouri to the successful shots of Project Mercury, the first manned space program, in which he played a major part. *Before Mercury Rose* includes his time in service and that spent at MSM-JMR, both as a student and faculty member, before joining McDonnell Aircraft in St. Louis. Major milestones after Mercury rose and the role Luetjen played in them are briefly described in the epilogue.

Signed copies of the 300-page illustrated book may be purchased from Luetjen for \$25 (plus \$3 shipping and handling, if applicable). Luetjen will donate all proceeds from book sales to the H.Q. Fuller Scholarship Fund in the UMR physics department. To order copies of *Before Mercury Rose*, send payment to H.H. Luetjen, 25 Fry Road, Smithton, MO 65350. Or for more information, contact Luetjen via e-mail at luge@iland.net.



BACK COVER:
Artist rendition of author and the programs on which he worked.

Alum's Fossil Canyon Ranch receives habitat award

Robert Schafer, PetE'52, MS PetE'53, and his wife Margaret have received the Lone Star Land Steward Award in recognition of their habitat management and wildlife conservation at their 1,889-acre Fossil Canyon Ranch. The state of Texas recognized the Schafers for cost-effectively maintaining and managing a native plant species habitat on their ranch. The Schafers have owned the ranch along the Bosque River for 23 years. Their goal is to provide habitat for all wildlife species.



UMR student sworn into Navy by alumnus

Henry Suter (left), a senior in mechanical engineering and a Naval Reservist, was sworn into active duty for the Navy by Commander **Michael A. Brueckmann** (ME'74) Civil Engineer Corps, USNR, on May 2, 2002. The Navy is paying Suter to attend UMR and will commission him as ensign in the Civil Engineer Corps of the U.S. Navy upon his graduation in 2003.

1966

Donald L. Gaitros, CSci, PhD Math'72, was recognized for distinctive service in the school of engineering and computer science and designated an outstanding professor at Baylor University's May 2000 commencement ceremony. • **Thomas Jordan**, CE: "On Feb. 1, 2002, I joined the ranks of the retired. It's fantastic! I completed a 36-year career (to the day) in the refining and petrochemical industry. It was a great ride

and a very rewarding career, thanks to MSM-UMR. With three children (two are engineers) through college, married and now three grandchildren, Carol and I are looking forward to this next chapter of our lives." • **Ralph H. Kramer**, EE, retired from Bank of America after 23 years. He is currently working as a contract reservoir engineer with ExxonMobil in Greenspoint, Texas, just north of Houston, and is still living in The Woodlands. • **Terence E. Wenger**, ME, retired from Olin Corp.'s Winchester Division

in October 2001 after 35 years. He lives in Ferguson, Mo., with his wife, Nancy, and spends his time pursuing his lifetime hobby of restoring and writing about classic automobiles.

1967

William L. Calhoun, EE, is working as a consultant for Dynege Corp. and Modern Electric Co. • **Richard Thom**, Phys: "Retired in November 1999 after 32 years with Hughes Aircraft Co. in Los Angeles and Hughes Santa Barbara Research Center in Santa Barbara, Calif., where I was technical director and director of R&D. My wife, Linda, and I have relocated to Whidbey Island, Wash., where we enjoy traveling — when we're not splitting logs and scraping moss off the house." • **James T. Willcutt**, Phys, was named head of the physical science department at Arkansas Tech University in July 2001.

1968

Clemens P. Drag Jr., CerE: "I retired from Procter & Gamble on Jan. 4, 2002, with 33 1/2 years of service." • **Ralph Taylor**, EE: "My son, Nathan Taylor (EE'00), and his wife, Becci, had my granddaughter, Anna, on Dec. 12, 2001."

1969

David Brewer, CSci: "Still developing Oracle Database systems." • **Darrel A. Mank**, EE, PhD EMgt'02: "I've just completed my PhD in engineering management at UMR. It has been a great experience." • **Donald Rice**, Math: "EDS PLM Solutions is ISO 9001/TickIT certified globally in 48 sites and 20 countries." • **James G. Wylie**, CSci: "Recent job change to director of IT for Wellborn Cabinet Inc."

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e-mail

1970s

1970

Linda L. Brady, Math: "We are living and working in Reno, Nev. Our two boys are now in college studying architecture and computer science." • **Piloo E. Ilavia**, PetE: "After Unocal, I started a consulting business. Currently advising Hunt Petroleum on offshore GOM work, related to drilling and completion." • **James W. Pretz**, EE: "Daughter, Jennifer, graduated in May from

Elmores help build pipeline at Guatemalan Orphanage

Curt Elmore, GeoE'86, assistant professor in UMR's geological engineering department, traveled to Lemoa, Guatemala, in June to construct a 400-foot pipeline from a newly installed 800-foot water well to a nearby orphanage. The pipeline installation is a continuation of a project that Elmore, his wife **Cecilia**, EMgt'86, and UMR students majoring in geological engineering initiated in early 2002.

Lemoa, a small rural village in the state of Quiche, has no municipal utilities, domestic wells, telephones or sewer facilities. UMR supported the water well installation and pipeline construction through a grant provided by Samaritan Hands Inc., a nonprofit organization in Maryville, Tenn.



Curt and Cecilia Elmore on their trip to Guatemala last spring. The Elmores helped construct a pipeline for a new water well in Lemoa, a small rural village.



Cornell University in mechanical engineering with biomechanical minor. Daughter, Laura, is a freshman at Miami University in Oxford, Ohio. Linda and I are empty-nesters!" • **Bill T. Ray**, AE, PhD CE'84, an associate professor of civil engineering at Southern Illinois University-Carbondale, and two other faculty members received a summer fellowship to develop a collection of high-quality, dual-resolution photographs and digital videos that demonstrate environmental and water resources engineering principles and practices. The information will be used to improve undergraduate education in the field. • **William K. Shinn**, EE: "On Feb. 1, 2002, I retired from ALCOA after 32 years. I am now doing electrical safety consulting for Safety Compliance Associates two weeks per month. Diane and I will continue to reside in Newburgh, Ind."

1972

Roy W. Wagner, GeoE: "In June 2000, after 26 years in consulting engineering firms, I joined De Maximis Inc. as a project manager for Superfund and Resource Conservation and Recovery Act (RCRA) remedial projects. DeMaximis Inc. provides project management support to Fortune 500 companies. My wife and I remain in Cortland, N.Y., where a branch office has been established." • **James R. Whitten**, Psyc: "Jill and I adopted our daughter, Grace Marina, in Guatemala in June 2001. Grace turned one in January 2002."

1973

Janice E. Breidert, CSci: "My son, Stephen Breidert, is now at UMR majoring in computer engineering and mathematics." • **James C. Hunsicker**, EE, works for AmerGen Energy at Clinton Nuclear Power Station as a senior instrumentation engineer. •

(continued on page 64)

Grad's company receives "E" Award

Led by **Charles E. Tharp**, CE'60, president and chief operating officer of Environmental Dynamics Inc. of Columbia, Mo., EDI was one of 17 small businesses to receive the 2002 "E" Award from the U.S. Commerce Department. Commerce Secretary Donald L. Evans presented the award to Tharp during a June 6 ceremony in Washington, D.C. Tharp was recognized for his company's work increasing U.S. exports. Over the past three decades, the "E" Award (which stands for excellence, expansion, effort in exports) has become a symbol of the importance of participating in the global marketplace.

When founded in 1975, EDI had four employees. It now supports more than 60 while specializing in manufacturing wastewater treatment systems. EDI has had an export sales growth of more than 63 percent every year for the past five years and has made its product information available in Spanish, German, Chinese and Vietnamese.

Posda named as Fellow of the American Ceramic Society

Jennifer Wang Posda, CerE'76, of Flemington, N.J., was named a Fellow of the American Ceramic Society during the society banquet on April 30. As the associate director of the New Jersey Commission on Science and Technology, Posda has guided the Research and Development Excellence Program of New Jersey's Institutions Network to be more technology-transfer oriented. She manages a \$12 million annual budget, an annual proposal competition and 30 research projects, ranging in scope from \$300,000 to \$1 million annually. She also directs the state's investments into new areas of technology research at universities.

Posda is the former entrepreneur of a start-up company, Fusion Abrasives Inc., and has held various management positions with several Fortune 500 corporations over the past 23 years. After graduating from UMR, she went to work for Bell Laboratories, doing fiber optic research. Posda is active in several professional societies including the American Ceramic Society and the Society of Women Engineers.

Panhorst wins award at Ole Miss



Terry Panhorst, GGph'77, MS GGph'79, assistant professor of geology at the University of Mississippi, won the university's

2002 Frist Student Service Award for faculty. The award was established with a gift from Thomas F. Frist Sr. of Nashville, Tenn., to annually recognize one faculty member and one staff member for outstanding service to students. Selected by a committee of faculty, staff and students, Panhorst received a plaque and \$1,000.

Panhorst joined the Ole Miss faculty in 1996 after 12 years in Shell Oil Co.'s mining division. He received his doctorate in geology from the University of Nevada-Reno.

O'Sullivan connects businesses with high-speed Internet access

Five years after starting his high-speed Internet access firm, Brick Network, in St. Louis, **Dan O'Sullivan**, Phil'82, has built a base of more than 1,000 business clients. O'Sullivan's firm provides high-speed Internet access to businesses throughout St. Louis and outlying areas. Brick Network, which O'Sullivan helped found in 1997, is working to acquire additional Internet companies in hopes of becoming the largest regional provider of Internet services in the St. Louis area.



Joe Simmons, EE, pictured at left, was named plant manager-Energy Center/State Line 1 for the Empire District Electric Co. He is responsible for construction, staffing and operation of the Energy Center State

Line 1. • **Donald D. Taylor**, EE: "I was promoted to senior manager of system planning for Westar Energy last November. March marked 22 years — only four name changes for the company. Still working on my 1911 bungalow."

1974

James S. Jones, CSci: "I left my tenure-secure Graceland faculty position three years ago to work for Icon Labs creating SNMP agents and other embedded systems. I get to collaborate with experienced engineers and quick younger minds. Each new project has steep learning curves, unreasonable deadlines and different OS/language requirements. I love it. It keeps me young. That is important in this industry, especially for us 50-somethings."

1976

June Ahrens, Psych: "Retired Dec. 31, 2001. Looking forward to camping in my new trailer, continuing to sing in guitar group at church, square dancing, ballroom dancing and lots more."

1977

John Walker, EE: "My son, Aaron, and I visited the campus at the end of March. It was great to see how familiar it was as well as how much it had changed. **Rhonda** (CSci'77) spent more than 20 years in information systems but has now switched career tracks to the nursery industry, working toward master gardener certification. We've spent more than 24 years in Terre Haute, Ind., anchored by my employment at PSI Energy, which is part of Cinergy. I am currently the technical services team leader at Wabash River Station. Our oldest son, Ivan, is a sophomore at Indiana State University majoring in business. Our youngest son, Aaron, is in junior high school taking silly courses such as pre-calculus and physics. We keep busy with our two boys, six dogs and 8 cats. Life is good."

1978

Mark K. Post, CSci, is the co-author of an IBM Redbook and has been a repeat speaker on the subject of Linux/390 for SHARE. • **David G. Winter**, CE: "I was elected to the national board of directors for the Society of American Military Engineers (SAME). Also elected was **Dave Diestelkamp** (CE'77), one of my classmates in civil engineering. I was also appointed to serve on the special task force on building safety by the Council on Tall Buildings and Urban Habitat."

1979

Thomas W. Ziegler, EE: "My daughter, Lori, plans to attend UMR...as a math major. I couldn't convince her to try EE."

1980s

1980

Wayne A. Hamilton, GeoE: "Still having fun working for Shell for the last 22 years. Thankful for my education at UMR." • **Janet M. King**, CSci: "I am now teaching computer classes to grades one through eight at my son's elementary school."

1981

Benjamin Hankins, GeoE: "Sad news — Linda Hankins, my wife, a 1982 graduate of UMC with a BS in chemical engineering, died in September 2001 from ovarian cancer that she had been battling for more than four years. My two children, Kirsten, 8, and Erik, 6, and I send our love and ask God's blessing to all at UMR."

1982

John Luth, EE, has been named manager of system metering at Ameren Corp. Luth is responsible for meter installation, testing, advanced operations and a state-of-the-art network meter reading system. • **Craig Wohlers**, EE: "Drilling horizontal oil wells in eastern Montana, preparing to send our second child to college in the fall." • **Charles Wooten**, PetE: "After five years overseas, Donna, Lauren and I have settled in Tulsa, Okla. I'm

WHAT'S NEW WITH YOU?

Send us your alumni notes via:

E-MAIL: alumni@umr.edu
 FAX: MSM-UMR Alumni Association, (978) 926-7986
 MAIL: MSM-UMR Alumni Association, University of Missouri-Rolla, Castleman Hall, 1870 Miner Circle, Rolla, MO 65409-0650

starting an engineering consulting company. Wish me luck and give me a call if you need some help."

1983

Carl G. Behr, ME, a lieutenant commander in the Navy, recently retired from active duty after 20 years of service. He most recently served at the U.S. European Command headquarters in Germany.

1984

Stephen M. Baldwin, EE, was installed as the executive vice president of the Sons of the American Revolution of Missouri at the group's annual meeting in Columbia, Mo., in April. Baldwin is an electrical engineer at Boeing. He and his wife, Janet, have two sons and reside in Wentzville, Mo. • **Renourland W. Haikanis, EE**, now lives at 9607 Autumn Harvest Dr., Houston, TX 77064. His telephone number is (281) 807-3949 and e-mail address is razizian@itt-tech.edu. • **Steve Homoky, PetE, MS PetE'85**, is completing a degree in Oriental medicine and is preparing to open a private practice. • **Ana Juarez, CSci**: "I am enjoying life as a single mom of my 11-year-old son, Austin, and my 7-year-old daughter, Larryssa." • **James Studer, GeoE, MS GeoE'85**: "To the geological engineering faculty that retired over the last several years, I wish you good health, happiness and prosperity. We have been in Albuquerque, N.M., for eight years. Between Cub Scouts and youth soccer, etc., I still have time to grow my small consulting practice. Visit our Web site at www.cfr-llc.com."

1985

Bruce E. Coleman, EE, has been promoted to chief operating officer of the Illinois division of Ross & Baruzzini. • **Karen (Mohan) Day, Econ**: "I moved my political fundraising firm, Capital Enhancement Inc., to offices on Olive Boulevard near our home in Creve Coeur, Mo. My husband, Jim, is still practicing law in St. Charles County. Just call (314) 983-9771 or e-mail kmohanday@att.net." • **William Gooch Jr., CSci**: "Moved to Colorado. Hillary graduated from Mizzou in 2001. Billy's a freshman at Colorado School of Mines. Still in love with Valerie." • **Claire E. Homoky, PetE**, was promoted to vice president at J.P. Morgan Chase.

1986

Daniel Arthur, PetE: "We are doing well in Tulsa, Okla. E-mail me at darthur@ALL-LLC.com. Started a consulting firm in 1999 with **Mark Layne** (PetE'85, MS PetE'87, PhD PetE'96) and have grown it to 25 employees (www.all-llc.com)." • **Frederick Booth, GeoE**:

(continued on page 66)

Future Miners



Karen (Mohan) Day, Econ'85, and her husband, Jim, had a girl, Jacqueline, on June 29, 2001.



Nicole Noel Duffy

Karen S. Koenigstein, CerE'93, and her husband, **Mike, CerE'93**, had a girl, Amanda. She joins big brother, Jake.

Deanna (Valentino) DeLacerda, LSci'92, and her husband, Al, had a boy, Alberto John (AJ), on Dec. 29, 2001.



Hannelore Anne Haas

Roger Smith, CerE'01, and his wife, Kelly, had a girl, Ashley Evalena, on March 21, 2002.

Jennifer (Diller) Duffy, EE'87, and her husband, Joseph, had a girl, Nicole Noel, on Dec. 25, 2001.



Ashley Evalena Smith

Nathan Taylor, EE'00, and his wife, Becci, had a girl, Anna, on Dec. 12, 2001.

Robert P. Haas, ChE'83, MS Math'86, MS ChE'86, had a daughter, Hannelore Anne, on Aug. 11, 2000. She was born on the 71st birthday of her grandfather, **Paul A. Haas, ChE'50**.

Kimberly (Huonker) Haley, Math'95, and her husband, **Craig, CE'95**, had a boy, Jacob, on May 11, 2001.



Anna Taylor

Eric Hardin, ME'93, and his wife, Rachel, had a girl, Kara Leigh, on July 12, 2002.

Carla Parodi-Hall, CSci'94, and her husband, Joseph, had a girl, Mallory Ann, on Oct. 11, 2001. She joins big sisters, Cassidy, 4 1/2, and Sydney, 3.

William Headrick Jr., CerE'91, PhD CerE'00, and his wife, **Stephanie, Engl'93**, had a boy, Timothy William, on Dec. 21, 2001. He joins brother, Ryan, 8, and sister, Samantha, 5.



Anna Grace Violette

Mat Twiehaus, PetE'96, and his wife, **Maria (Speckhals), ME'96**, had a girl, Brooke Savanna, on Dec. 27, 2001.

Deanna Lynn Weil-Violette, EE'91, and her husband, Paul, had a girl, Anna Grace Violette, in December 2001.

Albert (Jay) F. Winkeler III, EE'93, Engl'93, and his wife, Deena (Ballinger), had a boy, Quinten Trey, on Feb. 8, 2002. He joins his big brother, Fox, 4, and his big sister, Teegan, 2.

If you have a birth announcement or a photo of your new little Miner, send it to us and we'll publish it in an upcoming issue of the magazine.

Accent on the Archives

THE “CO-ED ENGINEERS”

By Melody Lloyd, assistant archivist (mlloyd@umr.edu)

PHOTOS COURTESY OF UMR ARCHIVES

In a recent study of the 1920-30 *Rollamo* yearbooks, I noticed the organization of a group of “Special Students” to promote social activities and co-ed athletics. They decided to call themselves “The Co-ed Engineers” and organized as an MSM campus group on Oct 26, 1938. Their main emphasis was to create a pep-squad or special cheering section at football/basketball games for co-eds and organize social activities with their male student counterparts.

In the 1939 and 1940 *Rollamos* this group was called the Rollamo Co-eds. They held regular business meetings and social gatherings. An important feature of this group was the formation of a rifle team as part of the club.

In the 1941 *Rollamo*, this group is renamed the Pi Delta Chi sorority. Membership had grown to 30 and “all but two fields of engineering had been invaded at MSM and they hailed from 10 states.”

If any of our alumni have any information about this sorority please contact the archives office at (573) 341-6954 or archives@umr.edu.



1939 Co-ed Engineers



1947 Pi Delta Chi sorority

ARCHIVAL TIP

Many mementos from our college days have been saved in scrapbooks. In many cases glue or tape was used to secure items on the pages of the scrapbooks. It is usually impossible to remove these items from the pages, so I suggest that the pages be individually photocopied. Unbind the book if possible, as this will make photocopying easier. Following the photocopying, I recommend that you interleave the pages with acid-free tissue sheets, then wrap the book in this tissue and store it in an acid-free box. If you need more guidance or help to preserve these precious memories, please contact our office at (573) 341-6954 or e-mail archives@umr.edu and we will be glad to help.

“Nearing completion of my 14th year with Golder Associates. Golder’s St. Louis office has grown from two employees in 1995 to 15. We specialize in groundwater and earth construction projects.” • **Joel Brand**, ChE, MS Math’94, PhD Phys’94: “We are still enjoying living in Colorado Springs, Colo. **Ann** (CSci’84) works on national missile defense with Raytheon. I am focused on R&D for Brand-Gaus, an instrumentation company I run with **Aron Gaus** (CerE’88, PhD Phys’94).” • **William Smith**, GeoE: “I will be traveling to Guatemala really soon to adopt a little boy. Hopefully, William Joseph Smith will be a student at UMR in about 17 years.”

1987

Pat Bischel, CSci: “I’m in my 15th year at Lexmark. I am a team leader in product development. My wife and I stay busy with our five children and our five-acre farm in horse country, north of Lexington, Ky.” • **William P. Cune**, EE: “Enjoying Charlotte, N.C., with wife, Sallie, and sons Liam, 3, and Sean, 1. Would love to hear from old friends at wcune@carolina.rr.com.”

1988

Bradford J. Kline, Math: “Anjula Batra and I were married in June 2001 in a small ceremony at the Trapp Family Lodge near Stowe, Vt. We continue to enjoy life and work

in Maryland, especially now that we’re settled and have had a chance to form new friendships.”

1989

Dharmalatha Abayarathna, Phys: “I work as a group leader at Champion Technologies Inc.” • **Stephen Hagen**, EE: “My wife, **Katie**, EE’88, and I are still living in Austin, Texas, with our two daughters, Paige, 4, and Anna, 2. I work for ATI Technologies selling to Dell Computer. Katie is now staying home to be a full-time mom”



• **Michael D. Montgomery, CE**, pictured at left, joined Husch & Eppenberger LLC as an associate. He practices in the law firm's environmental and regulatory practice

area. • **Christine Stoverink-Grunbaum, EE**, earned her P.E. license in 2001.

1990s

1990

Robert Enyard, EE, passed his bar exam on the first try. • **James Hann, CerE**: "Retired from U.S. Army in February 2000. Completed a bachelor's degree in elementary education at Saint Mary College in May 2000 and accepted a contract to teach fifth grade at Bonner Springs Elementary School in June. I'm currently completing my second year of teaching." • **Daniel Hauschel, ME**: "My wife, **Elaine, Math'92**, has retired temporarily to care for our two small children, Rachel, 2 1/2, and Adam, 1, at home. I have taken a project management position with El Paso Corp. in Houston." • **Stanley Lindesmith, Math & CSci**: "I am designing and developing Java applications, servlets and portlets. I have two wonderful daughters, ages 3 and 8. My wife, **Lisa (LSci'90)**, is now working at University of North Carolina-Chapel Hill." • **Brian Osborne, CerE, MS CerE'91**: "I have been with Christy Refractories for 10 1/2 years. My wife, Michelle, and I have four kids, Brandon, 9, Kaitlynn, 6, Kaylee, 3, and Kasey, 1." • **Mike Schumacher, ME**, has been named project director for the southwest region of J.S. Alberici Construction Co. He will oversee automotive projects and focus on growing Alberici's market share in the southwest region. • **Holly (Langston) Setter, EE**: "I am enjoying my career with Sprint in Overland Park, Kan. Scott and I live in Olathe, Kan., where we spend time with family and friends and working on our home." • **Breck Washam, ME**, received the 2002 Young Engineer of the Year Award from the Missouri Society of Professional Engineers. He is an associate mechanical engineer with Burns & McDonnell, where he manages the energy group in the St. Louis regional office.

1991

Timothy Kram, EE: "Christel and I are doing well in Colorado with Cedric, 4, and Emiel, 2. Call if you are in the area: (303) 697-2059." • **Douglas C. Rivard, ChE**: "After graduating from medical school last year, I am finishing my first year of a radiology residency at Oklahoma State University/Tulsa Regional Medical Center in Tulsa, Okla. My wife, Johanna, and I have one son, Michael, 3." • **Deanna Weil-Violette, EE**: "I finished my tour at Royal Air Force Lakenheath, England, flying the F-15E Strike Eagle and am now serving the U.S. Air Force as an air liaison officer with the Army at Ft. Drum, N.Y."

1992

Elaine Hauschel, Math: "I have retired temporarily to care for my two small children, Rachel, 2 1/2, and Adam, 1, at home. My husband, **Dan, ME'90**, has taken a project management position with El Paso Corp. in Houston."

1993

Jeffery Birkenmeier, CerE: "I am serving in an internship program at Logan College of Chiropractic and will be in private practice as a chiropractic physician in February 2003." • **Karen S. Frederick, CE**, was promoted to environmental project engineer at Horner & Shifrin Inc. She has experience in analysis and design of sanitary and environmental projects. • **Eric Hardin, ME**: "I recently returned from three years in Seattle, where I was an account manager for Caterpillar. While there, I earned an MBA from Seattle University. I was married in June 2001 and relocated to Peoria, Ill., to work in Caterpillar's strategic consulting group." • **Susan Kennedy, EE**: "**Chris (Hist'91)** and I are still in the Air Force. We are currently stationed at Elmendorf Air Force Base in Alaska with our 2 1/2-year-old son, John. Chris is flying C-130s and I'm chief of readiness for the third civil engineer squadron." • **Michael Owens, GeoE, MS GeoE'96**: "I am enjoying working in the Birmingham, Ala., area. I've been here six years. The geology is challenging. I have a new son, Paul, 14 months, and a 14-year-old daughter, Jessica. Life is good!"

1995

Reginald C. Johnson, ME, joined the law offices of McGlinchey Stafford as an associate in the New Orleans office. He practices labor and employment law.

Walker becomes senior vice president of Sprint

Kathy Walker, MS EMgt'82, was named senior vice president of the global markets group of Sprint in March. Her duties include directing the design, engineering, operations and performance management of Sprint's domestic and international voice, data and Internet networks. Walker also is responsible for access management and integrated technology planning for the company's domestic and international business. During her career with Sprint, based in Kansas City, Mo., Walker has held numerous positions, including vice president of business support services for Sprint Business, vice president of product management for Sprint Business and assistant vice president of human resources for Sprint Technology Services.

Clevenger joins Aventis

Eric L. Clevenger, EE'90, has joined Aventis Pharmaceuticals in Kansas City, Mo., as a senior engineer. Clevenger has eight years of related manufacturing engineering experience and recently worked at Rubbermaid Home Products Division in Iowa. Aventis focuses on therapeutic areas such as cardiology, oncology, infectious diseases, arthritis, allergies and respiratory disorders, diabetes, and central nervous system disorders.

Chapman wins award

Patrick Chapman, EE'96, MS EE'97, assistant professor of electrical and computer engineering at the University of Illinois at Urbana-Champaign, has received the CAREER award, granted to young faculty members by the National Science Foundation. This five-year, \$375,000 award will support Chapman's research into new power electronic converters.

Chapman conducts research in the areas of electric machinery, drives and integrated power circuits. He is developing new ECE courses while integrating energy-related topics into existing courses in an effort to educate students about problems with alternative energy sources. Chapman also is developing a prototype of a power converter that takes energy from three or more different sources, instead of the standard two sources, and outputs it at desired AC or DC voltages.

(continued on page 68)

1996

Patrick Chapman, EE, is an assistant professor of electrical and computer engineering at the University of Illinois at Urbana-Champaign. • **Jason Holschen**, GeoE, MS CE'98: "Valerie (Phillips), CE'98, and I have been living in London, England, since April 2001. We love being 'expats' and we will reside in Denver when our assignment is complete." • **David Leach**, CSci: "My wife, Amy, and I are living in Denver, where I work as a senior software engineer at AT&T." • **Darrel McDowell**, GeoE: "I left Halliburton Energy Services back in 1997 to be closer to the family. I am now working for Southwestern Bell in St. Louis as a manager of network engineering. Enjoying life with my wife, Julie. I would like to say hello to the geology department and wish Dr. Rockaway an enjoyable retirement. Anyone wishing to can e-mail me at djm@nothnbut.net." • **Tony**



Mezines, CE, *pictured at left*, has been promoted to project manager at Clayco Construction Co., where he served as project engineer since 1998. In his new position, he will manage construction projects

from inception through completion, providing design coordination, pre-construction services, construction management and post-construction services. In addition, he oversees estimating and scheduling, prepares subcontractor bid packages and awards, creates analysis documents, tracks costs and prepares contracts. • **Kristen A. Templet**, CSci: "I'm a captain in the Air Force now. I just finished a two-year tour in Mons, Belgium, as system analyst for NATO's Supreme Headquarters Allied Powers Europe (SHAPE). In May, I was transferred to Charleston, S.C., to join the first combat camera squadron. I have enjoyed living and traveling in Europe, but it is nice to return to the comforts of the states."

1997

James T. Cordia, ME, a Navy lieutenant, recently graduated from the Basic Course at the Civil Engineer Corps Officer School, Port Hueneme, Calif. He received instruction in engineering management, network analysis, financial management and the Navy's organization. • **Derek Hillstrom**, AE: "We purchased our first home in August 2001." • **Randall Potts**, GeoE: "I received my P.E. license (civil-geotech) in October 2001." • **Brenda Roth**, CE, has joined Burns & McDonnell as a staff civil engineer in the St. Louis and O'Fallon, Ill., offices. She is also a registered engineering intern.

Weddings

Shane Hegarty, AE'99, and **Natalie Phelan**, AE'99, were married on Dec. 22, 2001. Attendants included Josh Love, EMgt'02, Mike Walker, GGph'99, Craig Wakeman, ME'99, Bryan Webb, EE'99, Keith Missey, Math'00, Mark MacDonald, ME'00, and students Dominic Purpura, MetE, and Colleen Stemler, CE.

Kirk Peterson, ME'95, and Tracy Klein, were married on April 20, 2002, on Antigua. They currently live in Wichita, Kan.

Holly (Langston) Setter, EE'90, married Scott Setter on the beach in Playa del Carmen, Mexico, in January 2001.



Kirk, ME'95, and Tracy Peterson

1998

Valerie (Phillips) Holschen, CE: "My husband, **Jason** (GeoE'96, MS CE'98), and I have been living in London, England, since April 2001. We love being 'expats' and plan to reside in Denver when our assignment is complete." • **Todd S. Rastorfer**, CE, *pictured at left*, was awarded the 2002 Young Engineer of the Year Award by the Albuquerque Chapter of the New Mexico Society of Professional



Engineers (NMSPE). He is a project engineer with Wilson & Co., Engineers & Architects in Albuquerque. Rastorfer is the secretary of the Albuquerque chapter of the NSPE/PEPP National Young Engineers Advisory Committee and is also a founding member of the New Mexico State Young Engineer's Council, where he is running for the position of state vice president. The first position of its kind in New Mexico, it will give young engineers a voting voice on the state board of the NMSPE. He is the nephew of two alumni — **James M. (Mike) Burns**, ME'61, and **Frederick B. Burns**, EE'54.

December at Rensselaer Polytechnic University." • **Katie Hillstrom**, CerE: "We purchased our first home in August 2001."

1999

Victor Gonzalez-Tait, CerE: "I am working as a process engineer for Intel in Arizona. My wife, Nicci, daughter, Tori, and I are enjoying the great weather in our new pool (and house). Go Miners!" • **Shane Hegarty**, AE: "I married **Natalie Phelan**, AE'99, on Dec. 22, 2001. We'll be finishing up our MBAs in

December at Rensselaer Polytechnic University." • **Katie Hillstrom**, CerE: "We purchased our first home in August 2001."

2000s

2000



Dan Roseman, CE, *pictured at left*, has joined Larkin Group Consulting Engineers Inc., as an engineer in the firm's bridge group. He is a member of the American Society of Civil Engineers.

2001

Matthew W. Banks, Chem, was recently commissioned as an ensign in the Navy after completing Officer Candidate School at Naval Aviation Schools Command, Naval Air Station, Pensacola, Fla. • **Heather Davenport**, MetE, was recently commissioned as an ensign in the Navy after completing Officer Candidate School at Naval Aviation Schools Command, Naval Air Station, Pensacola, Fla. • **Milind Mainkar**, ME, has been named an assistant mechanical engineer in the aviation and architecture group at Burns & McDonnell in Kansas City.

HOMECOMING 2002

October 10-13

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or to register, go to
<http://alumni.umar.edu> and
click on "get your kicks"



*See you
in Rolla*

UMR

UNIVERSITY OF MISSOURI-ROLLA

1913

Scovill E. Hollister, MinE, was a member of YMCA, R-Way Club, Athletic Association and the M Club while attending MSM-UMR. †UMR notified of death March 19, 2002

1932



Joseph E. Stevens, CerE, was a member of Pi Kappa Alpha while attending MSM-UMR. †Oct. 6, 2001

1933



William Koopmann Jr., CE, †Oct. 18, 2001

1936

John W. Ruwwe, GGph, † June 4, 2001

1937



Arthur H. Barclay Jr., MinE, †June 23, 2001

1938



Leonard C. Lonsberg, MinE, †Feb. 7, 2002

1940



Carl H. Cotterill, ChE, was a member of the *Rollamo* Board, Alpha Chi Sigma, AIChE, Blue Key, Engineers Club and the *Missouri Miner* while attending MSM-UMR. He also earned an honorary degree in metallurgical engineering and a master's in business administration from Washington University in St. Louis in 1948. Cotterill served in the U.S. Army with tours in North Africa, Italy and Germany as an aircraft warning officer with the 562nd Signal AW Battalion. After discharge, he served in the Reserve and Retired Reserve, rising to the rank of

lieutenant colonel. Cotterill worked at the U.S. Department of the Interior Bureau of Mines from 1971 until his retirement in 1991. †Feb. 10, 2002

1941



Robert Schoenthaler, ME, was a member of ASME while attending MSM-UMR. He began his career with Phillips 66 in Bartlesville, Okla. Following World War II, Schoenthaler and his family moved to Oklahoma City and established Schoenthaler Construction. He was active in commercial building until his retirement. †March 11, 2002

1943



Ewin H. Barnett Jr., ChE, was a member of Tau Beta Pi, Chi Kappa Phi, Shamrock Club, SAME and Independents while attending MSM-UMR. †Feb. 7, 2002

1947



Rodney A. Schaefer, EE, MS EE'50, taught at MSM-UMR for 47 years, earning him the longest teaching tenure in the University of Missouri system. †Feb. 25, 2002

1948



Robert V. Gevecker, CE, was a member of Pi Kappa Alpha, Interfraternity Council, Student Council and ASCE while attending MSM-UMR. He was a Navy veteran of World War II and was employed by the Missouri Highway Department in bridge maintenance division for 42 years, retiring in 1989. †Jan 20, 2002

Charles L. McGehee, Chem, †Oct. 16, 2001

1949

Stanley B. Brady, MetE, served five years in the U.S. Army and retired from the U.S. Geological Survey in 1980 after 36 years of federal service. He was formerly active in the Rolla area as a Boy Scout leader and a founder, charter member and president of the Rolla Archery Club. He also was a member of the Amateur Radio Society. †April 23, 2002

Subodh C. Dasgupta, MetE, †Dec. 9, 2001

Edward Lightfoot, CE, worked for the Division of Health and Department of Natural Resources as a civil engineer for 34 years. He was also a Navy veteran of World War II and was a member of the First Presbyterian Church for more than 50 years, serving as elder, deacon and church treasurer. †Feb. 5, 2002

1950



Francis M. Benson Jr., CE, †Aug. 22, 2001



Paul E. Green, PetE, was a member of Phi Kappa Alpha and AIMME while attending MSM-UMR. He was employed by Hughes Tool Co. for 35 years, retiring in 1985. The last five years of his career were spent in Hughes' London office as senior vice president in charge of Europe, the Middle East and Africa. He received a professional degree in petroleum engineering in 1981. †Jan. 23, 2002

Athel Merts, EE, was a member of Sigma Pi Sigma while attending MSM-UMR. †Dec. 18, 2001



Roy R. Shourd, PetE, was a member of Kappa Sigma, M Club, Inner Guard and the football squad while attending MSM-UMR. He was a Seabee in the U.S. Navy from 1943-1946 with the rank of motor machinist mate third class. The former president of Schlumberger North America, Shourd was the first American executive vice president of the French company Schlumberger Ltd. in New York, where he successfully managed their drilling and production services business sector. †Jan. 18, 2002

1951



Irving Dulberg, CerE, was a member of ACS and Alpha Epsilon Pi while attending MSM-UMR. †April 8, 2001



James J. Fitzpatrick, EE, was a member of Sigma Phi Epsilon and Interfraternity Council while attending MSM-UMR. †UMR notified of death March 27, 2002



David M. Irwin, MinE, was a member of Sigma Phi Epsilon, Canterbury Club and Interfaith Council while attending MSM-UMR. †Feb. 18, 2002



Henry D. Llewellyn, CE, was a member of ASCE, MSPE and the American Road Builders Association while attending MSM-UMR. †March 6, 2002



Vernon Schmidt, EE, was a member of AIEE, Wesley Foundation, Interfaith Council and IRE while attending MSM-UMR. †Sept. 22, 2001

Roy G. Woodle Jr., Phys, was a member of Sigma Pi Sigma while attending MSM-UMR. †May 4, 2001

1953



William F. Nelson, PetE, was a member of Tau Beta Pi, AIMME, Pet Club and Sigma Gamma Epsilon while attending MSM-UMR. †July 9, 2001

1956



Carl W. Glaser, EE, was a member of Kappa Sigma, ATEE and the *Rollamo* Board while attending MSM-UMR. †Feb. 13, 2002



Erhard M. Neumann, MetE, was a member of American Foundrymen, International Fellowship, ASM and AIMME while attending MSM-UMR. While in college he developed into a world-class athlete, specializing in bicycle races of 100 miles and farther. He was a member of the U.S. team that competed in the 1956 Olympics in

Melbourne, Australia, as well as a member of the 1957 World Cycling Team. Neumann was also a member of the St. Louis Cycling Club for 55 years. After competing internationally, he went to work for Lindberg Heat Treating Co., a metallurgy company, and worked there for 36 years until his retirement in 1998. †Jan 28, 2002

1957



James W. Johnson, ChE, MS ChE'58, PhD ChE'61, was a member of Alpha Chi Sigma, AIChE, Sigma Xi, Tau Beta Pi and Phi Kappa Phi while attending MSM-UMR. In 1958, he began teaching at MSM-UMR where he served as chair of the chemical engineering department from 1979 to 1990. In 1993, he received the Alumni Service Award from the MSM-UMR Alumni Association. Johnson was a member of the American Society for Engineering Education. †Feb. 20, 2002

1965



Charles D. Pearson, ME, †April 4, 2002

1966



Robert L. Calder, CE, †Dec. 19, 2001

1967

Charles M. Hansen, ME, was a member of Sigma Phi Epsilon, Interfraternity Council, Theta Tau Omega, Blue Key, Alpha Phi Omega and the Miner Board while attending MSM-UMR. He was listed in "Who's Who Among Students in American Universities and Colleges 1966-1967." After completing Naval Officers Candidate School in Newport, R.I., Hansen was accepted into the Navy's nuclear power program. In total, he served on three patrols, qualified as the Engineering Officer of the Watch, and reached the rank of lieutenant. He left the Navy in 1971 to join Bechtel Engineering in California, where he designed and built nuclear power plants in California, Korea and Spain. In 1990, he returned to the Washington, D.C., area and

went to work for the Department of Energy, where he established and served as acting director of the Office of Inspections for Defense Programs. From 1995 until his death, he was involved with DOE's environmental management program. Hansen volunteered in the oncology ward at Shady Grove Adventist Hospital and enjoyed teaching science to his children, especially through biology and chemistry experiments. †May 25, 2000

1968

George L. Long, EE, †Feb. 23, 2002

1969



Richard H. Erxleben, CE, †Feb. 14, 2002

1970



Charles E. Huebner, EE, †March 23, 2002

1971

Victor J. Polich Jr., EMgt, †Dec. 1, 2001

1972

Paul L. Bible Jr., EE, †Dec. 10, 2001

1979

Valarie Bagnell, ChE, †Feb. 20, 2002

Gregg D. Ward, CE, was a Curators' scholar during his years at MSM-UMR. He was awarded three patents while employed with Pan Handle Eastern in Kansas City, Mo. Ward also developed and marketed the "Winning Colors" tip sheet. He was an avid fan of various sports, particularly golf and thoroughbred racing. †April 17, 2002

1986



David Moellenhoff, EE, †Dec. 15, 2001

1992

Fred O. Corl Jr., EMgt, March 5, 2002

Tribute to Michael "Mike" Starkweather

Michael "Mike" Starkweather CSci'75, reported to me on the org chart, but he was my mentor in all manner of things here. I can scarcely think of him as deceased, I just think he is on vacation and will show up tomorrow.

Mike and I were also veterans. He was in the Army, and I was in the Air Force. One of the men here even served in his unit — 15 years after Mike did!

We put Mike to rest with military honors at Jefferson Barracks National Cemetery on May 30. Two children, Kelly and Mike Jr., and his wife, Alma, survive. He died May 27 of a heart attack in the early hours of the morning. He was pretty active, played basketball on the intramural team, and also coached girl's basketball at his daughter's school, continuing long after she graduated. The girl's team attended the funeral and placed a basketball on the coffin.

Michael Starkweather worked at Anheuser-Busch in St. Louis for more than 24 years. I only wish I had the writing skills to convey his impact on all of us.

—Jeff Hargiss, Anheuser-Busch

friends

Pat Alcorn, wife of Max W. Alcorn, research maintenance technician in the UMR Cloud and Aerosol Sciences Lab (CASL), and mother of Shelly Plank, senior secretary in the UMR performing arts department. †Feb. 16, 2002

Oakley Boyd, wife of Robert Boyd, CE'41, †Oct. 30, 2001

Bertha Bradford, †Dec. 5, 2001

Walter E. Bradford, †Jan. 3, 2001

Julia Bye, wife of Stanley Bye Jr., ChE'48, †Feb. 27, 2001

Larry Cummings, †Sept. 21, 2001

Rosemary Farmer, wife of John O. Farmer II, MinE'33, †NDD

Melvin L. Garner, professor emeritus of engineering management at UMR. For 37 years he taught students economics and other business-related courses. Garner also served in the U.S. Army Air Corps during World War II. He was a member of the Kiwanis Club and the First Baptist

Church of Rolla, where he served as deacon for many years. †April 17, 2002

Linda Hankins, wife of Benjamin Hankins, GeoE'81, †Sept. 19, 2001

Lois Johnson, wife of Edward L. Johnson, GGph'50, †Oct. 21, 2001

Carmen Kerr, wife of David W. Kerr Jr., ME'53, †June 15, 2001

Walter Krol, †Feb. 12, 2002

Mary Rehfeld, wife of Franklin Rehfeld, MetE'43, †March 26, 2002

Martina Rues, †March 30, 2001

Mike Ryle, †April 5, 2002

Revella Stifel, wife of Eugene F. Stifel, EE'50, †Aug. 14, 2001

John Young, †Jan. 19, 2002

Natalie H. Zung, †Feb. 20, 2002

Policy for publishing Alumni Notes

- We are happy to announce weddings, births and promotions, after they have occurred.
- We will mention a spouse's name if it is specifically mentioned in the information provided by the alumnus/alumna.
- The *MSM-UMR Alumnus* will announce deaths if information is submitted by an immediate family member, or from a newspaper obituary. Notification of deaths that have occurred more than two years before the date of publication will not be published unless a special request is made by a family member.
- Obituary information on alumni spouses will be printed only if the alumnus/alumna specifically requests that we print it.
- We will print addresses if specifically requested to do so by the alumnus/alumna submitting the note.
- We reserve the right to edit alumni notes to meet space requirements.
- We will use submitted photos as space permits.



donor profile

While at UMR, Dean Clubb, ME'68, received the education and hands-on laboratory experience that led him to a successful 30-year career with Texas Instruments. Now, Clubb and his wife, Linda, have made the commitment to help provide that type of experience for future generations of students at UMR.

The Clubbs have pledged \$250,000 toward the planned renovation of the UMR Mechanical and Aerospace Engineering Building — specifically the Dean and Linda Clubb rapid prototyping laboratory.

"UMR prepared me in several ways to meet the challenges I've faced in my work," Clubb says.

"We felt it was important to give something back to UMR, and the current students getting ready to compete in the marketplace. Students need the opportunity to see how you rapidly create and perfect the design of a complex mechanism or package. The rapid prototyping lab is the perfect way to provide hands-on instruction."

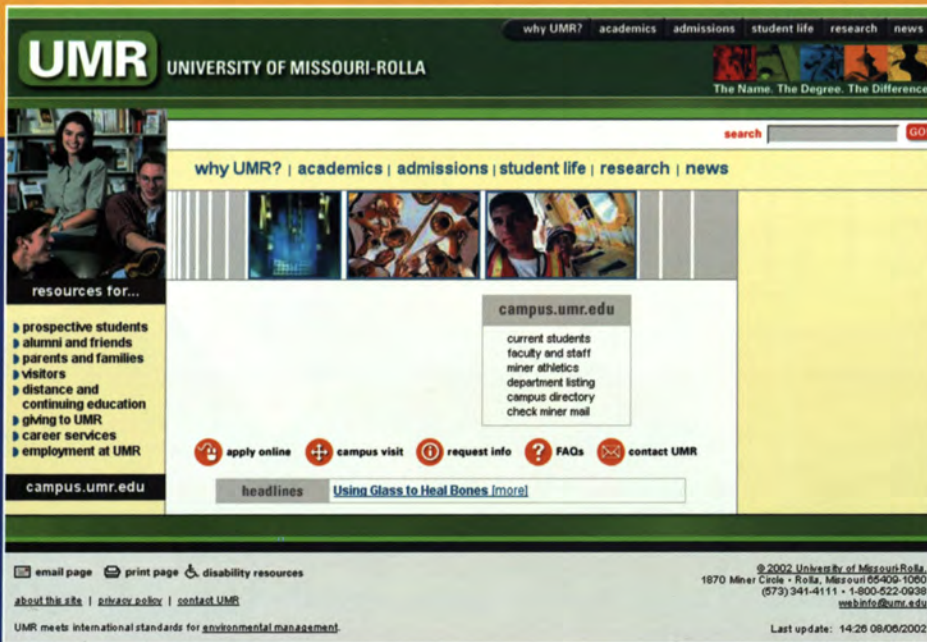
Clubb joined TI in 1968 as a mechanical design engineer. He worked as project engineer and program manager for the Shrike and Harpoon missile programs. In 1974, Clubb joined the HARM missile program, which he directed and managed until 1984. Later he became president of the systems group which included the Defense Systems & Electronics business (DS&E) and the Communications and Electronics Systems business (C&ES). DS&E was awarded the Malcolm Baldrige National Quality Award in 1992. Clubb retired as president of TI's Digital Imaging business in 1998.

Retirement hasn't slowed Clubb down a bit. Clubb consults with various government agencies and private companies on topics ranging from defense and antiterrorism issues to motivational speaking on productivity enhancement.

"You always think you'll have more time to do other things after you retire, but I've found that the amount of time you have is really based on your personality type," Clubb says. "If you enjoy discovering new things, there are new things all over the place." In addition to flying his plane, Clubb enjoys traveling, scuba diving, skiing, snowshoeing, snowmobiling, woodworking and metalworking.

Clubb also has served on the Dean of Engineering's Advisory Council and as a speaker for the Chancellor's Leadership Class. Clubb is a member of the UMR Academy of Mechanical and Aerospace Engineers and was honored with a professional degree in mechanical engineering in 2001.

The Clubbs have one daughter, Lauren, who is an environmental scientist with URS Corp. in Denver.



UMR launches new gateway

If you've turned your browser toward www.umn.edu lately, you'll have noticed that there has been a radical change made to the UMR Gateway, both in look and in purpose. With the increasing competition among universities for students, there has been a growing trend to utilize the homepage and top level pages of university sites for recruitment, marketing and development purposes, while maintaining a separate "intranet" that serves the campus community.

To that end the University Advancement Web team has designed a new site to meet the needs of our external audiences: showcasing UMR's strengths and advantages to prospective students, creating a convenient online community for alumni, and informing the world of the significant and exciting research and learning opportunities that exist at UMR. So if you haven't checked out UMR's Web site lately, go take a look — www.umn.edu. You'll be glad you did!



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