



Missouri S&T Magazine, Spring 1994

Miner Alumni Association

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A PUBLICATION OF THE MSM-UMR ALUMNI ASSOCIATION

MSM

ALUMINUS

SPRING 1994

VOL. 68, NO. 1

MAGNESITA MAGNATE



*Helio Guimaraes brings
the best of everything
— including a team of
MSM-UMR alumni —
to Brazil's biggest
refractory company*

**FOCUS ON:
THE MINING INDUSTRY**

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Dear Friends,

I have reviewed the year-end summary of the 1993 MSM-UMR Alumni Association Annual Fund and would like to share with you the good news that our 1993 total for dollars given was an all-time high for the Association! Your gifts helped us show a 19% increase over the corresponding 1992 figure. This greater giving will allow a generous increase in the commitments that the Association can make to assist UMR and its students.

The same summary report, however, carried the distressing news that a smaller number of donors participated in the 1993 Annual Fund than we have had in the past three years. It is obvious that the Association needs to increase the number of donors, and several actions will be taken in an effort to do just that. The Association's Annual Fund Committee has designed an enhanced program of recognition for Century Club donors and the Board of Directors has approved this program with the hope that the result will be an increased number of Century Club donors and an increase in the percentage of Century Club renewals each year. Ideas are being generated to encourage faster assimilation of new graduates into the programs of the Association. We hope this will also increase the participation of younger graduates in Annual Fund support.

Your loyal support is very much appreciated. Perhaps you could help the Association further increase the support of its programs and the 1994 Annual Fund by encouraging your fellow alums to join in! Let's make full use of the contribution envelope that you'll find inserted in this issue of the *MSM Alumnus*!

With all good wishes of the officers, directors and staff of your Alumni Association,



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MSM Alumnus

I N T H I S I S S U E

FOCUS ON



THE MINING INDUSTRY

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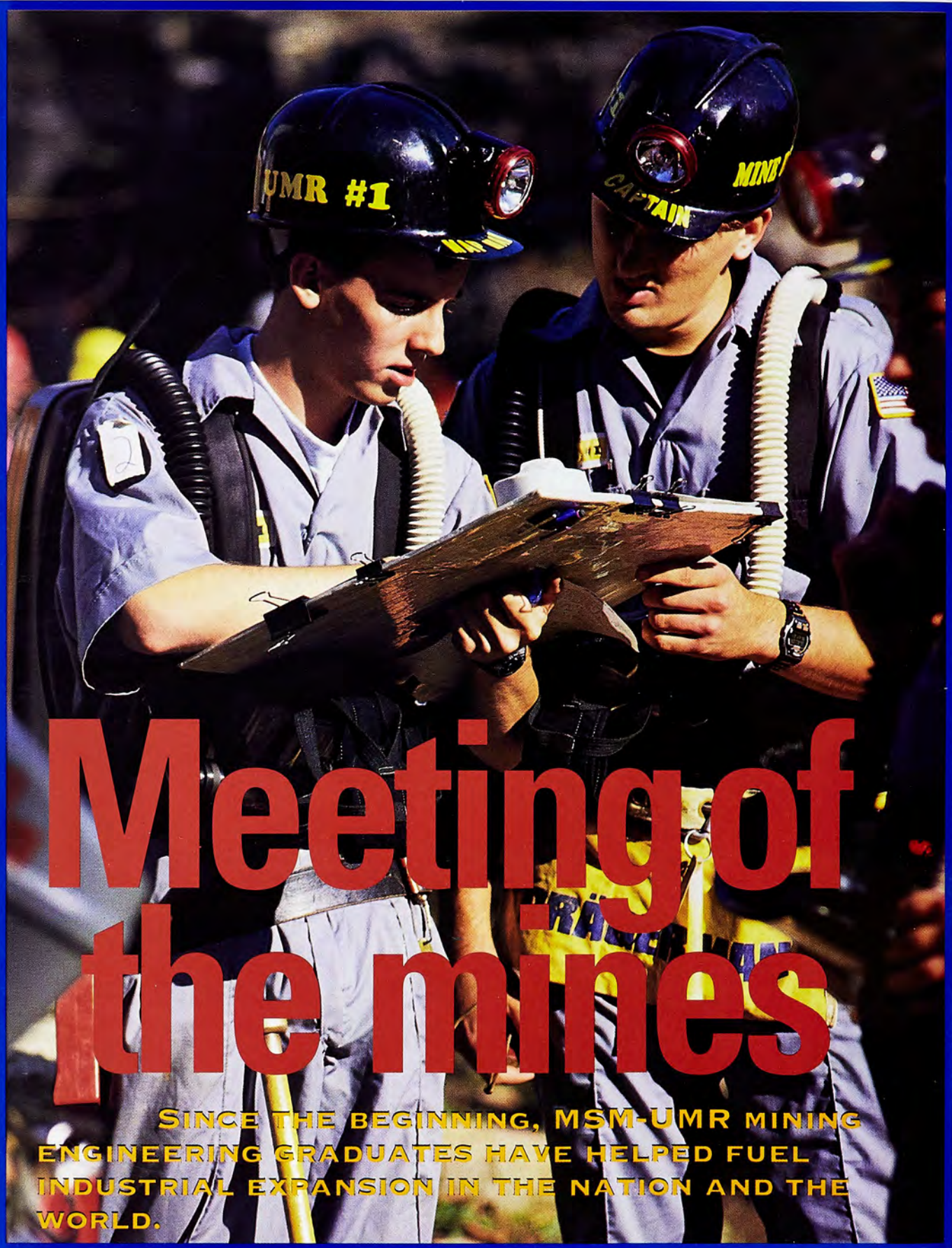
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On the cover: Helio Guimaraes, president and CEO of Magnesita S.A., Brazil's largest refractory manufacturer, leads a team of alumni dedicated to using the best of everything in their business. Photo by Henry Yu.
Next page: Members of the UMR Mine Rescue Team, the nation's only collegiate mine rescue squad, prepare to compete with industry teams during a recent competition. Photo by Dan Seifert/Stone House Photography.



Meeting of the mines

SINCE THE BEGINNING, MSM-UMR MINING ENGINEERING GRADUATES HAVE HELPED FUEL INDUSTRIAL EXPANSION IN THE NATION AND THE WORLD.

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THE MINING INDUSTRY

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HEN MSM'S FIRST MINING ENGINEERING STUDENTS BEGAN TAKING NOTES ON NOV. 6, 1871, IT WAS AN EXHILARATING TIME FOR U.S. INDUSTRY. THE NATION WAS EMERGING AS THE WORLD'S PREEMINENT INDUSTRIAL POWER.

FUELING THAT EXPANSION WAS MINING.

IN THE MISSOURI OZARKS, MINES YIELDING THE ESSENTIAL INGREDIENTS FOR THAT INDUSTRIAL GROWTH -- COPPER, LEAD AND IRON ORE -- WERE THRIVING. WHAT BETTER PLACE TO LOCATE THE NEW MISSOURI SCHOOL OF MINES AND METALLURGY? AND WHAT BETTER TIME FOR MSM, THE FIRST SUCH SCHOOL WEST OF THE MISSISSIPPI? "THE YOUNG NATION CRIED OUT FOR THE SCIENTIFIC AND TECHNICAL SKILLS NECESSARY TO CONVERT RAW MATERIALS INTO USABLE PRODUCTS," SAYS JACK B. RIDLEY, UMR DISTINGUISHED TEACHING PROFESSOR OF HISTORY, AND IN 1871 ONLY A HANDFUL OF SCHOOLS OFFERED A MINING EDUCATION CURRICULUM. THE CHALLENGE FOR THESE SCHOOLS WAS TO PROVIDE BRAINPOWER FOR THE FLEDGLING, EXPANDING INDUSTRY.



JACKLING

TWO EARLY MSM MINING PIONEERS—DANIEL JACKLING, CLASS OF 1892, AND VACHEL MCNUTT, '10—MADE SIGNIFICANT CONTRIBUTIONS TO THE INDUSTRY. JACKLING'S SYSTEM OF COPPER MINING REVOLUTIONIZED THE NATURAL RESOURCE INDUSTRIES. THE COPPER MINED AS A RESULT OF THIS NEW TECHNIQUE (USING HUGE STEAM SHOVELS AND TREATING THE ORE IN 2,000-TON CONCENTRATORS) HAS, BY TODAY'S VALUE, ADDED \$50 BILLION OF COPPER TO THE WORLD'S SUPPLY. MCNUTT DISCOVERED THE FIRST LARGE SUBTERRANEAN POTASH—AN IMPORTANT SOIL FERTILIZER—DEPOSITS IN THE WESTERN HEMISPHERE NEAR CARLSBAD, N.M. THE DISCOVERY FREED THE UNITED STATES FROM THE STRANGLEHOLD OF FOREIGN DOMINATION OVER THE SUPPLY OF THIS ESSENTIAL COMMODITY.



MCNUTT

NEW CHALLENGES

Today the nation's mining industry faces a different set of challenges -- as do the U.S. colleges and universities that teach mining engineering. Among today's concerns:

- Environmental groups are attacking the industry about its effect on the environment -- and not without historic cause. "We have tremendous environmental pressures, not only from the mining side of the business and the reclamation efforts, but also with the products we produce," says **Walter Mueller**, MinE'63, president and CEO of Apogee Coal Co., a subsidiary of Arch Mineral Corp. in St. Louis. But the mining industry is working hard to clean up its business -- and its image.

- Governmental regulations, many of them influenced by environmental concerns, have made it tougher for the mining industry to do business in this country. "Due to the environmental situation, large U.S. companies are looking to foreign countries for metals exploration," says **Robert Kupsch**, MinE'51, retired vice president of operations for ASARCO Inc. in New York and a member of UMR's Mining Engineering Development Board.

Richard W. Phelps, MinE'68, managing editor of *Engineering and Mining Journal*, an international monthly mining magazine based in Chicago, adds that some of the countries

most attractive to mining companies require that new facilities use "the best available, practical pollution-control technology. So companies are not seeking to avoid social responsibility; rather, they're being economically devastated by uncertainty" regarding environmental and other regulatory policies in the United States.

- Problems between labor and management in the mining industry -- as evidenced by the recent protracted strike by the United Mine Workers of America against members of the Bituminous Coal Operators Association -- are straining the profitability of some companies.

- A global economy has made metal markets more volatile and increased competition between U.S. companies and those in less-regulated developing countries, where workers earn far less.

MINING IS "HERE TO STAY"

Despite these pressures, mining still has a future, according to experts in the industry.

"Contrary to the wishes of some people, mining is not going to go away," says Phelps. Adds **John W. Wilson**, chairman of UMR's mining engineering department: "The mining industry is here to stay because there is no other way to recover the minerals we need for today's society."

The demand for minerals is real. "Mining," says Phelps, "is not force-feeding the market or building stockpiles. As the world's population inexorably rises so does demand -- to satisfy the thousands of pounds per year of minerals each human needs and consumes, directly and indirectly." And as living standards rise throughout the world, "the developing nations' intensity of mineral usage will rise several fold, similar to what happened in the now-industrialized countries of the late 19th and early 20th centuries," Phelps says.

Mining, like other manufacturing industries in the United States, "is not the industry it was 50 years ago, or

even 20 years ago," says Phelps. Yet it remains one of the few ways of creating wealth -- and a foundation for a consumer-driven economy. "All wealth really comes from the ground, one way or another," Phelps says. Hence the popularity of the mining industry motto: "If it can't be grown, it has to be mined."

IMAGE IS AN ISSUE

One problem facing the mining industry is that of image. Whether deserved or not, the business has a rather unsavory reputation -- a legacy as an unclean, unhealthy industry. Some of the images of mining that our culture holds in its collective consciousness stem from antiquated mining practices that no longer reflect today's safer approaches to mining. As Kupsch says, "Our industry today should not be blamed for situations that took place in the late 1800s and early 1900s."

Moreover, people would not be so quick to criticize the industry if they realized how much they depend on the products that mining ultimately provides. **Jeffrey L. Zelms**, MinE'70, president and chief executive officer of Doe Run Co., a lead-mining company based in St. Louis, is one of those trying to point this out to the public. At speaking engagements, Zelms often shows his audiences just how much they rely on substances mined from the earth.

"I often ask an audience, 'How many of you have been within six feet of 15 pounds of lead in the last 24 hours?'" Zelms says. "And very typically you'll see the audience, or certain members of the audience, gasp at the idea that they might have been so close to lead. And of course then I tell them that the storage battery in the front of their car is made of lead."

According to Phelps, many of the consumer products common in everyday life are made up of scores of mined products. The television in your living room is manufactured from 35 different minerals, and the new car in your driveway might have up to 40 pounds of copper in everything from its computers to the motors that control your auto-

**THE MINING INDUSTRY IS HERE TO STAY
BECAUSE THERE IS NO OTHER WAY TO
RECOVER THE MINERALS WE NEED FOR
TODAY'S SOCIETY.**
—**JOHN WILSON**



DAN SEFFERT/STONE HOUSE PHOTOGRAPHY





DAN SEIFERTONE HOUSE PHOTOGRAPHY

THE COAL BUSINESS IS VERY CYCLICAL. WE'VE HAD GREAT YEARS AND SOME REALLY BAD YEARS. THE 1970S WERE GREAT, THE 1980S WERE TERRIBLE AND THE 1990S SHOULD BE GETTING BETTER. —WALT MUELLER

In addition, the mining industry should face up to its many environmental challenges. The mining industry must get the word out that mining and environmental protection are not necessarily mutually exclusive.

"If you ask me, 'What's the biggest problem?' I'll tell you, 'The environment,'" Zelms says. "And if you ask me, 'What's the biggest opportunity?' I'll tell you, 'The environment.'"

Lee W. Saperstein, dean of UMR's School of Mines and Metallurgy, agrees. "It is crucial that

our engineers have respect for the environment," he says. "They also must have the proper tools to minimize the impact of mining to the environment."

Industry leaders must focus on the positive steps the industry is taking to promote environmental preservation, Zelms says.

Take recycling, for instance. The mining and metal industries "have been recycling materials for centuries," says Phelps. And in many cases, they are leaders in the field. Even before a Missouri law banned lead-acid batteries from the state's landfills, Zelms' Doe Run Co. opened a lead-acid battery reclamation center to recover and recycle the lead from those batteries -- as well as the plastic casings and the dangerous sulfuric acid.

RECRUITING DIFFICULTIES

A negative public opinion about mining has made it difficult for mining engineering programs to recruit students. This led to a severe drop in mining engineering enrollment in the United States for 10 to 15 years, from the late 1970s through the early 1980s, according to Wilson. "Prospective students just got the idea that there were no jobs in the industry," Wilson says.

But there were job opportunities for students who enrolled in mining programs during that time. Even now, with enrollment im-

proving for mining programs, universities like UMR -- which with nearly 100 undergraduates has one of the largest undergraduate mining engineering programs in the United States -- aren't able to produce enough engineers to keep pace with industry demand.

Even during the lean years, UMR's partnership with the mining industry has kept the educational program strong. "Our students have received scholarships from businesses within the industry," Wilson says, "and these businesses have created summer job opportunities that give students vital training they will need when they go out into the working world, as well as assisting them in their senior year mining courses."

But "we actually need a better level of enrollment" to keep pace with the demands of industry, Wilson says.

"One way to achieve a healthier enrollment," says Saperstein, "is to update our curriculum so students can keep up with the new technologies. We, as engineers and teachers of engineers, should also work with industry to provide the technical assistance that will be needed for the new and complex mines of the future."

GLOBALLY, A BRIGHT OUTLOOK

From a global perspective, things are looking up for the industry. Growth is occurring in the emerging economies of Latin America and Asia, and opportunities abound for mining engineers willing to travel abroad who have the requisite language and interpersonal skills.

In the United States, too, opportunities still exist for mining engineers. "The U.S. is the second largest producer in the world for gold, copper and coal," Wilson says, "and more than 90 percent of the lead mined in this country comes from Missouri."

U.S. mining companies continue to lead the world in terms of productivity because of technological advances. "Mining is a much more evolutionary than revolutionary process," says Phelps, noting that there are not many technological breakthroughs of the quantum-leap sort seen in electronics and aerospace fields. Nevertheless, he says, the

matic windows. Indeed, the average U.S. household uses some 400 pounds of copper each year, up from 300 pounds only a few years ago. And what about the electricity that brings your TV to life? More than half the nation's electricity is generated by coal mined in the United States, says Wilson.

All of this underscores the paradox evident in people's mixed feelings about mining. As Phelps puts it: "People want the products that mining provides, but they don't want more mining because they think it harms the environment. They don't realize how much we rely on mining for our lifestyle and our convenience."

ENVIRONMENTAL ISSUES

The environmental movement has created much of the public's animosity toward the mining industry. A recent Roper public opinion study commissioned by the American Mining Congress asked people to rank 22 industries from most positive to least positive. Mining was ranked next to last, just ahead of the tobacco industry.

But 49 percent of those survey respondents also said they didn't know anything about the mining industry. This, Zelms says, points out the mining industry's need to tell people about mining's role in sustaining the nation's industrial base.

**WHERE IN THE WORLD IS
"JOE MINER" WORKING?**

Many of our mining engineering alumni work for some of the largest mining concerns in the world. The following list of employers of our alumni is based on a list of the major international mining companies developed by Roskill Information Services Ltd. and published last October by *Engineering and Mining Journal*. The list includes only those employers on the list of major international mining concerns. Information on the number of alumni was compiled by University Advancement's research staff.

COUNTRY	ALUMS	RANK
ROYAL DUTCH/SHELL GROUP		
Netherlands	138	43
ALUMINUM CO. OF AMERICA		
USA	55	48
IMERCA GROUP INC.*		
USA	50	16
HANSAN plc		
UK	43	32
ASARCO INC.		
USA	14	10
BRASCAN LTD./NORANDA		
Canada	12	7
NATION OF PERU		
Peru	11	28
RTZ CORP. plc		
UK	8	2
NATION OF VENEZUELA		
Venezuela	8	42
BHP LTD.		
Australia	6	5
FREEMPORT MCMORAN INC.		
USA	6	17
HOMESTAKE MINING CO.		
USA	6	37
PHELPS DODGE CORP.		
USA	6	9

* Includes UMR alumni employed by Mallinckrodt Medical Co., a subsidiary of Imerca Group Inc.



**IF YOU ASK ME,
'WHAT'S THE
BIGGEST PROBLEM?'
I'LL TELL YOU, 'THE
ENVIRONMENT.' AND
IF YOU ASK ME,
'WHAT'S THE
BIGGEST
OPPORTUNITY?' I'LL
TELL YOU, 'THE
ENVIRONMENT.'
—JEFF ZELMS**

United States is a leader in mining technology, and much of the technology in use is either made in the U.S. or under license abroad from U.S. companies.

But as Mueller warns, the industry cannot afford to rest on its laurels. "We also have to continually keep working to improve the industry through sound investments and changes in management," he says.

ADVANCES IN SAFETY, PRODUCTIVITY

The mining industry's drive to lower prices and improve productivity and worker safety has been successful, Phelps says. Corporate restructuring and the introduction of new technologies have increased productivity. "Surface mining technology has resulted in a ninefold growth of gold mining in Nevada in the last decade," Phelps says.

The coal industry was once considered one of the most dangerous places to work, but technological improvements have resulted in fewer accidents. "Mining operations are safer now than they were 10 years ago based on statistics recorded by the Mine Safety and Health Administration (MSHA) and the U.S. Bureau of Mines," Wilson says. "The U.S. coal industry has definitely improved its safety record over the last 10 years," Mueller agrees. "If you look at MSHA data for the last 20 years, the period from 1983 to 1992 has been much safer."

Based on that MSHA data, the average number of coal mining fatalities per year from 1973 to 1982 was 136. From 1982 to 1992 the average number of fatalities per year

dropped to 72. In 1992 there were 54 fatalities -- the second lowest number in 20 years.

"We expect this downward trend to continue into the next century," Mueller says. "A worker is now more likely to be injured in general merchandise stores, farming or air transportation industries than by coal mining."

OPPORTUNITIES ON THE HORIZON?

Economic cycles have hurt some types of mining, but signs of recovery are on the horizon. The fate of the steel and iron industries follows that of public infrastructure -- roads and bridges -- and there is hope that government initiatives will bring about more road and bridge construction and repair soon. The copper industry, says Phelps, will be boosted by recovery of the U.S. economy -- already under way -- plus a rise in the currently sluggish European and Japanese economies.

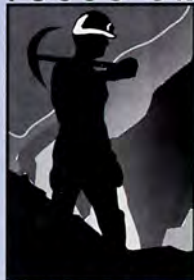
Adds Mueller: "The coal business is very cyclical. We've had great years and some really bad years. The 1970s were great, the 1980s were terrible and the 1990s should be getting better."

Will the mining industry continue to grow? Certainly not as rapidly as it did in the United States in the 1800s. Things have changed considerably since MSM's early graduates staked their claims in what was then a booming industry. But despite those changes -- and the challenges that accompany them -- opportunities are available in mining engineering and the future of the industry looks bright. ■

—written by Dick Hatfield

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THE MINING INDUSTRY

I N B R I E F

Chair in Mining Engineering established

UMR recently announced the establishment of the Robert H. Quenon Chair in Mining Engineering in honor of the former president of St. Louis-based Peabody Holding Co. and Peabody Coal Co.

Quenon, a St. Louis resident, is chairman of the Federal Reserve Bank of St. Louis and a consultant to the mining industry. In recent years he has worked with businesses and government agencies in Eastern Europe, Russia and the Ukraine. (For more on Quenon, see this issue's Donor Profile, p. 55.)

Quenon has pledged \$150,000 to UMR, and pledges from others have raised the total commitment for the Quenon Chair to \$800,000. UMR plans to raise another \$300,000 over the next three years to fully endow the chair at \$1.1 million.

Other contributors to the effort include the Dresser Foundation Inc., the philanthropic arm of the Dallas-based industrial equipment

manufacturer; Ingersoll-Rand Co. of Woodcliff Lake, N.J., a manufacturer of mining machinery and other industrial equipment; Newmont Mining Corp. of Denver; W.R. Grace Foundation of Boca Raton, Fla.; British financier James Goldsmith; and Zeigler Coal Holding Co. of Fairview Heights, Ill.

Lee Saperstein, dean of UMR's School of Mines and Metallurgy, commends UMR alumnus Thomas A. Holmes, MinE'50, former chairman and chief executive officer of Ingersoll-Rand Co., for spearheading the fund-raising effort for the Quenon Chair. "Tom Holmes' diligence, leadership and vision for his school has made this fund-raising campaign a success," Saperstein says.

The School of Mines and Metallurgy will conduct a national search to find an eminent faculty member for the position, says Saperstein. ■

Water could solve oil-digger's problems

For Jed Clampett, striking oil was as easy as a stray bullet in his back yard. But in reality, getting Texas tea to the surface is harder -- especially for the drill bit.

The problem is getting through those layers of rock between the earth's surface and the black gold. But now researchers at UMR are combining waterjets and drill bits to try to wash that problem away.

The proving grounds for this research is a new \$500,000 hydraulics laboratory at UMR's Rock Mechanics and Explosives Research Center. Research at the lab could help the petroleum industry save millions of dollars as well as lead to a less expensive method for cleaning up hazardous waste sites.

With today's drilling technology, rock cuttings often lodge and surround a drill bit, according to A. Willie Iyoho, (pictured at right) associate professor of petroleum engineering and principal investigator of the hydraulics lab. The chunks of rock build up, cause the bit to wear out rapidly, and slow down the drilling process. To combat this problem, Iyoho has designed a slurry system that uses

high-pressure water to carry away rock particles as the hole is drilled. The system is being tested in the hydraulics lab. Iyoho also is experimenting with a hybrid drill bit that combines a conventional bit with a high-pressure waterjet, which cuts and washes rock away at the same time.

The petroleum industry should be interested in the research, as many petroleum companies are spending \$100,000 per well per day during the drilling stage, Iyoho says. "If a company can reduce its drilling time even by 20 percent, that is a savings of millions to the industry," he says.

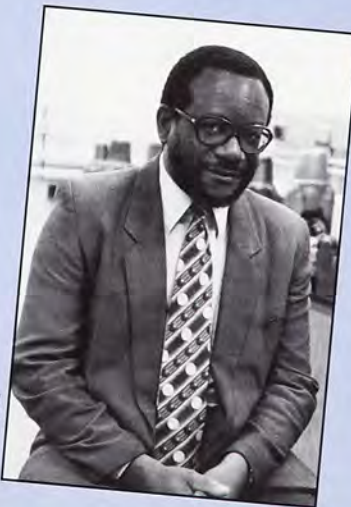
Another substantial savings -- this one to taxpayers -- could come about if hydraulics lab experiments to test the abilities of horizontal wells in hazardous waste cleanup are successful. Iyoho believes that one horizontal well -- which is dug into the side of a site rather than straight through it -- may be able to remove as many contaminants from hazardous waste sites as three or four vertical wells -- the traditional method for cleanup. This hypothesis will be tested on the lab's equipment, which simulates a vertical or horizontal well and angles in between.

"This will allow us to study the efficiency of contaminant removal in soil using just one

horizontal well," Iyoho says. "It will run under high pressure and we will track the contaminants to see what kind of pressures and fluids work best and what factors affect the efficiency of removing the contaminant.

"If this technology is proved, it could mean substantial savings at hazardous waste cleanup sites since one horizontal well could do the work of several vertical wells." ■

—by Marianne Ward



KHAN POWELL

FOCUS ON



THE MINING INDUSTRY

A MAGNESITA SUCCESS Story

THIS SOUTH AMERICAN COMPANY HAS DEVELOPED AND PROSPERED UNDER THE GUIDANCE OF MSM-UMR ALUMS.

BY ANDREW CAREAGA



At right: A warehouse full of magnesia-chrome bricks used by the cement industry, which in turn uses the material to make "clinker," the stuff cement is made of.



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Since becoming head of Magnesita S.A., one of Brazil's most successful refractory and mining companies, in the 1950s, Helio Guimaraes has used a simple yet effective formula for success: Use only the best ingredients, even if you must search the world to find them.

Guimaraes, CerE'51, describes this method simply as "not being chauvinistic," and it is the heart of his philosophy of doing business.

It is the same principle, he says, that the United States used to develop the weapon that brought the Allies victory in World War II. When the United States first began developing its atomic weaponry during that war, the nation's leaders weren't parochial about where the ideas for nuclear physics came from. They were after one thing only: victory. And if it meant using the talents of such scientists as Albert Einstein (a German-born Jew), Enrico Fermi (an Italian physicist) and Werner Von Braun (a German scientist and engineer), then so be it. Without these talents, the "American" effort to develop the first atomic weapons and early space rockets might not have been as successful.

That same approach -- take the best available knowledge, technology and management practices, and adapt it to attain victory in your project or business -- is what Guimaraes and his team of fellow MSM-UMR alumni use to create success at Magnesita S.A. "We have a policy of trying to get the best, whatever it is," Guimaraes says.

"It is a very important thing in a company to have certain goals," he says. "Some have to be practical and others have to be philosophical. ... One principal we must follow is that we must not be so proud that we think we must do everything ourselves.

"You cannot be chauvinistic. If you are chauvinistic, then you are crossing out a source of knowledge and technology based on your own vanity."

But that is not how Magnesita does business.

Magnesita, with headquarters in Belo Horizonte, a city of 3 million located about 280 miles northwest of Rio de Janeiro, mines and manufactures an array of refractory products for the steel, cement, glass, aluminum, petrochemical and other industries. The company has 32 mines located throughout Brazil, with the main operations carried out in the city of Brumado, located about 600 miles north of Belo Horizonte. Brumado is the site of large magnesite and talc deposits.

The company, founded in 1940 by Guimaraes' father, Antonio Guimaraes, and



DAN SEIFERT/STONE HOUSE PHOTOGRAPHY

(L-R) UMR professor and chair of ceramic engineering Robert Moore visits with Luis and Paulo Bittencourt in one of McNutt Hall's refractory laboratories.

Socrates Bittencourt, an engineer and dairy producer from Rio de Janeiro, has become Brazil's leading refractory firm.

THE ROLLA CONNECTION

The Guimaraes-Bittencourt partnership extends beyond Magnesita and beyond Brazil; it stretches all the way to Rolla. Like Antonio Guimaraes' progeny -- son Helios and grandson Eduardo, MetE'83 -- Socrates Bittencourt's son Paulo and grandson Luis also have Rolla connections. Paulo Bittencourt, who is Magnesita's technical superintendent, received his bachelor's degree

in ceramic engineering from MSM in 1959, and Luis Bittencourt, the company's raw materials engineering manager, came to UMR in January to begin Ph.D. studies in ceramic engineering.

In addition, one other UMR graduate, Alamar Duarte, MSCerE'82, is in a position of leadership at Magnesita as manager of the company's research and development center.

In keeping with his "best of everything" policy, Guimaraes sends Magnesita engineers to other schools in the United States and England for training. In addition, Magnesita has longstanding education and business partner-



The company's main magnesite mine in Brumado, Brazil.

ships with U.S. steelmakers -- the steel industry is Magnesita's biggest customer, accounting for 70 percent of Magnesita's sales -- and in recent years has sent technical people to train at a Kawasaki Steel plant in Japan.

"We have become successful," Guimaraes says, "through our acquisition of the best technology and technological know-how."

FROM HUMBLE ORIGINS

In 1939, the year World War II began, a Frenchman discovered magnesite, a key material for refractory bricks used in the production of steel, near Brumado. At that time, Brazil's lone steel firm was owned by a Luxembourg group, which because of the war was having trouble obtaining refractory products from Europe. The steelmakers approached Guimaraes' father, who was a banker in Belo Horizonte, and convinced him to build a mine and plant where the Frenchman discovered magnesite to supply the refractory bricks the company needed to make steel. Antonio Guimaraes, in partnership with Socrates Bittencourt, founded Magnesita S.A. on July 12, 1940.

In 1953 Guimaraes' father put his son at the helm of the company. But Guimaraes was reluctant at first when, in 1949, his father asked him to use his "natural authority" to solve some personnel problems at the Brumado mine. (When Guimaraes asked what his father meant by "natural authority," his father replied, "Why, the authority that comes from being my son.") Guimaraes agreed to work for one year but thought he would soon grow bored of the "brickmaking" business. (He had just earned a bachelor's degree in geological engineering from the

Colorado School of Mines and was enjoying life prospecting for oil in Brazil when his father called upon his help.)

After one year at Brumado, however, Guimaraes realized how challenging the business was and was in it to stay. He wanted to learn more about ceramics, though, and wrote to several U.S. universities for course catalogs. He chose to study ceramic engineering at MSM because it "was the school with the best developed refractory program." He got his master's degree in one year. Later, four other Magnesita employees -- his son, the two Bittencourts and Duarte -- would follow his lead and come to Rolla for their education.

BIRTH OF A PHILOSOPHY

"The one full year at Rolla was the most important professional step in my life," Guimaraes says.

At MSM, he learned the concept of using the best people, methods and technologies from everywhere and adapting them to a different project. Here Guimaraes studied under **Theodore Planje**, a ceramic engineering professor who later became dean of the School of Mines and Metallurgy. Guimaraes recalls Planje as a sort of Renaissance man, well educated in all aspects of ceramics and mining engineering. Through Planje's tutelage, Guimaraes' belief in the value of a broad education was strengthened.

Guimaraes believes that a technical education "gives you a tremendous advantage" in the business world. Engineers, he says, are trained as problem-solvers, and they approach problems -- whether they are technical or human in nature -- with equal vigor.

BUILDING THE BUSINESS

Armed with his MSM education, Guimaraes headed back to Brazil in 1951 to make Magnesita into a world-class corporation. There were obstacles, but he turned them into opportunities.

At that time, "I was the only one (at Magnesita) who had had a real course of study in ceramics and refractories," he says. "I started our first sales engineering department and also right away I decided that we needed to buy know-how. We had no time to learn all that we needed, so we bought some know-how from Harbison-Walker," a Pittsburgh-based refractory manufacturer.

Acquiring technology and knowledge from other world-class companies has been a secret to Magnesita's success over the years. In addition to his partnership with Harbison-Walker, Guimaraes has signed agreements with other companies throughout the world. It has helped Magnesita get a leg up on the competition.

THE RACE BELONGS TO THE SWIFT

One of the biggest business obstacles for Guimaraes and Magnesita continues to be the nation of Brazil.

In Brazil, the race belongs to the swift. With inflation rates of 40 percent a month and a government that "changes the rules of business practically every year," Brazil is not the ideal environment for private enterprise. "They say in Brazil that the economy grows at night while the government is sleeping," says Guimaraes' partner, Paulo Bittencourt.

In such a setting, speed is more than a business virtue. It is a key to survival.

Another key to surviving -- and thriving -- in this chaotic environment is the leadership of Guimaraes.

"He's a great strategic leader," says Bittencourt. "He knows that we must change very fast, because Brazil changes very fast."

Never did things change faster in Brazil than in 1990, when Fernando Collor became president. Collor's first act as president was to seize nearly all of the assets of Brazil's private businesses and citizenry. At the same time, he dismantled Brazil's protective tariff system and opened all markets to global competition.

These moves administered "a lot of shocks to the economy," Luis Bittencourt says. Many companies, used to government controls and supports, were unable to hack it in the more laissez-faire climate.

"Many people went broke," Guimaraes says. "We managed to stay alive by going through a very painful process of shrinking our personnel, (laying off) people that had

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been working for Magnesita for 20 years or 30 years." Guimaraes' son Eduardo likens the downsizing to "having to take off part of an arm in order to survive."

But Magnesita did survive. The company cut inventories, restricted cash flow and relied on its superior technology to continue a semblance of business. During the first few months of the Collor administration, refractory production fell from a mean of 21,000 tons a month to 12,000 tons. But slowly the company stepped up its production, and the company emerged from the chaos of the Collor years, which ended in 1993, with an even bigger share of Brazil's market for refractory products.

Guimaraes' leadership was critical to the company's success. "I saw right away the implications" of the Collor changes, he says. "We were shocked, yes -- but not shocked beyond action. We knew we had to face the problem or go down. So we decided to face the problem."

Guimaraes called a meeting of his management team and told them, "We live in Brazil, we have to do our business in Brazil, now we must adapt ourselves to the new business conditions. We have to use our brains and creativity."

THE ADVENT OF PROMAG

Out of this turmoil came PROMAG, the company's blueprint for continued success. Devised by Magnesita's human resources team, with assistance from a consultant, PROMAG is "our social plan" for making Magnesita an even stronger company, Guimaraes says.

"PROMAG can be defined as a program to raise the level of our personnel," he says. "It gives them a sense that education is important, that safety is important, that ecology is important, that quality is important. It is trying to help them and also trying to help ourselves. ... We try to sell them on the idea that when we are helped, they are helped."

Eduardo Guimaraes explains PROMAG as a program "to increase pride and to get people to think about their role at Magnesita and how to do a better job."

The program combines Guimaraes' "best of everything" philosophy with his understanding that great people make a great company. That is why Magnesita invests in people by sending them to the best world's best schools for an education, or to the world's best companies for specialized training. The collective intellect of his company is what matters most to Guimaraes.

"It takes many years to form this technical pool of brains," he says. "If you do not have this good technical basis, then you are going

to be mediocre in your production, in your quality, in your decisions."

Guimaraes has MSM-UMR to thank for much of Magnesita's brainpower. "A lot of our success should be credited to Rolla," he says.

His son, Eduardo Guimaraes, agrees. "Knowledge means everything," says Eduardo, who fondly remembers Professor Emeritus **Fred Kisslinger, ChE '42**, and Distinguished Teaching Professor **Donald R. Askeland** as his mentors in metallurgical engineering. "A good education is something you can take with you, anywhere you go."

But the education doesn't end after college, he adds. "Once you get started learning, there is no end. You must continually learn the rest of your life."

And that's a lesson both father and son have learned well. ■

"ONE PRINCIPAL WE MUST FOLLOW IS THAT WE MUST NOT BE SO PROUD THAT WE THINK WE MUST DO EVERYTHING OURSELVES."

—HELIO GUIMARAES



Guimaraes, pictured with son Eduardo (right) and Alamar Duarte (left), says technology has given Magnesita an edge on the competition. He credits the company's 73-person research and development program, headed by Duarte, for adapting technology developed elsewhere to meet Magnesita's needs. Toward that end, Magnesita has invested \$10 million in state-of-the-art laboratory equipment. The R&D program includes refractory and raw materials pilot plants, physical and chemical laboratories and a computer and process control center.



THE MINING INDUSTRY

Arctic Exposure

By Marianne Ward



Neither snow, nor rain, nor heat, nor gloom of night can close the 52-mile road that connects the isolated Red Dog Mine in northern Alaska to the Arctic Ocean.

But migrating caribou can.

The caribou, after all, have the right-of-way. And geologist **Tom Krolak**, GGph '85, says that's just one example of how mining companies, despite their reputation as spoilers of the environment, can peacefully coexist with Mother Nature.

"Any time a caribou herd is migrating, we have to shut down the road, whether it's for one hour or one week," says Krolak, who works for Cominco Alaska, the company that operates the Red Dog Mine. This rule of the road is imposed by the Northwest Alaska Native Association, which owns the land on which the mine operates.

"If you're stuck in the middle of the migration, you sit in it," says Krolak. "Mine traffic cannot interfere with the caribou migratory path. We're trying to leave everything as close to natural as possible."

If ever a land comes close to remaining in a natural state, it is Alaska. Even after construction of the famous trans-Alaska oil pipeline, less than 1 percent of the state's natural resources has seen any commercial development. Alaska also contains 70 percent of the United States' federally controlled wilderness, including 50 million acres in national parks, 77 million acres in wildlife refuges and 42 million acres in Bureau of Land Management reserves for National Forest Conservation Units.

Secluded in this pristine wilderness, surrounded by federal preserves and national forest land, and 70 miles from the nearest town with a post office, is the Red Dog Mine, one of the few mining ventures in the state. Here, Krolak works for four weeks straight and then "commutes" -- via 7 1/2 hours of flight time -- to his home in Rolla for two weeks off before returning to the mine.

This open-pit zinc mine, which is expected to be in operation for another 30 years, is an economic boon to the region -- and potentially to the rest of the United States. In Red Dog's 2-square-mile patch of land lies more zinc than in the entire 30-mile stretch of deposit between Bunker and Viburnum, Mo., a major source of the United States' zinc. (Zinc is used mostly as a coating for iron and steel, and as a component in several alloys, including brass.) While the Missouri zinc deposits have been mined for years, miners at the Red Dog Mine have barely scratched the surface. The Alaska mine could be the nation's primary source for zinc in the years ahead.

As one of the few mining ventures in Alaska, the Red Dog Mine is an anomaly. It exists "because the Northwest Alaska Native Association owns this land and let us come in and explore," says Krolak. "Otherwise, this would have probably been a national park and nobody would have been up here."

"One of the reasons the Red Dog is here is because the people of the region wanted jobs," says Krolak. The mine employs 350 people. "About half our work force is made up of native Alaskans, so this mine provides them with jobs and the opportunity for train-



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Bureau of Mines faces closure

The U.S. Bureau of Mines' Rolla Research Center, affiliated with the campus since the 1920s, could soon close or become a "satellite office" to the Bureau of Mines center in Minnesota.

The bureau's budget for the fiscal year beginning Oct. 1 proposes elimination of the Rolla Research Center, **Steve Rivers**, PetE'84, a union representative and chemical engineer at the center, told the *Rolla Daily News* in November. The cut is proposed as a cost-saving move for the Bureau of Mines, which is part of the U.S. Department of Interior. The center's 72 employees include 18 alumni, plus six UMR students and one student-employee in the UMR cooperative education program.

Closing of the center could also affect UMR's Generic Mineral Technology Center for Pyrometallurgy, which receives about \$1 million annually from the Bureau of Mines. "It would be quite a loss to the campus if the center is not funded in the future," **John L. Watson**, chairman of metallurgical engineering, told the *Rolla Daily News*.

Watson says the UMR center's budget may be cut by about 10 percent next year, regardless of the fate of the Rolla Research Center. The UMR center supports two full-time employees and eight to 12 graduate students, and faculty from several departments are associated with the center. Some of the pyrometallurgy center's research takes place on other campuses, Watson adds, so not all of its funding is spent locally.

In January, the Rolla Area Chamber of Commerce held a public forum to discuss the fate of the Rolla Research Center. At that meeting, **Richard Sandberg**, director of the center, said a plan was being proposed to keep the Rolla center open by making it a satellite office of a Bureau of Mines center in Minnesota. Details of that plan were not available at that time, however.

The Rolla Research Center was originally housed in Fulton Hall on campus. A cooperative agreement between the Bureau of Mines and MSM went into effect Sept. 1, 1920. The agreement initiated a mutually beneficial relationship between the two institutions that continues today. ■

A UMR alumnus finds Mother Nature makes the rules at Alaska's Red Dog zinc mine

ing they wouldn't have had in this region."

Krolak believes that mining and environmental interests aren't mutually exclusive. Nowadays, however, as Alaska's vast untapped natural resources are at the center of a debate involving the right to mine, the views on development have become more polarized. On this issue, says Krolak, most Alaskans fall into one of two camps: those in favor of developing resources, and those who want the environment preserved.

Alaska's governor, Walter Hickel, is one who favors development. He hopes to gain mining rights for the state through a lawsuit he filed last year in the U.S. Federal Claims Court in Washington, D.C. The suit claims that the federal government has violated the 1959 Alaska Statehood Law by withdrawing lands from development. According to an article in the October 1993 *Engineering and Mining Journal*, Hickel's lawsuit claims the state has been denied \$29 billion in mineral revenue from more than 100 million acres of federal land for 34 years.

"I think the lawsuit is reasonable in that people in Alaska were told that if they would agree to become a state, development would be allowed," says Krolak. "They were told they would have the resources and a job base, but most land is tied up in national parks, reserves and preserves, and there's really no tax base. It's all very nice that it's set aside, but there is no economic benefit."

"ONE OF THE REASONS THE RED DOG IS HERE IS BECAUSE THE PEOPLE OF THE REGION WANTED JOBS. ABOUT HALF OUR WORK FORCE IS MADE UP OF NATIVE ALASKANS, SO THIS MINE PROVIDES THEM WITH JOBS AND THE OPPORTUNITY FOR TRAINING THEY WOULDN'T HAVE HAD IN THIS REGION."

Despite exploration limits, mining accounts for 14 percent of Alaska's gross state product (GSP). It follows only the government as the largest GSP producer, according to estimates based on data from Alaska and the U.S. government.

Mining's "environmental bad guy" image is undeserved, Krolak says. In fact, in the case of the Red Dog Mine, mining actually has had a positive impact on the environment. A creek that once ran over the zinc deposit and transported contaminants downstream has been rerouted by Cominco into a man-made ditch. "Now there is essentially no mineralization being leached from the deposit downstream of the mine," says Krolak. A new creek was created for runoff water from the mine. That water goes to a treatment facility, where it is treated and discharged once it meets water quality discharge standards. "So essentially downstream from the Red Dog deposit, the water is now cleaner than it has ever been -- only because the mine is here. And now that the mine is here, we're responsible for (the creek) forever," Krolak says.

Because it's private land, the Red Dog Mine doesn't have to be reclaimed to its previous state. Land disturbance must be minimized, however. "We had to have a reclamation plan before we started here," says Krolak. "We're still fine-tuning it based on what our projected ultimate pit status is going to be."

Krolak and the Red Dog Mine continue to consider the future of the environment and the region's economy as they continue extracting zinc. But the outcome of Alaska's lawsuit is not so well planned. "I don't know where the suit is going to go or what the outcome is going to be," Krolak says. "I don't think Gov. Hickel is going to get anything out of it for the state -- except maybe publicity that Alaska is tied up."

Meantime, Krolak suggests the state be allowed to tap into more of its natural resources -- but only if it can be done in a manner that balances both environmental and economic concerns. "I don't know that we need to just open everything up to wholesale exploration," he says, "but right now, most of Alaska is unexplored." ■

LETTERS
TO THE
EDITOR



I finally had a chance to sit down and read the November 1993 issue of the MSM Alumnus. Wow! It was an impressive effort. Sure, UMR grads were critical to the flood containment efforts, and I was proud to read about them. But the truth be told I expected no less. When I was at UMR there was always a feeling that this is what we were training for - engineering-citizens, serving our society.

The magazine itself impressed me. So many alumni pieces are puff: shameless pleas for money accompanied by shameless tributes to donors. This issue was far better than that. Of the five alumni magazines that come to our house, its the only one I'm circulating at work.

Congratulations on a good piece of work.

*Michael S. Schmidt '80, '85
Principal Process Engineer
Air Products*

The following is a letter received by Charles Marvin, '69, from Lt. Gen. Art Williams, Chief of Engineers for the U.S. Army Corps of Engineers

Dear Chuck,

Thank you for sharing with me a copy of the MSM Alumnus article regarding the U.S. Army Corps of Engineers effort in the Flood of '93. Mother Nature has kept the Nation busy with hurricanes, floods, and earthquakes. In spite of all the challenges our employees continue to answer the call with a great sense of pride and enthusiasm.

During the flood disaster response and the subsequent recovery effort, Corps employees working along side other federal and local organizations have gone well beyond the call of duty. We certainly appreciate those articles such as the Flood of '93 in the MSM Alumnus, that recognize the effort of these great Americans. Thank you again for sharing the article with me.

*Arthur E. Williams
Lieutenant General, USA
Commanding*

A Flood of Comments about:



We welcome comments about your MSM Alumnus. Letters to the editor may be addressed to: Kathy Matthews, UMR Publications, 303 Altman Hall, University of Missouri-Rolla, Rolla, MO 65401; or by FAX at 314-341-6157; or e-mail at MATTHEWS@UMRVMB.UMR.EDU

I have received very favorable comments back from various alumni about the [The Flood of '93] issue. You told the story of the flood in an accurate and interesting manner.

I would like to compliment you and your staff for the excellent writing and the objectivity shown in the articles.

*David R. Busse, P.E. '81, '83
St. Louis District, Corps of Engineers*

Let me congratulate you on the truly outstanding "Flood of '93" edition of the MSM-UMR Alumnus. The articles describe what really happened last summer better than anything I have read about the flood. It accurately describes the successes and failures, highs and lows, along with the excitement and stress that all were a part of that experience.

MSM-UMR graduates (and co-op students) working in all the local, state and federal agencies performed magnificently and the November 1993 issue of the MSM-UMR Alumnus is a fitting tribute to their efforts.

*James T. Lovelace, P.E. '60
Chief, Hydrologic and Hydraulics
Branch
St. Louis District, Corps of Engineers*

Alumnus, Volume 67, Number 4, November 1993. In particular, I am writing to make statements about the cover story - The Flood of '93 and the related articles and pictures.

I have discussed this issue with the many alumni that have read this issue. I have received telephone calls at home from old friends that I haven't heard from in years that read this issue of your magazine. I have shown it to my family members, friends and acquaintances and have received the same response. They are all in agreement and without exception have stated that this is the first story about the flood that they can understand. It is written in a logical, well thought out format in a language that the layman can understand. People that followed the flood closely on the television, heard about it on the radio and, in some cases, witnessed the flood agree that this is the clearest presentation of what happened they have seen. One comment was, "This is the first time I really understood what went on during the flood."

I would like to compliment you and your staff for the excellent writing and the objectivity shown in the articles. It is rewarding to know that the "truth" can be told in such an easily readable and understandable manner. The research and the time to do these articles was done in a professional and accurate manner. I continue to enjoy the Alumnus and look forward to future issues. Keep up the good work!

*Claude N. Strauser, P.E., L.S. '69
Chief, Potamology Section
St. Louis District, Corps of Engineers*

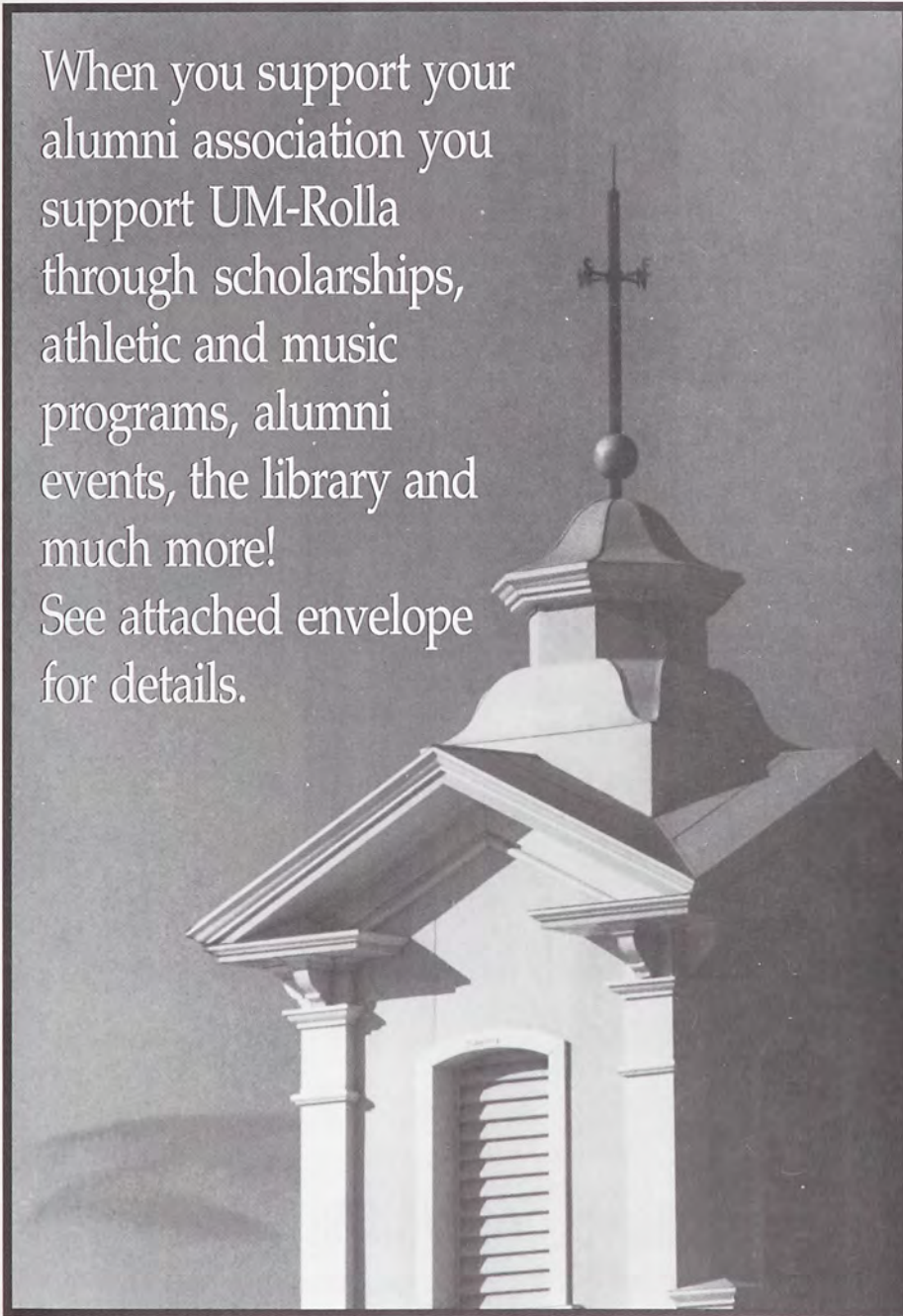
Many thanks for the 25 copies of the MSM Alumnus. Will share them with the other folks involved plus a few of the MU alums who don't have the benefit of an excellent publication like we do.

*Bob Sfreddo '58
Division Engineer of Design
Missouri Highway and Transportation
Department
Jefferson City, MO*



ALUMNI NEWS

When you support your alumni association you support UM-Rolla through scholarships, athletic and music programs, alumni events, the library and much more! See attached envelope for details.



Alumni Notes ♣ Section News ♣ Association News

LETTERS
TO THE
EDITOR



I finally had a chance to sit down and read the November 1993 issue of the MSM Alumnus. Wow! It was an impressive effort. Sure, UMR grads were critical to the flood containment efforts, and I was proud to read about them. But the truth be told I expected no less. When I was at UMR there was always a feeling that this is what we were training for - engineering-citizens, serving our society.

The magazine itself impressed me. So many alumni pieces are puff: shameless pleas for money accompanied by sham tributes to donors. This issue was far better than that. Of the five alumni magazines that come to our house, it's the only one I'm consulting at work.

Congratulations on a good piece of work.

Michael S. Schmidt '80
Principal Process Eng
Air Pro

The following is a letter received by Charles Marvin, '69, from Lt. Gen. Arthur Williams, Chief of Engineers for the U.S. Army Corps of Engineers

Dear Chuck,

Thank you for sharing with me a cc of the MSM Alumnus article regarding U.S. Army Corps of Engineers effort in Flood of '93. Mother Nature has kept the Nation busy with hurricanes, floods, and earthquakes. In spite of all the challenges our employees continue to answer them with a great sense of pride and enthusiasm.

During the flood disaster response and the subsequent recovery effort, Corps employees working along side other federal and local organizations have gone well beyond the call of duty. We certainly appreciate those articles such as the Flood of the MSM Alumnus, that recognize the efforts of these great Americans. Thank you again for sharing the article with me.

Arthur E. Williams
Lieutenant General, USA
Commanding

A Flood of Comments about:

Famous Dates To Remember:

DECEMBER 17, 1966

The day you passed Calc III

"BARBARA"

The "import" from Mizzou you took to the fraternity dance.

MAY 25, 1969

The day you graduated from UMR

MARCH 17

Need we say more?

OCTOBER 7 & 8, 1994

The Class of '69 25th Class Reunion at MSM-UMR Homecoming

Make plans to attend now!

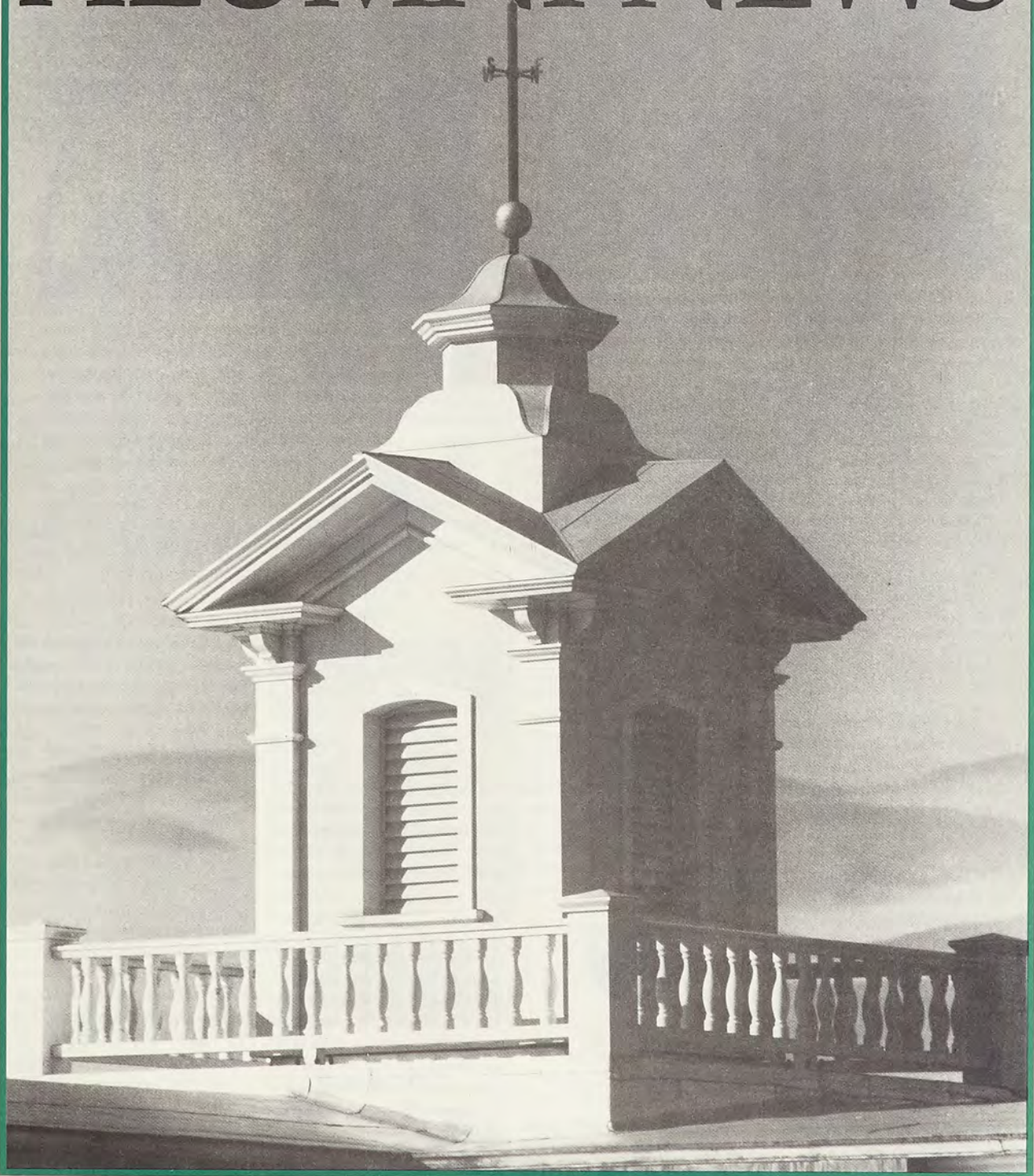
Alumnus is a fitting tribute to their efforts.

James T. Lovelace, P.E. '60
Chief, Hydrologic and Hydraulics
Branch
St. Louis District, Corps of Engineers

Department
Jefferson City, MO



ALUMNI NEWS



Alumni Notes ♣ Section News ♣ Association News

Department
Person City, MO

ALUMNI SECTIONS



The Oct. 16, 1993, meeting of the **Ark-La-Tex Section**, the most active little Rolla alumni section in the deep south, was a great success. Imagine a beautiful night, a good speaker with an intelligent subject, a delicious supper and a really magnificent and enthusiastic attendance. We had it all that Saturday night at the Barksdale Officers Club in Bossier City, La. John '39 and Eilyeen Livingston were our hosts for the evening and our own Elmond Claridge '39 spoke to us on the subject of "Enhanced Oil Recovery." (Submitted by **Phil Browning '48**)

Attending: *Phil '48 and Ardella Browning; Walter '34 and Helen Bruening; Elmond Claridge '39, '41; Kenny '83 and Beth Cochran; Basil '39 and Clydelle Compton; John '39 and Eilyeen Livingston; Andy '58 and Collette Matias; John '51 and Loretta Moscare; Denver '52 and Shirley Patton; Jerry '82 and Tammy Poland; Stanley "Gene" '62, '77, '92 and Judy Rand; Gerald '28 and Leona Roberts; Warren '50 and Elaine Rutz; Mrs. Evelyn C. Ford and Paul and Amanda Haenke.*

The **Central Ozarks Section** met at the Engineer Center Open Mess, Ft. Leonard Wood, Mo., Dec. 12, 1993. A champagne brunch was enjoyed by approximately 37 members and guests.

President Merrill Stevens '83, '88 welcomed those present and conducted a short business meeting. She introduced Jim Perkins '66, '92, vice president and Dixie Finley '68, secretary-treasurer. She also introduced board members Butch Fiebelman '66, George Axmacher '42 and Bob Klug '40. Kim Combs, director of the Engineer Museum, was also introduced.

President Stevens reported that the nominating committee made up of herself, Dick Elgin

'74, '76 and Lindsay Bagnall '76 had met and put into nomination the names of two individuals to replace George Axmacher and Butch Fiebelman whose terms on the board had expired. Nominees Diane Crouch '84 and Gary Patterson '60, '66 were elected by a voice vote.

Chairmen for the membership committee and for the publicity committee are needed. Stevens requested assistance in finding people to staff those positions. She also announced upcoming events, with the closest being a St. Pat's celebration at the Blue Heron Rookery in March.

The meeting adjourned and reconvened at the Engineer Museum. Members and guests were entertained by a history of Ft. Leonard Wood and a guided tour of the facility by Kim Combs. (Submitted by **Dixie Finley '68**)

Attending: *Kim and Caitlyn Combs; Glenn '39, '48, Janet and Joel '86 Brand; Christiane Dornhoefer '89; Charles and Dixie '68 Finley; Butch '66 and Joyce Fiebelman; Bart '93 and Carla Fitzgerald; Grette '74 and Tom '58, '68 Herick; Bob '40 and Connie Klug; Bill '53 and Pat Lindgren; Jack Painter '50; Donna '86 and Karen Peacock; Jim Perkins '66, '92; Larry '73 and Pat Perry and two guests; Mark '78 and Ann Premont; Ed '40, Mabel and Myrna Rueff; Merrill Stevens '83, '88; Gerald Thiessen '68, '74; Armin Tucker '40; John Smith '51; Ken Roberson '50; Betty Eyberg '50; George Axmacher '42.*



For info call: Merrill Stevens '83
314-762-3518 (H)

On Sept. 18, 1993, the **Cincinnati-Dayton Section** had its fall event: a baseball game at Riverfront Stadium featuring the

WELCOME A NEW SECTION!



The Cleveland, Ohio, organizational meeting and dinner was held at the home of Graham Sutherland '64, executive vice president of Morrison Knudson--process division. Don Brackhahn discussed with those in attendance how a section organization can assist the university as well as the individual alumnus. It was determined by those in attendance that there would be an effort to charter the section at the fall board of directors meeting.

Attending: *(pictured above— Hugh Kind '76, Graham Sutherland '64, Buddy J. Austin '60 and Robert Erdmann '62) Nancy Erdmann; Kitty Sutherland; Don and Nancy Brackhahn.*

Cincinnati Reds playing the San Francisco Giants. Although the Reds didn't win, everyone had a good time. (Submitted by **Linda Tutko '87.**)

Attending: *Dick Paul '66; John Cook '80; Jay Krull '87; Rich Tutko '88; James Steibel '88; Chris Tarnowieckiy '87, '89; Linda Desilet '88; Tracey Chriske '89; Steve Fulkerston '91; Laura Vrabell '93; Don and Nancy Brackhahn.*

The **Georgia Section** had its third event on Saturday, Nov. 13, 1993. Richard '63, '69 and Chris Kahl hosted an evening of cocktails and chili in their home in Lilburn, Ga. Eighteen alumni, one retired faculty member and 17 spouses attended. The most senior was Donnell W. Dutton '35, '59 from Atlanta. The newest alumnus was Stephen Starwalt '92 from Phenix City, Ala.

The Kahls' hospitality was the greatest, as was Dick's special blend of homemade chili. Also, Dick's luck with Mother Nature was a lot better. When Dick scheduled a March 13, 1993, St. Pat's BBQ, the eastern United States experienced the "Blizzard of the Century." We had great weather for this party!

A nominating committee is to develop a slate of prospective officers and elections will be held at our first meeting in 1994 at the home of Connelly '53 and Rose Sanders in Marietta, Ga. The Georgia Section now has a telephone committee in place and we should be better able to contact our members in the future. (Submitted by **George Leck '61**)

Attending: *Nina (Lioli) '87 and George Avgoustopoulos; Valentino '76, '78 and Connie Bates; Dave '75 and Julie Beem; Donnell '35, '59 and Ruth Dutton; Don '71 and Kathy Frankforther; Richard '63, '69*

and Chris Kahl; George '61 and Barbara Leck; Ed '73 and Andrea Miller; Ken '62 and Phyllis Murdock; Jim '81 and Kim Roberts; Edward '64 and Janet Rutledge; Connolly '53 and Rose Sanders; Stephen Starwalt '92; Ed '73 and Nancy Wade; Kim Winkler '88; Mike '71 and Pat Wolf; Tom '75 and Gale Zraggen; Dave '85, '87 and Myra Ziegler; Adrian and Jean Daane.

Georgia Section



For info call: George Leck '61
404-938-6446 (H)

The Heartland Section met for dinner at the Merv Griffin Riverboat landing in Metropolis, Ill., at its semi-annual meeting on Saturday, Nov. 6.

Section president Gene Edwards '53 conducted a business meeting in which alumni discussed their current section scholarship along with the possibility of raising funds for a scholarship endowment. Don Brackhahn of the alumni office then answered questions about "UMR Today." After the meeting, the alums went to dinner and the riverboat casino.

The next meeting will be held at Rend Lake in Carbondale, Ill., in May 1994.

Attending: C. P. '54 and Jan Bennett; Max '54 and JoAnn Burgett; Frank '54 and Leona Conci; Jan Conci-Smith '84 and sister; Gene '53 and Ann Edwards; Don '66 and Jenny Fuller; Lester '51 and Joan Holcomb; Dan '81 and Valerie Klapproth; Eugene '51 and Ellen Larson; R. Gill Montgomery '34; Bob '54 and Martha Patterson; Ed '40 and Mabel Rueff; Todd Sittig '89; Bill '54 and Clemie Stewart; Larry '61 and Kay Strobel; Carl '62 and Elizabeth Wilson; Don and Nancy Brackhahn.

Heartland Section



For info call: Gene Edwards '53
502-554-2415 (H)



The Lincolnland Section dinner was held Oct. 28, 1993, with cocktails at 6 p.m. and dinner served at 7 p.m. The meeting was at the Springfield, Ill., Best Western East. Rich '69 and Carolyn Berning gave a slide presentation, "The Former Soviet Block Technology vs. Any Town, USA," about their trip to the Soviet Union.

Attending: Rich '69 and Carolyn Berning; Bill '59 and Betty Buren; Thomas Feger '69; Lynn Frasco '68; William E. Giles '23; Gerald '62 and Rita Huck; Lawrence '73 and Betsy Lewis; Ed '69 and Anne Midden; Rich '64 and Sandy Mochel; Jerry '70 and Mary Parsons; David Tepen '90; Patrick Toby '88; Bob '52 and June Uthoff.

Lincolnland Golf Tournament



For info call: Jerry Parsons '70
217-793-3662 (H)

Northwest Mining Association Convention Alumni Breakfast: The alumni breakfast, organized again this year by John Baz-Dresch of Asamera Minerals, was held on Thursday morning, Dec. 2, the second day of the 99th annual convention of the Northwest Mining Association in Spokane, Wash., with only four alums and one spouse attending. We hope for a bigger turnout next year or we may have to end this tradition. (Submitted by John Baz-Dresch '73)

Attending: Glen Fritz '47; Hugh '72, '84 and Linda Jesse; John Baz-Dresch '73; William "Randy" Reed '88.



The Oklahoma Section Freshman Send-Off Picnic was held Aug. 1, 1993. Attending alumni honored new freshmen Amy Ingarta, David Mitchell, Mike Shipman and Crystal Tyler.



The Houston Section dinner was held at the Houston Engineering and Scientific Society on Sept. 17, 1993. The evening was hosted by Art '49 and Pat Weber. Cocktails were served from 6 to 7 p.m., followed by dinner.

After dinner, a brief business meeting was conducted by Kirk Lawson '85, '87, president, where section officers were elected for the coming year. Officers elected were Wayne Andreas '58, president; Nicole Talbot '77, vice president; and Rob Laird '85, secretary-treasurer.

Also during the meeting, Curt Killinger '73, '80, area director, updated the section on the activities of the Admissions Ambassador program and presented an award to Kirk Lawson for service during the past year. After the meeting, "Tom Benton's Missouri," a film by the University of Missouri System, was shown.

Attending: Jim Cole '75, '76, '80; Bill '35 and Dorothy Cooke; Elmond Claridge '39, '41; Kent Ferry '84; Paul '90 and Kathryn Hasselbring; Dan '73 and Delores '75 Hinkle; Curt '73, '80 and Marybeth Killinger; Rob '85 and Lauren Laird; Kirk Lawson '85, '87; Art '49 and Pat Weber; Mike Weiss '77.



Houston Section Ball Game

For info call: Nicole Talbot '77
713-489-0391 (H)

Attending: Vernon '53 and Maralee Jones; David '57 and Gayle Kick; Mike Sanii '69; Roy '66 and Sandy Wilkens; Steve '72 and Gloria Thies; Bryan Schulze '92; Amy Ingarta; David Mitchell; Mike Shipman; Crystal Tyler.

The Oklahoma Section held the First Annual Golf Outing on Wednesday, Sept. 29, 1993. The event was a great success with 15 alumni showing up to enjoy a round of golf at the beautiful South Lakes Golf Club and to show their support for the MSM-UMR Alumni Association. Special thanks go to Dave Kick

'57 for planning the event and to Jim Bertelsmeyer '66 and Steve Thies '72 for supplying the traditional MSM-UMR refreshments after the round. Let it be known that all who attended this event were winners! (Submitted by Glen Larsen '70)

Attending: Richard Love '39, William Pearl '39, Dave Kick '57, John Bronson '59, Joe Vitali '59, Charlie Campbell '64, Jim Bertelsmeyer '66, Glen Larsen '70, Stephen Thies '72, Gary Christopher '73, Paul Marting '77, John Pelger '83, John Loiacono '84, Richard Altice '86, Tim Coppinger '89.



Tom Maschek, Eric Steutemann, Mike Ferretti, Lynn Segura, Georgia Ferretti, Jill Finklang, Paul Segura, Dan Finklang, Todd Rush, Matthew Rush, Marie Eash and John Eash strike a pose for the camera at the McDonnell Douglas section get-together.

On Friday, Oct. 22, 1993, the **McDonnell Douglas Section** met at Mattingly's for our Fall "Tropical Paradise" Homecoming get-together. Twelve of us met for dinner and drinks and had an all-around good time!

Attending: Tom Maschek '79, '80; Mike '67 and Georgia Ferretti; Paul '88 and Lynn '87 Segura; Eric Steutemann '87; Jill '87, '90 and Dan '90 Finklang; Todd Rush '82, '84 and son Matthew; John '79, '90 and Marie Eash.

On Saturday, Nov. 6, was the highly successful student reception. Over 100 prospective students and their parents gained valuable information about UMR from the excellent program put on by Lynn Stichnote. John Park and the UMR Solar Car Team also graced the proceedings.

On Friday, Dec. 10, we hooked up with the St. Louis Section for a night on the Casino Queen riverboat. The joint activity drew 50 as all enjoyed trying their luck on the Mississippi River.

We look forward to the spring half, where we will begin work on selecting our Section Scholarship nominee, among other planned events. That's all for now; thanks and regards to all! (Submitted by Paul Segura '88)



The **Phoenix Section** held a family picnic at the Kiwanis Park in Tempe on Sunday, Oct. 24, 1993. A total of 18 alumni, spouses and guests attended under typical sunny Arizona skies. We all reminisced about old times and also had a chance to check out current campus activities as Kelly '93 and Tammy Short were present to bring us up-to-date. Preliminary plans

were made for the section to have the next get-together at the Red River Opry House in Tempe in the spring of 1994.

Attending: Louis '57 and Marilyn Astroth; Jim '76 and Debi Clifton; Jack '50 and Denise Guth; Walt '49 and Shirley Knecht; Gordon "Sam" '51 and Joyce Napp and Janet Davis; John "Wood" '61 and Jeanne Rudolph; Vernon '50 and Laurabel Severson; Kelly '93 and Tammy Short; Charles '47, '51 and Doris Shulze.



On Tuesday evening, Oct. 5, 1993, the "petro-miners" met in Houston, Texas, in conjunction with the **Society of Petroleum Engineers'** Annual Technical Conference and Exhibition. The group enjoyed a warm welcome and informative remarks by UMR's petroleum engineering chairman Lenn Koederitz '68, '69, '70. In his remarks, he

shared news from the Rolla campus and good news of increased department enrollment. Lenn also noted that 20 members of the Rolla Student SPE chapter had attended the first two days of the conference but had departed that afternoon to return to their studies. Although some thought they may have learned a lot more from the alumni, it was probably to their advantage to save that for a future conference! Lenn introduced his colleague, associate professor of petroleum engineering Daopu Numbere.

Following Dr. Koederitz's greetings, Curt Killinger '73, '80, Texas Area Alumni Director and host for the event, introduced Jim Paul '43, who received the Alumni Association "Frank H. Mackaman Service Award" at this year's Homecoming for his outstanding service in the Houston section; Jim is also well-known for the fact that he has recruited over 800 members for SPE during his career, more than anyone else! Also recognized for his service and support to the Rolla Alumni Association was Houston Alumni Section President Wayne "Andy" Andreas '58. The "longest distance traveled to attend the MSM/UMR-Reception" award went to Hugh Hollister '81 of London, England; Hugh was glad that he was able to coincide SPE business in Houston with his plans to attend the Rolla reception!

We'll look forward to seeing everyone at the 1994 conference in New Orleans, La., Sept. 25-28! (Submitted by Curt Killinger '73, '80)

Attending: Wayne Andreas '58; Karen (Rakop) Bard '81; Tom Beebe '87; Jim Berndt '84; Christopher Butta '83; Dane Cantwell '85; Steve Chaney '89; Elmond Claridge '39, '41; Sherri Clark '78 and Tom Sheelar; Jim Cole '75, '76, '80; Mark Dieckmann '82, '88; Dennis Dutton '76, '79; Roger S. Fleming '73; Scott Frailey '85, '86, '89; Doug '77, '79 and Maryann '79 Fuchs; Marc Gruenfelder '80, '81; Lloyd

'86, '91 and Teresa Heinze; Hugh Hollister '81; M. Matt Honarpour '69, '70, '80; Curt Killinger '73, '80; Jeff Krack '85; James Kwasny '88; Lance '84 and Sheila Lauck; Chuck '86 and Tina Martin; David Nadel '81; Daapu and Tonye Numbere; Jim Paul '43; R. John Pepper '72; Gary '63, '65 and Janie Pointer; Kent Roach '88; Tom Schmidt '69; Mark Schnatzmeyer '74; Dan Scott '70; Bill Stuckey '83; Kevin Thomsberry '85, '88; Herman Vacca '60; Harry West '59; Bob Wonish '75.

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The Southern California Section met Oct. 16, 1993, at the Long Beach, Calif., Elks Club at 7 p.m. John Wilms '43 had mounted on a bulletin board over 50 color photos of the Class of '43 Golden Reunion on campus. He and Don Huseman '43 attended this reunion at commencement last May.

John Wilms served as Master of Ceremonies and introduced Gerry Stevenson '59, '63, '81, who spoke briefly about revitalization of the section. John Wilms then discussed the Jurupa Cultural Center as a place to have a family section meeting and also explained free enterprise programs in Czechoslovakia.

Attending: David Chu '85; Don '59 and Loretta Crapnell; Jesse '57 and Maude Dickinson; James '44 and Theda Gostin; Sandra '89 and Robert '88 Hale; Stanley '83 and Melissa Heaton; Dennis '78 and Nikki Heider; Ron Henson '64 and Novelita Frank; Don '43 and Luce Huseman; Carl '68 and Judith McCalla; George '36 and Miriam Nations; Gerald '59, '63, '81 and Jeanne Stevenson; Fred '48 and Marilyn Todd; John '43 and Phyllis Wilms; Susan '72 and Barry '71 Winscher.

◆◆◆◆◆
The Springfield, Mo. Section held a picnic at the Fassnacht Park on Saturday, Oct. 9, 1993, from noon to 4 p.m. Due to inclement weather--50 degrees, windy and wet--only 23

showed up for this picnic.

This is the first activity of the Springfield section since 1991 and primarily due to the new leadership of Larry Wolf '79. Helene Hardy '83 and Windsor Warren '48 have volunteered to help plan a St. Patrick's Day Party in March.

Attending: Wayne '59 and Jean Heston; Roy C. McDowell '49; Helene Hardy '83 and Riley Pierce; Guy '78 and Kelly Renshaw; Kevin '75 and Jeanie Skibiski; Walter Warren '86; Windsor Warren '48; Larry '79 and Carol Wolf; Don and Nancy Brackhahn.

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St. Louis Section Lecture Series: The first of the fall alumni lecture series was held at the Engineers Club on Tuesday evening, Sept. 21. A reception was held from 5:30 to 6:30 p.m. to meet and visit with Dr. Norman Cox and student solar car leader Richard E. Jenkins '93.

Ron Jagels '86, '91, president of the section, discussed the upcoming alumni programs and introduced Dr. Norman Cox who discussed the building and racing of the UMR solar car. Richard Jenkins and Dr. Cox then responded to questions from those in attendance.

Attending: George Axmacher '42; Louis Scott Becker '86, '88; Ken Busch '72; Dave Diestelkamp '77; Paul Fleischut '85; John Graham '71; Ron Jagels '86, '91; Richard Jenkins '93; Phil Jozwiak '66; Rich Lacavich '69, '81; John A. Lauth '72, '73; James '54 and Betty McMullin; Milton J. Murry '64, '80; Jeff Stapleton '92 and Lisa Drewel; James Van Buren '63, '70; Ralph Wolfram '50; Dr. Norman Cox and Don Brackhahn.

The **St. Louis Section** lecture series was continued on Tuesday, Oct. 19, in the Engineers Club. Ron Jagels '86, '91 introduced Dr. David Summers who gave a slide presentation on "Water Jet Technology: From the Statue of Freedom to the St.

Miner Music Section

The **Miner Music Section** held its annual Homecoming meeting on Saturday, Oct. 2, 1993, following a rousing victory by the Miner football team and a wonderful halftime show by the UMR Marching Miners. The business meeting was held in the University Center-East on campus. Our most notable piece of business was the decision to begin an endowment fund through the Alumni Association. A committee chaired by Nicole Talbot '77 was assigned the responsibility of working out the details with the association.

We also wrapped up the loose ends of the banquet which was held this spring to honor Dr. David Oakley, our longtime friend and teacher. The banquet was held in conjunction with the Spring Band Banquet and good food and entertainment was enjoyed by all in attendance. At the banquet we presented Dr. Oakley with the plaque which is now on the music library door in Castleman Hall and a similar plaque for him to keep.

Following the meeting, we adjourned for our traditional dinner at Alex's Pizza, where we treated this year's Miner Music Section Scholarship recipient, Christopher DeBons, to dinner.

Attending: Craig Blair '92; Paul Buschmeyer '78; Lois (Luehrman) Crane '79; Lori (Stapp) Crocker '88; Bill Cunningham '73; Penny Cutler '91; Shawn Edwards '92; Tina Gazaway '93; Debbie Hunke '90; Kevin McCosh '82; Kris (Blevins) McCosh '83, '85; Cynthia Millangue '91; Tom Rogge '93; Al Rothermich '82; Randy Skaggs '89; Nicole Talbot '77; Christopher Tarnowieckiy '87, '89; Tony Crocker; Christopher DeBons; Amy Katschman; Joel Kramme; Libby Perkins; Karen Schoor; Doug Stotter.

If you are wondering about our section, we are a special section made up of MSM-UMR alumni who have participated in the musical groups for at least two semesters while attending MSM or UMR. Its purpose is to promote all of the current musical groups at the University of Missouri-Rolla.

If you were in a music group and have not been receiving our meeting announcements, contact the alumni office and update their records. We'd love to have you join us! We will keep you in touch with some of your old college friends, and we will all help out today's challenging musical programs at UMR. For more information, contact one of these members of the Miner Music Section: President, Randy Skaggs '89, 12822 Capistrano, St. Louis, MO 63141; Executive Secretary, Debbie Hunke '90, 5243 Ogilvie, Paducah, KY 42001; Membership Chair, Kevin McCosh '82, 11077 Century Lane, Overland Park, KS 66210. (Submitted by **Debbie Hunke '90**)

Louis Arch." The alumni questioned Dr. Summers for half an hour after his presentation.

Attending: Earl Bage '50; David Bross '74; David Diestelkamp '77; Doug Imrie '87; Ron Jagels '86, '91; Juri Jussup '70; Joe Krispin '54; John Lauth '72, '73; Gene Rovak '76; Todd Rush '82, '84; Don and Nancy Brackhahn and Dr. David Summers.

The third lecture of the fall lecture series was held Nov. 16, 1993, at 6 p.m. in the Engineers

Club. The CE department provided the program. Professor Roger LaBoube introduced the student participants in the steel bridge building contest. They constructed the bridge and then explained the contest and competition this past year.

Section president Ron Jagels '86, '91 discussed future activities of the organization.

Attending: George Axmacher



'42; David Bross '74; Ken Busch '72; Mike Ferretti '67; Ron Jagels '86, '91; Phil Jozwiak '66; Rich Lacavich '69, '81; Joe Mooney '39, '75; John L. Painter '50; Bob Schnell '78, '86; Don Brackhahn; David and Kathleen Bohler; Curt Krispin.

St. Louis Section Lecture Series

NEXT MEETING
April 18, 1993

For info call: Ron Jagels '86
314-531-4321 (B)

The St. Louis and McDonnell Douglas Sections got together on Friday, Dec. 10, 1993. The group met at 6 p.m. at The St. Louis Brewery Tap Room to socialize and to sample some of the six beers brewed on site at this micro-brewery. At approximately 9 p.m. the group boarded a chartered bus to East St. Louis for an excursion aboard the Casino Queen Riverboat. Most of the group tried their luck at the slot machines and black-

jack tables, while a few adventurous ones gave the craps tables a little action. By the end of the night, only a few lucky ones could report winnings, but everyone reported a fun and exciting evening as we boarded the bus for our trip home.

Attending: Kenneth Busch '72; Paul DeMay '64 and Mary Schumacher; Paul Fleischut '85; Randy Dreiling '81; Jim Whetsel '81, '83 and Lisa Gallagher '81, '83; Ron Halbach '64; Tom '50 and Bunny Herrmann; Mark '86 and Tricia Hoffman; Ron Jagels '86, '91; Phil '66 and Barbara Jozwiak; Ron and Nancy Kersten; Bill Kinney '92; Ralph '50 and Peggy Wolfram; Joe '74, '83 and Sherry Corce; Mark Deste-fano; Mike '67 and Georgia Ferretti; Angie '87, '91 and Jeff Gabbert; Jim Hendricks '91; Jim '61 and Jan Hines; Dave Siems '82; Eric Steutermann '87; Todd Rush '82, '84.

St. Louis Construction Luncheon—The construction arm of the MSM-UMR Alumni Association met at Kennedy's at the Riverfront in St. Louis, Mo., for

an annual holiday luncheon on Dec. 29, 1993, to renew acquaintances and to be brought up to date on UMR. Jim Van Buren '63, '70 organized the event and served as host.

Attending: Charlie Becker '63; J. Don Bicunas '65; Al Buescher '64, '83; Matt Coco '66, '84; Jim DeBold '66; Rick Johnson '83, '85; Rob Johnson '89; Rollie Johnson '62; Phil Jozwiak '66; Bill Kirchoff '64; Kraig Kreikemeier '63; George Krieger '63; John McManamee; Denny Meehan '64; Dan Miller '65, '71; Walt Mueller '63, '90; Don Reuling '64, '71; Gary Schumacher '63, '91; Robert Sieckhaus '63; Steven Sieckhaus '87; Thomas Sieckhaus '88; James Van Buren '63, '70; Todd and Ty Van Buren; Clarence Wagner '64; David Zimmerman '89; Don Brackhahn.

TMS Conference Reception: The MSM-UMR Alumni Association hosted a cash bar reception on Monday, Oct. 18, 1993, for alums who attended The Minerals, Metals and Materials Society Materials Week Conference

in Pittsburgh, Pa. Chris Ramsay '83, assistant professor of metallurgical engineering at UMR, greeted alums at the reception held at the Pittsburgh Vista Hotel.

Attending: George F. Carini '83, '87, '90; Gerald Feldewerth '86, '89, '92; Tom '39 and Agnes Finley; Chris Ramsay '83; Jeff '85, '86 and Mary (Besterfield) '86 Sacre; Mark Schlesinger '80; Louis Toth '70, '75; Janice (Wilkinson) '86 and Scott Zang; professors, J. Beverley Clark and Phil Leighly; students Aaron Boyle, Cathy Carlisle, Christy Chee-ley, Jenny Crede, Kristi Heinemann, Tara Hulse, Kristan King, Shashi Laddha, Ashwani Malhotra, Michael McClellan, Stephen Post, Liming Wang.

Industry Day Reception—Alumni who attended Industry Day at UMR on Sept. 23, 1993, included:

Lisa (Willhaus) Adams '93; Jerry Bayless '59, '62; Jeremy Buchanan '93; Dan Latal '74; James Nicks Jr. '77; Kevin Pielmeier.



Oliver '48 and Carol Kortjohn celebrated their 45th wedding anniversary at the West Florida Section dinner/dance cruise.

On Saturday night, Nov. 6, 1993, the West Florida Section held a dinner/dance cruise on the dinner yacht "Lady Anderson" operating out of St. Petersburg, Fla. A total of 44 persons attended, including 23 alums and their spouses or guests, filling up six tables on the yacht.

Section president John Van Nort '50 arranged the event. A broad cross section of alumni classes were represented, and several couples traveled a considerable distance to join in the activities. The evening was enhanced when we learned that Oliver '48 and Carol Kortjohn were celebrating their 45th wedding anniversary. The section is planning another function in

March 1994. (Submitted by William Gammon '49, '68)

Attending: Joe '69 and Diane Castle; Eugene '36, '69 and Jewell Daily; Steven '81 and Julie Diffey; Ed Foster '76; William '49, '68 and Dorothy Gammon; Jim '54 and Nancy Gerard; William '51 and Jane Harper; William '48, '71 and Junko Hartman; Oliver '48 and Carol Kortjohn; John '78 and Arden Little; Donald '63 and Michele Mason; Belding '38, '76 and Ruby McCurdy; John '42 and Barbara Olsen; Emil '50 and Helen Roloff; David '80 and Kathy '83, '89 Schmitt; Ronald '92 and Michelle Shankland; John '50 and Marjory Van Nort; Robert '55 and Betty Walsh; Jack '53 and Margo Wheeler; Thomas '69 and Jo Wilcox; Dick '63 and Kay Willard; John '50, '51, '69 and Jean Williams.

PROSPECTIVE STUDENT RECEPTIONS

We appreciate the support of the following alumni and friends in attending prospective student receptions this fall, helping UMR to recruit another outstanding freshman class in the fall of '94. Thanks!

Paducah, Ky. - Sept. 25

Eugene P. Larson '51 (master of ceremonies); Herbert McColgen '43; Dudley Castro '51; Gene Edwards '53; Frank B. Conci '54; Carl Wilson '62; Donald Fuller '66; Randall L. Skaggs '89; Debra Hunke '90.

Kansas City, Mo. - Sept. 18

Lucien Bolon '59 (master of ceremonies); Cliff Tanquary '57; Deborah King Rhone '87; Janet Alfermann '93; Michael Wilson '79; Joseph Reichert '59; Ferrill Ford '78; Floyd Harris '74; Delbert Day '58; Lindsay Bagnall '76; parents Paulette and Carney Williams.

Rolla, Mo. - Oct. 24

Merrill Stevens '83, (mistress of ceremonies); Virginia Heikkinen '88; Lelia Flagg '60; Karon

Matlock '91; Ed Hornsey '59; Julie Griffith '93; John Buckwalter '71; Marylou Shomaker '90; Jerry Bayless '59; Armin Tucker '40; John E. Smith '51; Jack Painter '50; Dan White '62; Lindsay Bagnall '76.

McDonnell Douglas

St. Louis, Mo. - Nov. 6

Paul Segura '88 (master of ceremonies); Christa Andrew '85; Lindsay Bagnall '76; Steve Baldwin '84; Jerry Bayless '59; Dan '90 and Jill '87 Finklang; Alice Gilbert '84; Virginia Heikkinen '88; Rick Jenkins '93; Bill Kirk '85; Vic Ratkowski '78; Melvin Rueppel '66; Lynn Segura '87; George Sessen '64; student Daniel J. Troesser.

Southwestern Bell, Downtown St. Louis, Mo. - Nov. 13

Ron Jagels '86 (master of ceremonies); Rich Vehige '68; Ernie Banks '81; Dan White '62; Lindsay Bagnall '76.

Tulsa, Okla. - Nov. 13

Roy Wilkens '66 (master of ceremonies); Craig '90 and Cyn-

thia (Gereau) '90 Bailey; Tim '89 and Jane '90 Coppinger; Lori Stapp Crocker '88; Russell A. Gund '40; Henry Hachmuth '67; Jeff Ivers '74; Ron LaManque '85; Glen Larsen '70; Ernest Moran '27; David P. Spencer '74; Joe Vitali '59.

Springfield, Ill. - Nov. 14

Ed Midden '69 (master of ceremonies); Bill '75 and Linda '72 Yamnitz; Bernie Held '75; David Lambeth '72; Dennis Blunier '70; David Tepen '90; Patrick Giacomini '83; Patrick Toby '88; Lee Meyer '70; Jim Davis '70; Tom Feger '69; and Bob Uthoff '52.

Springfield, Mo. - Nov. 14

Larry '79 (master of ceremonies) and Carol Wolf; Jerry Bayless '59; Tom Van Doren '62; Doug Carroll '91; Scott George '72; Harry '30 and Zealia Kirkpatrick; Eugene Merti '60; James Rekus '70; Kevin Skibiski '75; Ralph Tate '72.

St. Charles, Ill. - Nov. 20

Bob Saxer '61 (master of ceremonies); Jim Hunn '72 and son; Joe '81 and Lea Anne '81 Howell; Michael Moran '72 and son; Stephen Schade '74; Robert J. Wilson '62; parents Sue Baldwin and Julie and Rich Rogers.

Amoco Headquarters, Downtown Chicago, Ill. - Nov. 21

Greg Skannal '85 (master of ceremonies); Stacey Dedic '92; Paul Gerhardt '65; Richard Phelps '68; Bob Saxer '61, '62; Shawn Sitton '92; David '69 and Carol Spencer; Jim Unnerstall '56; Bob Wilson '62.



Prospective student Janielle Taylor receives a sweatshirt doorprize from Greg Skannal '85 at the Chicago Amoco student reception.

Around the Country

Alumni Events

- APRIL** Alumni Board Meeting
16 Rolla, MO
Alumni Office
314-341-4145
- 16 Order of the Golden Shillelagh Dinner
Rolla, MO
Sherry Adams
314-341-4002
- MAY** 50-Year Reunion
12-14 at Commencement
Rolla, MO
Alumni Office
314-341-4145
- 17 St. Louis Lecture Series
Ron Jagels '86
314-531-4321 (B)
- JUNE** North Alabama Section
23* Doug Morris '89
205-430-5228 (B)
- AUG.** Booster Club Football
13 Picnic
Jim Anderson
314-341-4175
- SEPT.**
** Central Ozarks Section
Shrimp Feed
Merrill Stevens '83
314-762-3518 (H)
- 11 Booster Club Women's Basketball Picnic
Linda Roberts
314-341-4175
- 21 Industry Career Day Reception
Rolla
Jamie Archer
314-341-4343
- OCT.** HOMECOMING
7-8 Alumni Office
314-341-4145
- 22 Parents' Day
Alumni Office
314-341-4145
- *Tentative
** To be announced

Twenties & Thirties

1928

• **Albert L. Hill**, CE, still remembers his student loan and writes, "Carry on."

1930

• **Edward T. Regehardt**, CE, celebrated 25 years of retirement Dec. 31, 1993.

1931

• **George M. Pace**, CE, spends his retirement years in Cincinnati in the summer and in Florida in the winter. His address is 708 Lake Blue Dr., Lake Placid, FL 33852.

1932

• **Edwin O. Crawford**, CE, writes, "My civil engineering training and experience has enabled me to somewhat judge the distance between my ball and the pin." • **Dr. Frank J. Zvanut**, CerE, writes, "Married 56 years to Kay Haymes, dancing teacher in Rolla, 1934-37. We have five children and 12 grandchildren, and we're still dancing, playing tennis and enjoying the weather in east Texas."

1933

• **Ellen Woodman Doll**, Chem, writes, "Had a marvelous three weeks in Europe this summer with my son, **Warwick Doll** (ChE '65), and his wife and son. Rented a car to visit chosen spots in Germany, Switzerland, Austria, Belgium and Holland." • **Alfred H. Hesse**, MetE, and **Emilie** enjoy good health and spend summers on the Lake in Douglas, Mich., in California or in

Florida. • **Charles H. Lambur**, MinE, has improved after a stroke and a two-week hospital stay last May. • **Alvin A. Wehrman**, CE, retired from the Army Corps of Engineers in 1971 and served six years of active army duty.

1936

• **George O. Nations**, CE, sends best wishes to all. He and wife **Miriam** are retired in sunny California. • **Herman J. Pfeifer**, MetE, is retired and in good health, doing volunteer work and playing golf regularly. • **Edward A. Roy**, ME, reports that after five-way heart bypass surgery and corrections of other complications, he and **Mary Louise** enjoy boating and fishing on Lake Erie again.

1937

• **Walter F. Breuer**, CE, fondly remembers MSM and his job with the U.S. Army Corps of Engineers.

1938

• **Charles L. Clayton**, MetE, and wife **Martha** became great-grandparents in August 1993. • **Harry L. Gerwin**, ME, went back to school in January 1992 to become a certified video producer. "I have produced two videos on square dancing and one comedy," he writes. "I am now doing the research and script writing for two new videos." • **Chilton E. Prouty**, MSGGph, retired from Michigan State University eight years ago but still explores the Michigan Basin applying the shear model concept. Chilton writes, "Next year at this time I will become an octogenarian."

1939

• **Harold C. Miller**, EE, retired in 1991, remarried in 1992 and stays busy consulting and traveling. • **Jack W. Moore**, ChE, writes, "Twelve years retired; still

going one day at a time. Greetings to all '39ers."

Forties

1940

• **Charles E. Hall**, CE, reports, "We keep going on trips, mostly in the States. We were in Jeff City over July 4 but managed to keep our feet dry."

1941

• **Andreas A. Andreae's**, ME, granddaughter, **Kristin**, will graduate as a chemical engineer from the University of Virginia in May. • **Hermann F. Bottcher**, ME, reports good health after a double bypass surgery in November 1992. He and **Margaret** spend time traveling and visiting with grandchildren. • **William J. Kilgour**, MGeo, works as a consultant on exploration and development projects that look interesting, and meanwhile enjoys his retirement hunting and fishing in northern Ontario. Classmates may write Box 6, Foleyet, Ontario P0M1T0, Canada. • **Arthur W. Retzel**, a non-degree student at MSM, writes, "Still alive and kicking. Now travel for the fun of it. Swim, dance and flirt with compatible women!"

1942

• **Robert M. Brackbill**, MinE, visited with **Joe Kelier**, PetE '45, in Seattle in September 1993. Brack and Joe are Sigma Nu fraternity brothers. • **Julian A. Fuller**, MinE, writes, "Just returned from three week tour of Eastern Mediterranean. Absolutely fascinating; should have done it 50 years ago." • **Vernon T. McGhee**, MinE, made it to the Class of '42 Reunion in Williamsburg and to the Golden Shillelagh in Shangri-La, but he missed Homecoming because it conflicted with his trip to Italy. • **Herbert E. Pagel**, MinE, sells locomotive clones, bridge clones and

switch engines in his retirement and is looking for customers. When he finishes reading the *MSM Alum-nus*, he donates it to a Birmingham grade school library. • **Bion D. Pewitt**, EE, writes, "Retired in '84 after 39 years with RCA, Camden, N.Y. Served in World War II as captain in Signal Corps in Panama Canal Zone." Bion and **Harriet** live in Maryville, Ind. • **Charles E. Zanzie**, EE, is active in "United We Stand America" and reports wife **Meg** is doing well at oil painting.

1943

• **Howard W. Durham**, CerE, calls his 50th reunion in May 1993 "a truly wonderful experience. It makes you very proud to be a member of the alumni of MSM." • **Edward E. Gygax**, ME, writes that the highlight of his past year was the '43 class reunion. • **Albert S. Keevil**, CE, works for the Society of National City Engineers and spends weekends as a fireman, brakeman and civil engineer for the San Diego E. Arizona Tourist Railway. • **Edward T. Kendall Jr.**, ME, really enjoyed the class of 1943 reunion at graduation in May 1993. He writes, "Hats off to **Pat Quinn** (ChE '43) for remembering our Model A trip to Colorado in '42."

1944

• **J. Richard Hansen**, EE, looks forward to the class of 1944 50th anniversary of graduation in May, after viewing the solar eclipse. He has viewed eclipses for many years in such places as Africa, Indonesia and Mexico; for information, write 1462 Jefferson Heights, Pittsburgh, PA 15235. • **Warren L. Larson**, MetE, writes, "After being involved in superconductor materials for 27 years, I am now retired from Supercon Inc. and am doing part-time consulting work. Am looking forward to our 50th reunion at MSM-UMR." • **Thomas J. Mazzone**, ME, retired from Ford Motor Co. and lives with wife **Milly** in

AN MSM MEMORY

Largo, Fla., in winter and in Georgia in summer. They have three "degreed, professional" sons and six grandchildren. Thomas hopes to see his friends in Rolla for his 50th reunion. • **Peter Mushovic**, MetE, retired from General Motors Corp. after 41 years of service. • **Charles L. Rakestraw**, ChE, is the owner and manager of 32 units of apartments and houses in Kansas City, which keep him busy in his retirement. • **O. Morris Sievert**, ME, retired as president of Solar Turbines International after 25 years of service.

1946

• **Robert P. Connett**, MinE, writes, "Still keep too busy with hobbies and volunteer work."

1947

• **Eugene N. Bennett**, MinE, retired from Amoco Corp. in London, England, after 35 years of employment. He writes, "I am now 74 years old, my wife 72 years young." • **Eloy M. Cueto**, MetE, retired in 1988 after 39 years in the steel industry and lives in Troy, Ill. • **Kenneth W. Vaughan**, CE, had a great time seeing friends and classmates last May at the 1943 golden graduation ceremonies.

1948

• **Peter F. Bermel**, CE, received a Presidential Rank Award as meritorious executive under the senior executive service with USGS. • **Nace Mefford**, PetE, has

semi-retired to his hometown in Virginia as an oil and gas consultant and petroleum engineer. • **Kenneth E. Niewoehner**, MetE, was editor of the steel products manual "Carbon Steel, Wine and Rods," published in August 1993 by the Iron and Steel Society of A.I.M.E. • **Lawrence F. O'Neill**, CE, enjoys his retirement in Bonne Terre, Mo., and reports that his eighth grandchild arrived last July.

1949

• **Gordon L. Carpenter**, ME, writes, "Had heart attack and then open heart surgery; almost back to normal. Still writing textbooks for EE in electronic circuit design. My book is the number two seller in the country and number one overseas. The new edition is due out next year." • **John E. Stein**, PetE, and wife Dorothy have traveled extensively since retirement. They recently visited the ancient ruins of Pompeii, Italy; Ephesus, Turkey; Corinth, Delphi, Mycenae and Acropolis in Greece; Jerusalem and Bethlehem in the Holy Land; and Istanbul. • **William C. Teas**, CE, reports his retirement as of December 1992.

Fifties

1950

• **Eugene A. Bartels**, CE, and Marilyn became first-time grandparents with the birth of Jennifer Ann Thies on Oct. 11, 1993. Since

In September 1939, as a freshman at MSM, I was subjected to the hazing known as "pantsing" at any time. One bright sunny and warm late morning I fell victim to several sophomores on campus because I was unable to answer a question on which, of course, the freshmen had not been previously briefed. I was told my pants could be picked up at the beauty shop on downtown Pine Street.

Hey, I was not about to parade downtown in my BVDs, so I figured I'd outsmart these guys by going "home" for another pair of pants. Only one problem developed--my "home" at college while I was away from home was located on the north side of old Highway 66 (ed.: now Highway 63--the campus is on the south side). So after trekking along the west side of Jackling Gym, through the upper athletic field and past the grounds which now contain the Catholic church, I crossed Highway 66 clothed only in a sweatshirt, shoes, socks and BVDs. This is 1939 and not normal attire!

As I safely crossed the highway, a car passed with a young girl in the rear seat. Although the occupants of the front seat (her parents, I presume, on their way from L.A. to Chicago or points in between) did not see me, she did. As she tried to call attention to my attire, I don't remember if her eyes or her pointing showed the most surprise. Her parents probably never believed her.

—John C. Schilling '43



retiring in 1985, Gene travels extensively and tends their daylily garden. • **D. Wallace Breuer**, MSCE, represented UMR at a high school College Day in November 1993. • **Joseph E. Hallemann**, EE, enjoys retirement, volunteer work and traveling. • **William Hollis**, MetE, writes that he is approaching his 80th birthday and that he and Charlotte enjoy full, productive days. • **Robert E. McDonald**, MetE, and Barbara moved from Florida to Raleigh, N.C., and love the Rolla-like countryside there. • **Joseph Milich**, ME, enjoys retirement from United Technologies with golfing, hunting, fishing and woodworking. • • **Mervin E. Shanafelt**, ME, writes, "My last 20 years of employment have been in the area of steam and gas turbine development as well as computer design programs. Any new developments in turbomachinery and cycle design and computer design and performance prediction methods are of special interest to me." • **Seymour Subitzky**, MinE, continues part-time work at the USGS and serves as a volun-

teer in the visitors' center, as well as keeping up his piloting as weather permits. • **John M. Vance**, ME, writes, "Enjoying retirement, some travel and spending time with the grandchildren. I have relatives in Rolla and enjoy spending time there."

1951

• **Kenneth E. Burkhead Sr.**, CE, retired Dec. 31, 1993, after 42 years and five months of working with the City of Kansas City, Mo., Water and Pollution Control Department. • **Gilbert L. Crowell**, CE, writes, "My retirement was timely in that Hughes has transferred most missile manufacturing to Tucson, Ariz., and my home has been in Vista, Calif., for 23 years." • **George R. Donaldson**, PetE, is semi-retired and keeping busy as a consultant. • **Donald J. Dowling Jr.**, ChE, is building a second home in Sun City West, Ariz., in a retirement community with six golf courses. • **Neal B. Dowling**, EE, reports that wife Betty is still undergoing chemotherapy but tolerating her



Eugene J. Peetz, EE, and wife Anita enjoy a relaxing life of retirement at Lake St. Louis and driving a car with very special license plates.

medication well enough for the two to do a little traveling. They hope to visit Rolla soon. • **Ervin E. Dunn**, ME, writes, "After six years living aboard our sail boat, we have buried the anchor and built a house on the water in Fernandina Beach, Fla. It has a guest room, so visitors are welcome." • **William W. Fairchild**, GGph, writes, "I am spending more time on non-geological interests--jazz piano playing, gardening and motorcycle competition (observed trials). I would like to hear from other alumni." • **Charles "Ron" Ferry**, EE, and wife Nora report they are hanging in there despite Ron's diabetes and Nora's bout with cancer. • **John A. Hirner's**, EE, wife, Susan, graduated in May 1993 with a masters of social work from Rutgers University. She joined her husband, parents, sister and brother, all of whom have at least a master's degree. • **Roy G. Miles**, GGph, will retire as head of geology and physical sciences at Virginia Western Community College. He looks forward to traveling and fishing. • **Paul S. Pender**, ME, works with the National Taxpayers Union to fight for lower taxes for senior citizens with low retirement income. • **Joseph E. Perryman Jr.**, ME, and wife Nancy moved to Hot Springs, Ark., to enjoy the pines, the golf and the people. • **William E. Rush-ton**, ChE, retired in June 1993 after 35 years with Swenson Process Equipment in Harvey, Ill. • **William M. Shepard**, GGph, is serving as interim executive director for S.M.E. • **Thomas A. Simpson**, GGph, retired as associate professor in the department of mineral engineering at the University of Alabama-Tuscaloosa. • **Wilbert K. Theerman**, CE, retired from McCarthy Brothers Co. last April. Wilbert continues to work with the company as a consultant on construction projects.

1952

• **Kenneth L. Birk**, ChE, retired Aug. 1, 1993, after 39 years with Mobil Corp. • **Paul Hausner**, MetE, retired in October 1992 after 17 years with FMC Corp. in San Jose, Calif. • **Leslie F. Holdman**, EE, writes, "Golfing and fishing are great at Fairfield Bay, Ark." • **Richard L. Light**, ME, lives in Nagoya, Japan, where he and wife Dorothy work with the Presbyterian church in that area. • **Ernest J. Reeves**, ChE, does volunteer work for the IRS in Florida, when he's not busy fishing. • **Turner "Bill" Richards**, MinE, and Evelyn have been retired for two years. They live in Washington state during summer and in Texas during winter. • **O. Timken Yager**, ME, retired as manufacturing manager of Columbia Corp. and enjoys hunting, fishing and working his nursery.

1953

• **James L. Knearem**, ME, retired from Grindsted Products Inc. October 31, 1993, although he continues as a consultant to Grindsted and other companies. James and Mary Lou's new address is 3043 Highway K, Conover, WI 54519. • **William W. Kronmuel-ler**, CE'53, writes, "Enjoyed 40th reunion on campus." • **Robert C. May**, ChE, and Betty moved to a new home on Cape Hatteras, N.C.



• **Edward L. Calcatera**, CE'52, was presented the Management Man of the Year Award by the St. Louis Building and Construction Trades Council, AFL-CIO. Edward is president of J.S. Alberici Construction Co. Inc., which received the 1993 Chrysler Corp. Platinum Pentastar Award.

POLICY FOR PUBLICATION OF ALUMNI NOTES IN THE MSM ALUMNUS

- 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.
- The MSM Alumnus will announce deaths if information is submitted by an immediate family member, or from a newspaper obituary.
- We will print addresses if specifically requested to do so by the alumnus submitting the note.
- We reserve the right to edit alumni notes to meet space requirements.
- We will use submitted photos only as space permits.

• **John R. Seipel Jr.**, CE, writes, "Have all but closed out my consulting business. Simply enjoying life and golf."

1954

• **Wayne M. Aceto**, ME, is running natural gas procurement and supply management for 21 cities and is working on a feasibility study and design for two hydro-electric installations. He spends afterhours with wife Peggy, his three children and his grandchildren. • **Robert W. Anderson**, MinE, lives in Tulsa since his retirement from Henkel Chemical in 1991 and spends a lot of time at his and Geneva's cabin on Table Rock Lake. • **Fredrick B. Burns**, EE, retired as a vice president with Newell Co.'s EZ Paint in January 1993 and in February received Newell's Chief Executive Officer's Award of Outstanding Contribution. Fredrick made brushes with EZ Paint for 31 years, with his name on 22 U.S. patents. • **Jack B. Dowell**, ME, retired as vice president after 27 years with John H. Carter Co. in August 1993. He plans to travel and to enjoy his family. • **James A. Gerard**, CE, and Nancy moved to Orlando, Fla., last January to enjoy warmer weather. James works as a sales engineer manager for Universal Recycled Water Systems, which recycles wash water from bus and truck washings. • **Joe E. Gray**, retired from Bell Helicopter in December

1993 after 25 years, writes, "Eddie and I hope to visit a few of my Sigma Nu brothers. Let this be fair warning to them. I look forward to the '94 Homecoming and my 40th anniversary from MSM." • **Richard M. Pracht**, MetE, has fully retired from Alcoa and continues to live in Lafayette, Ind.

1955

• **Everett J. Collier**, ChE, retired after 36 years with Procter and Gamble Co. • **Richard L. Jones**, MetE, retired from General Dynamics in February 1991 and is pursuing a career in investment management. He and Janis cruised the Black Sea and the Mediterranean aboard "Crystal Harmony" during summer 1993. • **Donald L. Kummer**, CerE, retired from McDonnell Douglas Corp. after 37 years of service. His last position was vice president and general manager of the advanced cruise missile. Donald and Martha continue to live in St. Charles, Mo.

1956

• **Gilbert G. Jurenka**, PetE, sold his interest in Covington Energy Corp. and retired in October 1993. He writes, "Anyone interested in a great southern Louisiana fishing trip, please give me a call." • **Arthur Reetz Jr.**, MSPHys, worked as program engineer for the Voyager and the Hubble Space Telescope and worked as program



manager for the Compton Gamma Ray Observatory before his retirement from NASA. • **Dale J. Schilling**, ChE, retired in April 1993 from Mallinckrodt Medical Inc., where he worked as corporate director of health and safety.

1957

• **John R. Anderson**, ME, retired in June 1993 after 35 years with Texaco and Star Enterprises. • **Billy W. Franklin**, CE, has enjoyed retirement since 1992. • **Thomas E. Kalin**, ME, is organizing the Black and Veatch power division effort to engineer and construct coal-fueled power plants in China. He gave a paper on the subject in Hong Kong and in Beijing, China. • **Alfred E. Segelhorst**, EE, retired Dec. 1, 1993, after 36 years with Hughes Aircraft Co. and writes, "The career was not only professionally rewarding but also allowed me to visit all of the continents of the world."

1958

• **George E. Franke**, CE, was appointed director—equipment division for the Kentucky Department of Highways, Transportation Cabinet, with a fleet of over 15,000 pieces of equipment. • **Philip W. Jackson**, CE, writes, "Now enjoying the good life." He retired from the Missouri Highway and Transportation Department in September 1992 after 35 years of service. • **Thomas E. Light**, ME, enjoys his retirement in Sacramento, Calif. • **Paul R. Munger**, CE, CE professor at UMR, received the President's Award from the American Society of Civil Engineers in October 1993 during the A.S.C.E.'s annual convention in Dallas, Texas. Paul also was appointed to the Governor's Blue Ribbon Task Force to oversee building code enforcement investigations in Branson, Mo. • **E. Robert Schmidt Jr.**, ME, moved to Cincinnati, Ohio, and is manager of safety analysis at FERM Co., involved in environmental restoration.



• **Lloyd E. Reuss**, ME '57, was elected chairman of the board of trustees at Lawrence Technological University in Michigan. Lloyd has been a university trustee since 1978.

1959

• **Alan H. McHugh**, CE, writes, "Retired. Yahoo!" • **William J. Moses**, ME, and Marilyn announce the birth of their third grandchild, Taylor Moses, May 26, 1993. • **Joseph F. Reichert**, CE, reports his son, Edward S. Reichert, is a sophomore in CE at UMR and lettered in football as a freshman. • **Charles S. Schneider**, EE, retired after 35 years with Boeing in Kansas. • **Paul H. Slinker Jr.**, CE, retired from the U.S. Army Corps of Engineers in November 1993; he continues to live in Mississippi. • **Dr. Victor F. Spruill**, CE, retired from arbitrating construction disputes and does database computer programming for Spruill and Associates. • **William O. Statler Jr.**, ME, joined Innovative Control Systems as a principal engineer in October 1993. He writes, "The company is involved in applying digital controls to replace hydro-mechanical and analog controls on steam and combustion turbines." • **Thomas L. Tucker**, ME, retired from consumer financing and auto dealing after 25 years and from the U.S. Naval Reserve after 26 years. He leads a musical group, "All That Jazz," which plays in St. Louis and the surrounding area. • **Donald E. Werner**, CE, retired from the Kentucky Department of Transportation in October 1992 after more than 33 years of service.

Sixties

1960

• **Dr. Bruce L. Bramfitt**, MeE, is a research fellow at Bethlehem Steel, which is modernizing one of two remaining U.S. rail mills in Steelton, Pa. Bruce is traveling to Luxembourg and Belgium to purchase new rail mill manufacturing technology. • **Anthony Del Prete Jr.**, GGph, Gloria and son Mike have been snorkeling and scuba diving on a great trip to St. Thomas in the Virgin Islands. • **Walter H. Dickens**, CE, and wife Betty are retired and living at Dixon, Mo. • **Marvin D. Lutz**, EE, writes, "I've chosen stamp collecting for my retirement enjoyment. Would like to share this interest with other alumni. Will answer all letters: 500 SE 3rd St. Apt. 16, Lee's Summit, MO 64063." • **Paul B. Medley II**, EE, was transferred to Puget Sound naval shipyard, Rockwell International office, for his last assignment prior to an anticipated retirement in 1994. • **Hossein R. Keshari**, ChE, writes, "Retired from Owens-Illinois July 1, 1993, after 33 years. This early retirement should provide some opportunities for consulting and other ventures. Plan to stay in Sylvania, Ohio, for the time being." • **Gene L. Scofield**, ME, retired from General Motors' Technical Center in Warren, Mich., in January 1993, after over 32 years with GM.

1961

• **Charles A. Blake**, ChE, retired from Hercules Inc. in May 1993. He and Caroline sold their house and live full time in a motor home, intending to travel the United States and Canada. • **S. Mitchell Bowers**, ME, does volunteer work for his church and a neighborhood organization in St. Louis, Mo. • **Harry C. Hank**, ChE, was promoted to director—environment, health and safety, for PPG Industries' Chemicals Group last fall. Harry also became a member of

the group operating committee. • **George H. Jordan**, ME, works for The Benham Group of Engineers and Architects in St. Louis, Mo. • **James B. Marble**, PetE, retired from Schlumberger two years ago. • **A. Dale Mears**, ME, was promoted to manager, international programs, for General Electric's lighting division, responsible for program management and technical support to G.E. Lighting's affiliates in Europe, Asia Pacific and South America. • **John W. Ricketts**, ME, transferred to Albany, N.Y., to take the position of vice president of the Norton Co.'s coated abrasives division in North America. • **Richard Spieldoch**, CE, and Jody retired in St. Louis and are loving it. Dick writes, "Books, computer and travels to reunions fill the time. Come visit; all old friends welcome!" • **Clyde Waldo**, EE, retired as unit chief of technology at McDonnell Douglas after over 30 years of service; he lives with wife Ellen on their 250 acres near Hermann, Mo.

1962

• **Francis J. Brady**, ME, retired from the U.S. Army in April 1993 after 28 years of service at the U.S. Army Aviation and Troop Command in St. Louis. He writes, "Looking forward to the future." • **Lindell E. Elfrink**, CE, retired from the U.S. Department of Interior, Bureau of Reclamation on Oct. 1, 1993. • **Gerald P. Rencehausen**, EE, retired from Ohio Bell Co. in January 1993. • **Dinesh K. Shah**, ChE, reports that older daughter Natasha finished four years at UCLA and is busy looking for a medical school, while daughter Tonia is a freshman at the University of California at Berkeley. • **Gary L. Stripling**, ME, works as commercial engineering manager for Chrysler Technologies Airborne Systems Inc. in Texas. • **Craig A. Valentine**, GGph, was promoted to chief of the services contracts unit at Kadena Air Base in Japan to take over the quality assurance of service contracts. • **Gerald J.**

York, ChE, was promoted to manager of the FBM project engineering department for Hercules Aerospace at their plant in Salt Lake City, Utah.

1963

• **Edward Benn**, NucE, writes, "I have given up ever working in the nuclear field again, even in waste cleanup. I still think it is a fascinating field with great potential. Maybe when the oil runs out..." • **Donald G. Mason**, CE, retired to Sarasota, Fla., in 1992 to enjoy fishing, cruising and fun in the sun. • **Ronald D. Mitchell**, ChE, was appointed consultant in the component technology activity of Bottis Atomic Power Laboratory for Westinghouse Electric Co. • **Georgina More**, MetE, and A. de la Torre were married in 1990. Georgina is principal staff engineer with Motorola Inc., energy products division, in Florida. • **Narendra M. Naikimbalkar**, MSGGph, wife Magdalena and son Alexis took a long vacation through Maine, New Hampshire, Rhode Island, Massachusetts, Vancouver and British Columbia in August 1993. Narendra and family live in Washington state.

1964

• **Dr. Edward H. Crum**, MSChE, works as chairman of the chemical engineering department at West Virginia Institute of Technology. • **Ted Garrett**, MetE, has completed 27 years with Bethlehem Steel. He is manager of product applications in Detroit, working on early involvement projects with the engineers and designers of the major auto firms. • **Charles G. Lyons**, CE, works as Exxon's Santa Ynez Unit manager. The unit is completing a \$1.5 billion expansion of oil and gas-producing facilities at Santa Barbara, Calif. • **Milton J. Murry**, EE, transferred to the marketing division of Union Electric and reports that son James

earned his bachelor's in EMgt in July 1993. • **Lewis C. Sowell Jr.**, MSCE, is retired and working as a part-time consultant and as a part-time faculty member at the Colorado School of Mines.

1965

• **Milton F. Bradley**, GGph, was promoted to supervisor of environmental affairs and land manager at Cominco American-Magmont Mine in Bixby, Mo. • **Jay S. Kallor**, MetE, was promoted to manager of international requisitions at General Electric, supporting the effort of GE Transportation Systems for locomotive power worldwide. • **M. Owen Lasker**, MetE, and wife Patty live on a mountainside in New Hampshire. Owen was promoted to vice president of investments for Fahnestock and Co., and his daughter is a sophomore at Arizona State University. • **Robert L. Otto**, CE, transferred to the Texas Department of Transportation. He also retired from the U.S. Army Reserves with over 28 years of service. • **Gerald J. Roe**, MetE, was named a Distinguished Member of the Iron and Steel Society, the highest honor awarded by the society, in October 1993. Gerald's parents, **Lawrence A. Roe** (MinE'39) and Kathryn, write that they were proud to attend the presentation.

1966

• **John V. Andesilich**, CE, gave the commencement address for the tenth year graduation of Christ the Rock Bible College in Nigeria during a two-week missionary trip through the Delta State area in October 1992. His wife, Cynthia, was featured soloist at the commencement. • **Glen N. Chaffin**, MetE, started his own consulting business, Quality Challenges, specializing in ISO-9000 training. • **Thomas H. Jordan**, CE, completed 28 years of service with Texaco in January 1994 but becomes an employee of Huntsman Corp. this month, as Huntsman purchased



• Chancellor **John Park** (right) expresses the university's appreciation to **Lou Smith**, EE'66, president, Kansas City Division, Allied-Signal Aerospace Co., for his serving as chairman of the University's Corporate Development Council from 1991-1993.

Texaco Chemical Co., where he has worked for nine years. • **Thomas J. Woodall**, CE, writes, "I hope everyone realizes the tragedy to U.S. science and educational leadership that was imposed by Congress's vote to cancel the superconducting super collider project."

1967

• **Harold E. Hughes**, CE, retired from the U.S. Coast Guard Reserves after 26 years of service. • **Thomas M. Petry**, CE, is a professor of civil engineering at the University of Texas at Arlington. He has worked at UTA for 20 years and is specializing in geotechnical engineering.

1968

• **Lawrence H. Luebbert Jr.**, ME, relocated to a new job at Oral-B Laboratories in Iowa City, Ia., in



• **Michael L. Deelo**, MetE'67, joined The Doe Run Company in Missouri as sales manager, lead. He was formerly director of marketing at Zinc Corp. of America in Pennsylvania.

January 1994. • **Norris W. Perry's**, EMgt, family is staying busy. Son Travis is looking for a job after earning his MBA from Western Michigan; daughter Dana is expecting a child this month; daughter Laura is a freshman in Virginia and wife Laura shows thoroughbred horses year-round. • **Richard E. Sharp**, CE, continues to work as a consultant for Panhandle Eastern Corp. after retiring from the company in 1989.

1969

• **Fred N. Bondurant**, ME, retired from the Air National Guard as a lieutenant colonel in December 1993 after 24 years of service. • **David L. Gray**, EE, was ordained as an elder in October 1993 at the Big Cove Cumberland Presbyterian Church in Brownsboro, Ala. • **Subhash G. Kelkar's**, MSME, position at Ford was reclassified in July 1993 as senior engineering specialist-C.A.E. methodology and applications. "This marked my switching over to the technical ladder, with a promotion," he writes. • **John E. Krueger**, AMth, moved to the Dallas area in 1992, making the Kruegers' third move in three years. John's daughter is a senior on the dean's list at Graceland College, and his son is a sophomore following a 4.0 freshman year. • **Larry Schnurbusch**, EE, was elected an officer of Laclede Steel Co. after starting as a summer engineer 25 years ago. Larry lives with wife Bev; Scott, 16, and Laurie, 13, at 12248 Winrock Dr. in Creve Coeur, Mo. • **Claude Strauser**, CE, was the key speaker at the 49th annual meeting of the St. Charles Soil and Water Conservation District on the topic of the history of the Mississippi and the Flood of 1993. Claude is a senior river engineer with the U.S. Army Corps of Engineers' St. Louis district. • **Douglas M. Thies's**, EE,

Continued on page 30

A GENERAL'S IMPRESSION:

A tradition of mentoring spells success for Fort Leonard Wood's first African-American commander

By Loretta Howard

"When I was a young major at Fort Campbell, Ky.," says Maj. Gen. **Joe N. Ballard**, "I ran across a very bright colonel at the time. I learned from watching him and he was able to help me out quite a bit."

That colonel was Colin Powell, who went on to become the first African-American to chair the Joint Chiefs of Staff.

Not a bad example to follow.

Powell is one of many mentors who have influenced Ballard, who last July became the first African-American to be named commanding general of Fort Leonard Wood, Mo., and commandant of the Army Engineer School there. Ballard acknowledges that his appointment is historically significant.

"Being a black general officer brings its own type of attention," says Ballard, recalling the attention it garnered at his first news conference as commanding general. "The very first question asked of me by the media," he says, "was, 'How does it feel to be the first black two-star commander at Fort Leonard Wood?'"

"But just as I am the first black in many things that I do, that is OK. Someone has to be first."

Many people have influenced the life and career of Ballard, who earned his master's degree in engineering management from UMR in 1972. Some of those mentors, like Powell, are well known. Others, like Rolla residents **Lawrence** and **Catherine George** (Lawrence George is now in charge of affirmative action for the campus), and the late **Carl G. Christie**, Ballard's faculty adviser at UMR, are known to the campus community for their accomplishments locally.

Throughout his life, he says, "Somewhere along the line someone recognized my talents and sort of guided and helped me."

Now, as Fort Leonard Wood's highest-ranking officer, Ballard is in a good position to continue this legacy of mentoring.

"I have dedicated myself to the fact that the only way we are going to have a better Army is to make sure that we train and mentor," Ballard says. "I think I owe it to my mentors to carry on the tradition -- to be a very positive mentor and to be a role model. I don't shirk that responsibility at all."

Ballard also believes in serving as a mentor to today's UMR students. He is doing that by participating in events such as the Chancellor's Leadership Class, and as a speaker for other UMR-related events, such as the local NAACP chapter's "Yes I Can" banquet held at UMR in January. Ballard was the keynote speaker at that banquet.

"Alumni have an obligation to participate to the maximum extent with their alma mater," Ballard says. "This is what makes a university great. The university has to do a lot of caring and nurturing of former gradu-

ates. Like a good family, it starts early on. ... A good university never neglects its students, whether they are present or former. UMR has tracked me all over the world, even though I have never submitted a change-of-address card. They are very good about it, and as a result I am very supportive of this institution."

Ballard spent one year as a full-time graduate student at UMR. "It was probably one of the most enjoyable years of my life," Ballard says. He had the best of both worlds -- a full-time student with full military privileges at nearby Fort Leonard Wood.

The Army influenced Ballard's choice of UMR -- just as it influenced his earlier academic endeavors. Ballard was in Army ROTC at Southern University near Baton Rouge, La., where he earned his bachelor's degree in electrical engineering in 1964. (It was also at Southern where he met Tessie LaRose, his wife.) After graduation, Ballard's two-year ROTC obligation ended in a five-year stint in the Army that included two tours of Vietnam. Ballard then decided to trade his Army green suit for a pinstriped one and went to work for Illinois Bell. His civilian days were brief, however. Within a few months, the Army asked Ballard to return to active duty and offered him a fully funded master's degree at the university of his choice.

His interest in a business degree and the Army's restriction that the degree be related to his undergraduate degree made the engineering management program a perfect match for Ballard.

Early days

For Ballard, mentoring began with his family.

He was the first of six children. His father, the son of sharecroppers, was a farmer who moved his family from Meeker, La. to nearby Oakdale to take a job with a company that made insecticides, pine oil and wood-based products. Ballard was 7 at the time.

"I grew up right in the same neighborhood with my grandparents, my aunts and uncles -- a very extended family, a good environment," Ballard says.

Ballard held a variety of jobs while growing up. He worked as a farmhand, picked cotton, and cut and baled hay, among other things. "I can remember at an early age of being a newspaper boy for *Grit* newspaper. It was by selling *Grit* and working with groups like the Scouts that I developed an interest in reading."

When Ballard was in high school, he learned about electrical engineering by visiting the electrical repair shop of a local African-American entrepreneur named Anderson. Anderson would patiently teach



General Joe Ballard (left) prepares to transfer a garrison command flag at a Ft. Wood ceremony.

(Photo by Dan Seifert/Stone House Photography)

Ballard how to work on televisions and encouraged him to study engineering in college.

"The only thing I knew about engineers was that the engineer was the guy who drove the train," Ballard says. "He (Anderson) gave me some books to read on the subject and I thought being an electrical engineer was really the thing to do."

A general's life

"My training as an engineer is to investigate a situation and to be very analytical," he says. "I think studying engineering has taught me discipline in my thought process. By no means am I saying that you should be rigid in thought. It has just taught me discipline in my thought process, but naturally I am open to all types of input."

Along with his belief in the virtues of analytical thinking, Ballard also believes in "empowering those who work for you to make a decision within their position and authority."

"I am not interested in making every decision," he says. "I am only interested in working on those critical activities where if I failed to act it could very well change the way we do business. So I think that you just need to make sure that you position yourself in the right place at the right time and act. But for the day-to-day grind, we have a good staff that can make the right decisions."

"I know of many black officers who were just as good or better than I am but it just so happens that one way or another I ended up here at this time and place. I can't afford to blow this opportunity. As we blaze the trail, I want to make sure that when the second African-American that takes command of this post ... I do not want the first question to come from the news media to be 'How does it feel to be the second black commander?' I want it to no longer be an issue."

Loretta Howard is a development coordinator at UMR and a freelance journalist.

daughter Tracy graduated from Southwest Texas State University in December 1993, and son Brian is a freshman at Texas A & M, but Douglas remains loyal to UMR and writes "Go Miners!"

Seventies

1970

• **Steve Bohnemeyer**, EE, was assigned as plant engineering manager at 3M Co. in Chico, Calif. He and Mary live at PO Box 6194, Chico, CA 95927. • **Brenda L. Bronson**, ChE, transferred to region eight of the U.S. General Services Administration, where she works as regional fire protection engineer. • **Terry E. Durham**, GGph, is senior geophysicist for Nearburg Producing Co., Dallas, Texas. Christine teaches English as a Second Language at Plano Senior High School, Chris is a junior at Colorado State, and David is an active fourth grader. • **Timothy J. Kwiecinski**, MetE, writes that daughter Amy is carrying on the family tradition as a freshman at UMR this year. • **Larry W. Mays**, CE, works as chair and professor for the CE department at Arizona State University. He is president-elect of Universities Council on Water Resources and has edited a new book, *Handbook of Water Resources*, to be published by McGraw-Hill. • **Daniel E. Scott**, MetE, has received his seventh patent, with a few more pending. Daniel was elected to a three-year term on the S.P.E. Drilling Technology Committee, responsible for two annual conferences, and he continues to travel extensively for Hughes Tool Co. • **Daniel J. Spellman**, CE, writes, "Daughter Val is a second year student in medical technology at Hocking College, wife Linda is a second year student at Cincinnati Technical College and son Tim is a freshman, ME preference, at

UMR." • **Warren C. Woods**, CE, served as president of the Kansas Society of Land Surveyors for the last two years and will serve as president of the Kansas County Highway Association throughout 1994.

1971

• **Ronald G. Choura's**, EE, son is an engineering management student at UM-Rolla and reportedly enjoys college. • **Dennis W. Ditch**, EMgt, and Kathryn enjoy their country home about 50 miles southeast of Kansas City, where they "stay busy with four sons, dogs, cats and assorted feathered barnyard creatures." • **Carl D. Dufner's**, EE, and Mary Ann's daughter, Angie, will graduate from UMR in May with a BSME. They moved last summer to 525 Teal Dr., Chatham, IL 62629. • **Thomas G. Durham**, CE, reports that his son, Scott, is a freshman at UMR. • **Tim Epresi**, EE, joined DMI as general manager involved in oil well recompletion in the United States and South America. • **Col. Archibald M. Gallup**, CE, accepted the position of director of the physical plant at the State University of New York at Delhi last July, upon retiring from 27 years of service to the U.S. Army. He plans to settle down and ski in upstate New York. • **J. Dale Montgomery Jr.**, EMgt, is president of his own Chicago-based firm, DMA Environmental Consulting. He writes, "Need clients!"

1972

• **George W. Cadwallader**, ChE, was recently granted a U.S. patent for his process for preparing medium-density granular sodium tripolyphosphate. • **James E. Davis's**, ME, son is a freshman at UMR this year, leaning towards ME as a major. • **Dominic J. Grana**, CE, writes, "Rosemary and I are thriving in St. Louis; the kids are in college and high school; and our environmental firm, Schreiber, Grana and Yonley Inc., is expand-



• **James R. Whitten**, Psyc'72, was appointed the executive vice president, Indiana division, of the American Cancer Society in September 1993.

ing." Dom is vice president of operations. • **Stanley R. Howell**, EE, writes, "Oldest son Jonathan started in freshman engineering program at UMR this fall. I am pursuing MSEE from Kansas State." • **Conrad A. Kuharic**, GGph, works as a principal research scientist with Lockheed Environmental Systems and Technologies. • **Dr. John P. Kuspa**, MSNucE, retired after 26 years in the U.S. Army Corps of Engineers. He works for K & M Engineering, a small firm specializing in fossil-fueled power plants overseas. • **Lawrence H. Luzynski**, EE, is manager, product development, for the ATS systems division of Science Applications International Corp. in Kansas City, Mo. • **Michael G. Moran**, ChE, has completed 20 years with UOP Inc., where he is involved with the commercialization of several new technologies. He has three sons who show interest in science and math, and his



• **Dr. Robert I. Egbert**, EE'72, was named a director of Eta Kappa Nu Association, the international EE honor society. Dr. Egbert continues his work at Wichita State University.

oldest is considering ChE at UMR in 1995. • **Juan G. Ochoa**, MSME, was appointed manager of business development in Latin America for the professional health care division of Kimberly-Clark Corp., based in Medellin, Colombia. • **Dennis G. Sylvester**, ME, reports that daughter Michelle is a senior in elementary education at Ohio State University and son Dennis is a sophomore in electrical engineering at the University of Michigan. • **Gary W. Vandiver**, ChE, was named project manager of Monsanto Co.'s Motco superfund site in Houston, Texas. Gary just completed 19 years with Monsanto and commutes to the superfund site from St. Louis, Mo.

1973

• **David P. Capelle**, CE, is a construction manager for FERMCO, a subsidiary of the Fluor Daniel Corp., working in the remediation of CERCLA\RCRA national priority-listed sites owned by the department of energy. • **Alvin E. Grossman**, MSME, retired from McDonnell Douglas Corp. in 1987 and now helps local people to understand local mathematics, "no charge." • **Steven M. Skasick**, CE, is vice president and head of the civil department of EDM Inc. in St. Louis and lives with his family in Collinsville, Ill. • **Stephen T. Tattitch**, ME, was transferred from the energy environmental group at Fru-Con Corp. to the industrial business unit's newest project group and reports that his sons have him hooked on Scouting. • **Dean L. Tibbitts**, NucE, was promoted to manager of operations at Carolina Power and Light Co.'s Harris Plant in New Hill, N.C. He writes, "It's a great challenge and humbling to lead a very successful organization." • **Maximilian Toch**, MSCE, joined Federal Programs Corp., a subsidiary of Camp, Dresser and McKee Inc., in March 1993. He does strategic planning at the corporation headquarters in Fairfax, Va. • **Lawrence H. Uelk's**, Hist, son attends Indiana University, and

Lawrence continues to work for Central Soya.

1974

• **Richard M. Baker**, CE, writes, "Two of my sons are now attending UMR and are greatly helped by the Alumni Sons and Daughters Grant. Virginia is a great place to live, but sometimes I miss the mid-west and Missouri." • **John D. Cummings Jr.**, MetE, works as product manager responsible for the marketing and profitability of hot rolled and cold rolled sheet with the Sparrows Point Division of Bethlehem Steel in Baltimore, Md. • **Michael F. Keeling**, CE, reports that his daughter, Kasie, is a freshman engineering student. • **Vincent E. Pirano**, CE, was transferred to the T.L. James and Co. operations in Alexandria, La., where he and Caryn expect to live for one and a half years. He is project engineer on the I-49 "Lee



• **James L. Foil**, CE '74, was promoted to principal in charge of project development for Burns and McDonnell's environmental and civil group, directing marketing efforts for water, wastewater and infrastructure work.

to Hamilton" project, which has a contract value of \$40 million. • **Gregory R. Wessel**, GGph, is a self-employed consulting geologist and has worked on two projects in Russia for the past 18 months. "Plan to increase activity in Russia, Kazakhstan and Ukraine; give me a call if you are interested!" he writes. • **Dr. Andrew J. Wilson**, ChE, was appointed dean of Tri-State University's School of Engineering in October 1993. Andrew is also chair of the chemi-

cal engineering department and the John Graydon and Virginia Stemples Professor of Engineering.

1975

• **Richard E. Basye**, CE, was named manager of the environment, health and safety service group at Clough, Harbour and Associates in 1993. He retired from the military as a lieutenant colonel after 24 years of service. • **James A. Forck**, ME, wife Lanette, and sons, Jason and Nicholas, have returned home to Peoria, Ill., after a three-year assignment in Japan, where James was working on a joint venture for Caterpillar. • **Wanda L. Garner**, MSAMth, was elected president-elect of the American Mathematical Association of Two-Year Colleges at the annual conference in Boston November 18. She is a mathematics professor at Cabrillo College in California. • **Robert L. Hayward**, MSNucE, writes, "I still live in Virginia working for the government, trying to keep the world free from potential nuclear proliferators. My son, Todd, is a freshman at UMR." • **Roger Lee Keller**, MinE, writes, "Still in Hong Kong; things are booming in Asia. I married a lovely Asian lady, Gez, in January 1994. We plan to settle back in the states in a couple of years. Apologies to all my friends for missing St. Pat's, but I have a good excuse." • **James H. Martin**, AE, returned to the United States after living in Japan for two years. He serves as functional manager for the U.S. Navy's fleet aviation maintenance information systems. • **Terry L. Michnimer**, CE, writes, "Working at Bonny Town, Nigeria, on a very interesting geotechnical project." • **Lawrence R. Mertens**, CE, is supervising maintenance planning for unit turnarounds as staff engineer at Texaco's Los Angeles refinery. • **Larry Owens**, EE, transferred to the F-15 aircraft program for depot test equipment at McDonnell Douglas. Larry, Diane and their three children live in St. Peters, Mo., and he writes, "We have a teenager in

the house now!" • **Mitchell Peterson**, EE, is on assignment for Chevron in Houston doing engineering for two platforms off West Africa. While visiting Orlando, Fla., recently he saw **Jeff Rose**, CSci, and his family. • **Michael J. Quinn**, ChE '75, is director of ESM programs for the U.S. Air Force. He writes, "Don't miss those basic engineering courses, as what you are doing 20 years from graduation may not be anything directly from your field." • **Thomas P. Schneider**, CE, has taken the final of six certified financial planner exams for his CFP designation. His oldest son, Jacob, is a freshman at Mizzou, pursuing an interest in the performing arts. • **Donald E. Simpson**, CE, resident engineer on Lock and Dam #4 on the Red River waterway, was a presenter at the Regional Meeting of the Society of American Military Engineers; the topic was "partnering." • **Dr. James H. Williams**, PhDGgph, director of the Rolla Geological Survey, reports, "We have been flooded with the '93 Flood."

1976

• **Dr. D.M.S. Bhatia**, PhDGgph, joined the editorial board of the *Geotimes* and will serve as the chairman of the publications board for *Mining Engineering* this fall. He also was invited to serve on the National Committee for Accreditation of geology programs in the United States and Canada. • **James Eye**, ChE, works in process control for Miles Inc., pharmaceutical division. James and his wife have two children, Christine and Melody, and the family is living in a new house with a pond, swimming pool and woods covering almost 3 acres. • **Gregory K. Hicks**, CE, was promoted to sales manager of Burlington Environmental Inc.'s Kansas City treatment facility in October 1993. • **Mark E. Liefer**, ME, and Maureen (Casetta) were married Sept. 3, 1993. Mark works for the Illinois Power Company and Maureen is an RN; they reside in Red Bud, Ill. • **John N. Mangoff**

Jr., EE, is a principal engineer with P C & E Consulting Engineers in St. Louis. He continues to live in Glen Carbon, Ill., with wife Sue and three-year-old daughter Julie. • **Steve A. Millsap**, CE, was appointed assistant chief of engineer structures for Burlington Northern Railroad, responsible for bridge and building design, construction, maintenance and inspection of the entire Burlington Northern system. • **Randall K. Noon's**, MSME, second book, *Engineering Analysis of Vehicular Accidents*, was published in January 1994 by CRC Press. • **Victoria (Headrick) Sweetser**, EE, works part time as a design engineer for Hewlett Packard, enabling her to spend more time with her two children. • **Steven C. Virtue**, ME, is plant engineer for Fibertech Group Inc. in Rogers, Ark. Steven and Linda have three daughters and live at 15 Redbud Terrace, Rogers, AR 72756.

1977

• **Philip J. Boegner**, ME, was promoted to manager of strategic planning at Ethyl Corp. • **Warren D. Cadwell**, PetE, is a reservoir engineer with Louis Dreyfus Natural Gas and lives in Oklahoma City with his family. • **David W. Cawfield's**, ChE, work at Olin Corp. on the "01 Process for chlorine dioxide pulp bleaching" was named one of the 100 most technologically significant innovations of 1993. He was promoted to principal engineer at Olin. **Jo Ellen**

DO YOU HAVE A SON OR DAUGHTER PLANNING TO ATTEND UMR?

If you live outside Missouri, you'll be interested in the Alumni Sons and Daughters Grant. Your children may be able to attend UMR without having to pay the out-of-state tuition rate! Contact Lynn Stichnote in the Admissions Office at 1-800-522-0938 for an application form.



ALUMNI NOTES

Cawfield, ChE, began work on her PhD in air pollution control and computer modeling at the University of North Carolina -Chapel Hill in January. She completed her master's degree in environmental engineering at Knoxville. • **Joe Driskill**, non-degree, was appointed director of the Missouri Department of Economic Development in May 1993. He received his degrees from the University of Missouri-Columbia. • **Louis G. Loos II, CE**, works with other alumni in highway design for the St. Louis County Highway and Traffic Department. He'd like to hear from old friends at his home in Kirkwood, Mo. • **David L. Perry**, PhDEE, works for the Environmental Research Institute of Michigan. His new address is 2432 Leslie Circle, Ann Arbor, MI 48105. • **Peter T. Price**, GGph, writes, "Still working and living, happily, in Rolla. And I'm a HAM now; earned a ticket this year." • **David C. Wang**, MSEE, returned to Milwaukee, Wis., after a three-year assignment to form a GE Medical Systems joint venture in Beijing, China. • **Kathleen M. Wright**, ChE, was appointed director of global distribution for Dupont, with worldwide transportation and distribution responsibilities.

1978

• **Kevin C. Bodenhamer**, CE, changed jobs during summer 1993 to work as the manager of pipeline engineering for Mid-America Pipeline Co. in Tulsa, Okla. • **Douglas K. Cothern**, CSci, is vice president, applications, at Ingram Book Co., responsible for applications and data and security administration. Douglas, wife Diane, Jeremy, Andrea and Bethany still live in and love Murfreesboro, Tenn. • **Rona J. (Whittall) Donahoe**, GGph, and **James L.**, GGph, celebrated their fifteenth wedding anniversary with a two week vacation in western Canada. Rona and James continue to work at the

University of Alabama near Tuscaloosa, and Caitlin is starting first grade. • **Joseph Epperson**, MetE, writes, "We are starting a co-op program at the National Transportation Safety Board soon. I hope we get a UMR student." • **James G. Kettinger**, ChE, is a control engineer, applying advanced control software to petroleum refining processes at Phillips Petroleum's Borger, Texas, refinery. • **James W. Parker**, EMch, is a contract aircraft structural analyst at Boeing Aircraft Co. in Wichita, Kan. • **J. Michael Party**, GGph, was elected vice president of the southwest section of the AAPG and will serve as president of the West Texas Geological Society for the 1994-95 year. • **James T. Rau**, CE, writes, "After six years in the Dallas/Fort Worth area, I've moved to Montana with Conoco to play engineer again; it's great!" • **Rita W. Stevens**, ChE, has a new job in agricultural chemicals at Rohm and Haas Co. • **Roger W. Vessell**, Psyc, was appointed vice president of marketing for Columbia Industries Inc. in September 1993, responsible for overseeing product line development, market research, advertising and promotion.

1979

• **Walter R. Bilgram**, CE, writes, "Quality Assurance and ISO-9000 are keeping both **Ramona** (ME'80) and me challenged. Kristin, 9, and Calley, 5, do their best to challenge us after work!" • **Bruce J. Cooper**, ME, earned his master's degree in industrial engineering from Texas A & M University in May 1991. He is a major with the U.S. Army. • **Dennis Dressel**, ME, and family are happy about Dennis's recent transfer to the beautiful landscape of Hurricane, W.Va., though it's a challenge dodging the deer. Dennis welcomes alumni phone calls at (304) 562-0463. • **Kevin R. Eisenbeis**, CE, vice president of Harrington and Cortelyou Inc., was named 1993 New Principal of the Year by the Consulting Engineers Council of Missouri for his out-

standing engineering and professional achievements. • **Stanley A. Heimbürger**, ChE, started his own company, Heimbürger and Company Inc., specializing in providing quality technical and marketing services to the pulp and paper industry. • **John R. Lodderhose**, CE, is assistant director of environmental compliance for the Metro St. Louis Sewer District. He completed his second master's degree in 1992 at UMR's graduate engineering center on the UMSL campus. • **Dianna K. Tickner**, MinE, was given the additional responsibilities of managing the accounting, purchasing and information systems departments at Western Energy Co. in Montana. She retains management of contract administration, coal sales and lands/leasing. • **Ricky L. Washburn**, CSci, works for the Missouri Department of Social Services in Jefferson City. He and his wife expect their first child in April 1994. • **Darrell D. Weber**, AE, attends Covenant Theological Seminary in St. Louis, working towards a master of divinity degree. Darrell enrolled at Covenant after 15 years at McDonnell Douglas Corp.

Eighties

1980

• **Margaret M. Becher**, ME, earned her master's degree in business administration from UM-St. Louis in January 1993 and is a general engineer in the U.S. Army. • **Michael R. Bynum**, ME, works as a maintenance supervisor for Mallinckrodt Inc. in St. Louis and lives in Florissant, Mo. • **Joseph A. Crider**, CSci, AMth, transferred to Boeing Computer Support Services, where he provides software support to the propulsion lab at Marshall Space Flight Center, Huntsville, Ala. • **Marilyn Daum**, CSci, and husband Jeff moved to Portland, Ore., in 1993. Marilyn works with software for educational testing at Northwest Evaluation

DID YOU KNOW?

If you work for a matching gift company, you can double or possibly triple the impact of your gift, just by requesting the match. Some companies ask you to simply call your matching gifts coordinator and let them know you've made a gift, and others will give you a form to enclose with your gift. The MSM-UMR Alumni Association appreciates your efforts in obtaining these matching funds, as a significant amount of each year's income is a result of these matches. Thank you!

Association. • **Brent C. Davis**, EMgt, was promoted to plant manager of Kansas City Power and Light's Montrose Station. His wife, Sandy, teaches fifth grade in the Platte City school district. They will move to southern Kansas City after son Tyler completes his fifth grade year. • **Susan V. (Payne) Fulton**, ChE, AMth, and **Dwight**, GeoE, write, "Halliburton's restructuring brought us back to Duncan, Okla., and into the quality improvement arena full time. A big change for both of us." • **William D. Neunsinger**, MetE, was promoted to purchasing at John Deere Engine Works in May 1993. He still enjoys life in the Heartland! • **Christopher W. Norris**, NucE, is supervisor of procurement engineering and spare parts for the Omaha Public Power District and celebrated 13 years at the district's Fort Calhoun Nuclear Station last summer. He is married with four children, and his address is 408 S. 152nd Circle, Omaha, NE 68154. • **Kevin D. Rackley**, NucE, works as a shift tech adviser at the Palo Verde Nuclear Generating Station and is senior engineer in the NSSS Engineering Department. He writes, "It's quite the challenge working in the nuclear utility business these days, while we try to re-engineer the company for competition in the year 2000 and beyond." • **Thomas D. Radcliff**, NucE, hopes to complete his PhD in December 1994 at the University of Tennessee-Knoxville, where he is researching boron mixing in the AP600 reactor design. • **David W. Schmitt's**, CE, and **Kathy L.'s**, ME'83, son, Christopher, turned

two years old in November 1993. • **Cheryl M. Seeger**, Geol, received the S.M.E., Industrial Minerals Division, Young Scientist Award in February 1993. She writes, "Unfortunately, by now I'm a middle-aged scientist!" • **Sandra (Hoelscher) Simmons**, CE, works at FAA in project management, airport construction. Sandra, husband Greg and children, Sara and Cori, live in Renton, Wash. • **Daniel C. Walden**, ChE, writes, "We are excited about Eastman Chemical Co. winning the Malcolm Baldrige National Quality Award." Daniel is senior chemical process engineer for Eastman-Kodak. • **Kevin D. Watson**, ChE, has worked with Arco Inc. for 13 years performing hazard and consequence analysis on oil and gas-producing facilities from Houston, Texas, to Jakarta, Indonesia. Kevin and Susan's daughter, Grace Ann, is two years old.

1981

• **Karen (McCoy) Bryan**, CE, and Chuck moved into the house they built last spring. Karen stays at home with daughter Britany, who is almost two years old. • **Charles K. Cothorn**, CE, and **Amy (McDaniel)**, EE, live in Colorado and have two boys, Justin and Keagen. Charles has worked as a water resource engineer for URS Consultants for five years, and Amy has worked as a systems engineer for IBM for 12 years and is working towards her master's degree in telecommunications. • **Joe F. Cox**, MinE, works for Conoco in Lake Charles, La. He called the Alumni Office to report that while watching the astronauts' mission to fix the Hubble telescope on CNN, he saw a gold and black UMR banner in the shuttle behind **Tom Akers**, AMth '73. Tom confirmed that Joe has a good eye; in fact, he takes a UMR banner up on every shuttle mission! • **Christine (O'Neil) Dashti**, ChE, says she loves working as a full time mother to one-year-old Cameron. • **Michael J. Flannigan**, ChE, was trans-

ferred to Marathon Oil Co.'s refinery in New Orleans, La., in January. • **Alissa M. Gallagher**, EMgt, has changed careers to teach at Washington University in St. Louis. • **Jeffrey W. Gilbert**, CSci, and wife Shari keep busy with their two children, Luke, 2 years, and Rebecca, 10 months. • **Robert J. Hoffmann**, ME, co-owns Linton Heating and Airconditioning Inc. with his brother, **Thomas E. Hoffmann**, ME '83. Bob and wife **Mary C. (Shultz)**, ME '82, have four children, Stephen, Laura, Chris and Joe. Mary has completed 11 years at Procter and Gamble Co. • **Jeffery C. Kipp**, ME, is president of Jetstream Systems, a division of the Barry Wehmiller Co., which provides container-handling equipment and service to the packaging industry. Jeff, Lisa and son Casey live in a 100 year old Victorian house in the heart of Denver, Colo. • **Ronald G. Milligan**, MinE, reports that sibling rivalry is not a problem "yet" between three-year-old David and five-month-old Andrew. Ronald and family live in Midland, Texas, and Ronald has completed his

Relatively Speaking

Paul O. Herrmann III, EE '58, and his wife, Carole, have not only sent four children to college but have sent all four children to earn engineering degrees from UMR. Paul is a components group leader at Electronics & Space Corp. **Paul Herrmann IV**, EE '82, works for Allied Signal Inc. Daughter **Kathy L. Schmitt**, ME '83, MSME '89, works for Florida Power and Light Co., and Kathy married **David Schmitt**, CE '80. Paul's son, **Jim**, ME '85, also works for Allied Signal, and **David**, EMch '89, MinAMth, works for Universal Computer Systems. These four engineers have given Paul and Carole seven grandchildren to carry on the tradition; we'll keep you informed.

twelfth year at Texaco. • **Mitchell D. Putnam**, ME, wife Monica and nine-year-old Nicholas are doing fine in southwest Kansas. Mitchell writes, "Nicholas informed me that he's going to be the president of the United States after he gets his engineering degree from UMR. Who says the younger generation lacks vision?" • **James C. Roberts**, ChE, has gone into business as a self-employed process control consultant in Atlanta, Ga. • **Gregory P. Sauceman**, CE, is a facilities engineer for Chevron in Kazakhstan on a 28 day rotation. He and Barbara moved back to Kansas City to enjoy the off-time. • **Diane (Griffith) Topliffe**, CE, writes, "Working for U.S. Air Force at headquarters, Scott Air Force Base, Ill., as project manager for base closure and realignment branch. Live in Columbia, Ill., with husband John (Colonel, USAF) and children, Johnny and Katie." • **Daniel L. Vaughn**, MinE, writes, "Job transfer has relocated my family and me to central Kentucky--home of horses, hoops and coal!" • **Brian A. Yanez**, AE, and Laura (Bechtel) were married Sept. 11, 1993, in Liberty, Mo. They reside at 4500 S. Four Mile Run Dr. #501, Arlington, VA 22204. • **Julie (O'Connell) Yerrigan**, ChE, joined Eichleay Engineers in Concord, Calif., and reports that she enjoys the bay area.

1982

• **Michael R. Beckmann**, Chem, bought Bonstone Materials Corp. last year and writes, "What a challenge running a small business, but what fun! Hey all you CE's, we make construction adhesives; need any?" • **Daniel J. Bocklage**, ME, is senior project engineer on wiper systems at ITT Electrical Systems Inc. He and wife Ellen have a two year old daughter, Diane. • **Karen (Peterson) Flanagan**, CE, writes, "I got my MBA in '88, got married in '88 to a fine Irishman, and have been with NASA-JSC seven years, most recently as the division program analyst for facilities develop-

ment." • **Patrick J. Garey**, Phys, writes, "Monica is 2 1/2. Joe is eight months. I never thought..." • **Vicki Sue Johnson**, AE, is manager of the NASA/USRA university advanced design program in Houston, Texas, and has been "hooked" on saltwater fishing in the Galveston Bay with her sister and brother-in-law. • **John B. Jones Jr.**, MetE, is manager of technical coordination at Granite City Steel. He has three children and says he likes to go scuba diving between diaper changes. • **Lyly H. Le**, CSci, and Jeffrey O. Fisher were married Saturday, Sept. 4, 1993, in Austin, Texas. • **Michael J. Magruder**, CSci, is a scientific programmer/analyst at Lockheed Technical Operations Co. His address is PSC 45, Box 806, APO, AE 09468. • **James E. Mazurek**, ME, became principal engineer at Harris in August. James and wife Lori relocated in order to raise their children in a smaller town. Their new address is 4214 Abbey Ridge, Quincy, IL 62301. • **Roberta (Scroggins) McGinnis**, GeoE, leads a hectic life of working as a petroleum engineer at Union Pacific Resource in Fort Worth, Texas, and single-handedly raising two daughters, ages seven and three. • **Maureen E. (Murphy) Midgley**, ChE, writes, "I am back in the paint department as area leader, and we just hired a UMR grad as process engineer this summer. Saturn is doing great; we can sell more than we build." • **Thomas K. Parks**, CE, was promoted to central region project manager for the Department of Veterans' Affairs, covering eleven V.A. medical centers. Tom, wife Louise, son Keith and daughter Katie live in Ann Arbor, Mich. • **Richard D. Purgason**, ChE, works as a sales representative with Elan Pharmacy. • **Daniel K. Siroky**, ME, and Kathaleen were married Oct. 9, 1993, and live at 908 Carol Ann Ct., Roseville, CA 95661. Daniel continues as a liaison engineer for the U.S. Air Force, supporting aircraft hydraulic flight controls. • **J. Payton Wieland**, CE, works for McDonnell Douglas

Aerospace and writes, "I work with quite a few UMR alums, and we often talk about the good ole days in Rolla." His address is 11028 Mars Ln., Maryland Hts., MO 63043.

1983

• **Donald J. Arndt**, CSci, and **Eva (Taylor)**, CSci, have moved back to Smithville, Mo., after 10 years in Texas. Don and Eva have three sons, Jonathan, Ethan and Nathan. • **Mark A. Cook**, CE, is working as construction manager for Sverdrup on a \$12 million bridges and highway project on I-9A in Jacksonville, Fla., and is building a new house on the Florida beach. • **Clyde R. Dennis**, ME, writes, "Still plugging away at Caterpillar. Amanda is now six years old. Hard to believe it's been ten years since I graduated. Hope all my classmates are well." • **Charla (Niccolli) Dzedzic**, CSci, works for Strata Group in Earth City, Mo. **Daniel A.**, EE, works for Southwestern Bell in Fenton and continues to fight flood damage from the Meramec River. Daughter Rose is four and son Andrew is one year old. Charla and Daniel encourage old friends to visit them in St. Charles, Mo. • **O. Keith Elting**, MSMetE, returned to Olin Corp. Dec. 1, 1993, after being off work for three months due to back surgery. • **Douglas B. Finley**, PetE, has a change of address and hemisphere: P.T. Halliburton Indonesia, PO Box 4303 JKSMG, Jakarta 12403, Indonesia. • **Gary J. Hayes**, ChE, earned his PhDChE from Clemson University in August 1993 and was promoted to senior product development engineer in films development for W.R. Grace and Co., Cryovac division. • **Jay B. Immele**, ME, is a technical advisor for G.E.-International Power Systems. Jay, **Dawna (Brown)**, Psyc, and family recently returned from South Korea where Jay was a resident engineer in a G.E. plant. In February, Jay will move to a similar situ-

Future Miners

- Robert W. Whelove Jr.**, ChE'67, and Janet, their first child, Amy Christine, January 1993.
- Fred N. Bondurant**, ME'69, and Mary, a girl, Bonnie Elizabeth, January 1993.
- Steven M. Skasick**, CE'73, and Carol, a boy, Michael Eugene.
- Warren D. Cadwell**, PetE'77, and Marlyne, a boy, Philip, Nov. 8, 1993.
- Jon L. Danuser**, ME'78, and Lynne, a boy, Kyle Lee, Oct. 1, 1993, in time for hockey season.
- Kenneth S. Fleck**, GGph'78, and **Michelle (Cooper)**, MSGGph'81, a boy, Collin, Feb. 17, 1993.
- Charles R. Bagnell**, ChE'79, and **Valarie (Brenner)**, ChE'79, their second child, Carter Lawless, Oct. 1, 1993.
- Dwight Fulton**, GeoE'80, and **Susan (Payne)**, ChE'80, a girl, Sarah Ruth, Dec. 26, 1992.
- Donald E. Guenther**, ChE'80, and **Debbie**, their third daughter, Courtney Paige, March 14, 1993.
- Karen (Downer) Herbert**, ChE'80, and **Richard "Chester"**, ME'81, a boy, Henry Ronald, June 27, 1993.
- Scott J. Bohler**, MinE'81, and **Marjorie (White)**, Psyc'84, their fifth child, Abigail Elizabeth, Oct. 14, 1993.
- Jeffery C. Kipp**, ME'81, and **Lisa**, a boy, Casey.
- S. Dale McHenry**, ChE'81, and **Tracy**, a girl, Amanda Kate, Oct. 29, 1993.
- David J. Oostendorp**, Chem'81, and **Kim**, a girl, Nicole Marie, Feb. 3, 1993.
- James Whetsel**, ChE'81, and **Alissa M. (Gallagher)**, EMgt, MSEMgt'83, their second child, Catherine.
- Morris C. Buenemann Jr.**, ME'82, and **Barbara**, their first child, Allison, July 8, 1993.
- Kimberly K. Denney**, ChE'82, and **Terry**, a girl, Alexandra Shannon Doyle, May 4, 1993.
- R. Kirk Maguire**, EMgt'83, and **Shannon**, a boy, Branon, Sept. 13, 1992.
- Gregory Meitz**, ChE'83, and **Deborah (Lauber)**, ME'86, a girl, Emily Marie, Nov. 11, 1993.
- Gary J. Pohl**, ME'83, and **Laura A.**, EMgt'84, a girl, Lauren, July 16, 1993.
- Michael C. Hoerle**, ChE'84, and **Ellen (Westerman)**, ChE'85, a girl, Tess, July 22, 1992.
- Jeffrey T. Pacht**, ChE'84, and **Tina (Wallenburn)**, EE'87, a girl, Corinne Harris, Aug. 25, 1993.
- David J. Steagall**, MinE'84, and **Laura**, their second child, Sarah.
- James M. Stratton**, MinE'84, and **Leslie**, a girl, Deborah, June 8, 1993.
- Karen (Penney) White**, ChE'84, and **Scott R.**, ME'85, a boy, Evan Scott, Aug. 21, 1992.
- John F. Kneisler**, ChE'85, and **Karen**, their first child, James Frederick.
- Karen (Harr) Luter**, MetE'85, and **Bill**, their first child, Samuel Preston, Aug. 10, 1993.
- Robert K. Randolph**, CE'85, and **Monica**, their second child, Brittany Anne, Aug. 9, 1993.
- Derek L. Sherry**, PetE'85, and **Laura (Pagano)**, ME'85, a girl, Nicole Elizabeth, March 13, 1993.
- Theresa (Ney) Ziegelmeyer**, ChE'85, and **Jim**, their first child, Emily Catherine, Dec. 2, 1992.
- Robert A. Crowe**, AE'86, and his wife, a girl, Deanna Marie, summer 1993.
- Jonna L. (Cole) Horn**, ChE'86, and **Richard G.**, ChE'87, a boy, Ryan Michael.
- Alan G. Phillips**, ME'86, and **Julie**, their first child, Hunter, Oct. 2, 1993.
- James T. Pontius**, AE'86, and **Marianne (Moyes)**, PetE'86, a boy, Andrew James, April 2, 1993.
- Denis Backer**, ChE'87, and **Catherine C. (Duncan)**, ChE'87, their first children, twins, December 1993.
- Robert R. Holmes**, CE'87, and **Joanne Marie**, MetE'91, their second child, Amanda Jael, July 17, 1993.
- Donald R. Russell**, MinE'87, and **Leslie (Whalen)**, EMgt'87, their second son, James Mark, Aug. 25, 1993.
- Christopher R. Tarnowieckyi**, CSci'87, and **Peggy A. (Danzer)**, ME'89, a girl, Eleanor Ann, Oct. 12, 1993.
- Todd G. Wagner**, CE'87, and **Jenell**, a girl, Emily Rebecca, July 18, 1993.
- Robert D. Borchelt**, EE'88, and **Elizabeth J.**, AMth'89, a boy, Christopher Allen, July 31, 1993.
- Timothy J. Kempf**, ME'88, and **Jacquie**, their second child, in Wichita, Kan.
- Todd S. Miner**, ChE'89, and **Lynn**, a boy, Brendan Thomas, March 4, 1993.
- Scott A. Snoble**, ME, and **Stacy**, a boy, Trenton Hull, Aug. 9, 1993.
- Daniel J. Szatkowski**, NucE'89, and **Jeannine (Dubuque)**, EE'89, their first child, Joseph Daniel, Oct. 13, 1993.
- Michael S. Keyes**, ME'91, and **Michelle**, a boy, Christopher Michael, May 4, 1993.
- Steven C. Roberti**, GeoE'91, and **Melanie S.**, MSGGph'92, a girl, Anita Maria, Aug. 26, 1993.
- William "Curt" Courtney**, MetE'92, and **Pam**, their first child, Cole Denton, Oct. 22, 1993.



ation in Indonesia. • **Richard J. Jackson**, ME, is a facilities engineer for the U.S. Army at Fort Detrick in Frederick, Md. • **R. Kirk Maguire**, EMgt, and wife Shannon have moved from St. Louis to Jacksonville, Fla., where Kirk is a TQC Manager. • **Gary J. Pohl**, ME, is an account manager in the new business development group of the Petrolite Corp. in Webster Groves, Mo. • **Charles K. Reed**, MetE, and Malette live in the Dallas, Texas, area with Stephanie, 2 1/2. • **Rick J. Reinesch**, AE, works on the space station training facility in Houston, Texas. Rick lives in the Clear Lake area with wife Rhonda, daughter Natalee and son Bryce. • **John P. Schnieders**, CE, and **Theresa (Veras)**, CSci'85, live in St. Peters, Mo., and have two daughters, Sarah and Kelly. John works for McDonnell Douglas Corp. and Theresa works for Southwestern Bell. • **David E. Zink**, CE, was accepted into the Missouri Society of Professional Engineers in fall 1993.

1984

• **Brent M. Babyak**, CerE, completed his MBA from Quincy University and is quality assurance manager for J.M. Huber Corp., pursuing ISO-9002 registration for his division's five sites. Brent, Patti, Meagan and Andrew live in Quincy, Ill. • **Keith D. Buercklin**, ChE, and family are all healthy and happy living out in the country in southern Illinois. Keith's son celebrated his first birthday on Thanksgiving day. • **Robert T. Cantrell**, ChE, is a senior manufacturing technology development engineer for 3M Co. in St. Paul, Minn. He and Pam have two children, Aaron and Alyssa. • **Louis P. Decker**, ChE, and Sharla (Jacobsen) were married May 8, 1993. Louis works as a process engineer for Miles Inc. in Kansas City. • **Kimberly (Dowd) Dominic**, CE, moved to Kansas in November 1993 to become manager of wastewater operations for the City of Kansas City, Kan. • **David H. Dow**, EE, would like to

hear from other UMR graduates living in south central Indiana. David and family reside in Columbus. • **Scott G. Giltner**, MinE, works in Rock Mechanics at UMR. He travelled through Germany, Austria and Turkey in summer 1993. • **Mary C. (Shore) Hagerly**, CE, and Gregg were married and have a daughter, Kathryn. Mary is a new owner in Woodward-Clyde Consultants, where she has worked as senior project engineer. • **Michael C. Hoerle**, ChE, was transferred to Sidney, Ohio, with Cargill Inc. in November 1993. • **Ellen (Westerman) Hoerle**, ChE'85, has started a home-based consulting business. • **Patsy A. Hutson**, Hist, writes, "I am a special teacher for a group of EMH/Multi-handicapped students for a K-8 district. It is a very humbling but rewarding job." • **Kenneth R. Kohl**, CE, writes, "Moni and I are doing great. Jason just turned four and we're having another in May. And I thought UMR was tough! Call if you're bored!" • **Gary M. Kowalski**, CE, and **Carrie (Cottrell)**, CE'85, have two daughters and moved into a new house in Springfield, Ill., last year. Gary and Carrie work for the Illinois Department of Transportation. • **Bryan J. Lewis**, AE, works as data engineer on McDonnell Douglas Helicopter Systems' MD900 Explorer test flights. His team hopes to certify the MD900 Explorer by November 1994. • **Lorna (Platt) O'Rourke**, MetE, and Jerrie Brown were named managers of Northern Precision Casting's Lake Geneva, Wis., casting operations. • **Thomas E. Orscheln**, ME, has returned to the midwest, living in Springfield, Ill., and working in power production for Central Illinois Public Service Co. • **Patricia A. Peick**, CerE, writes, "I finally took the plunge and became a homeowner. Corning, N.Y., is a picturesque little town, and I and the bank now own an equally picturesque little house. I never would have guessed that I would enjoy the hardware store as much as the mall!" • **John H. Roberts**, MetE,

works for Noranda Aluminum in New Madrid, Mo., as plant metallurgical engineer. John and wife Karen have three beautiful children, Austin, Sarah and Daniel. • **Gary P. Rogles**, MetE, works in a metallurgical laboratory performing failure analysis of boiler components and is certified in eddy current testing of heat exchanger tubing at Union Electric Co. He lives in St. Louis with his wife and two children. • **David J. Steagall**, MinE, works as assistant mine manager for Mississippi Lime Co. in Ste. Genevieve, Mo. He and Laura have two children, Sean and Sarah. • **Scott D. Sumner**, GeoE, and Veronica have transferred to Atlanta, Ga., where Scott is the southeast regional flow specialist for Fischer and Porter Co. • **Richard A. Tucker**, MinE, works as senior communications coordinator and supply clerk for Monterey Coal Co.'s Number 2 Mine. • **Robert J. Weir**, AE, works as a project manager for Martin-Marietta's Sandia National Labs. He writes, "This year we are getting into theater missile defense. Venus, the two kids and I are doing well."

1985

• **Stanley W. Bevans**, MetE, and **Judy (Elliott)**, CSci, are married with two children and live in Bridgeton, Mo. Stanley works as a hotroll product metallurgist on automotive accounts for National Steel Corp. • **Richard Bothmann**, ME, works for McDonnell Douglas Aerospace as a propulsion test engineer on the space station program at White Sands test facility in Las Cruces, N.M. • **Christopher J. Bruhn**, AE, teaches physics at L.D. Bell High School in Hurst, Texas. He writes, "Hope to send UMR some engineering prospects from among my students." • **Christine (Karl) Corum**, MetE, and **Robert M.**, ME'88, moved to Lafayette, Ind., last August. Christine is working on a master's degree at Purdue and hopes to teach in Purdue's Engi-

neering Technology School after graduation. • **Kamila (Crane) Cozort**, CE, and **Christopher W.**, EMgt'88, were married and reside in Pleasant Hill, CA. • **Fredrick B. Denny**, Geol, was promoted to assistant staff geologist with the Illinois State Geological Survey, environmental assistance unit, where he writes environmental assessments of special and hazardous waste sites in southern Illinois. • **Carl W. Greenstreet**, GeoE, works as an independent geological/petrophysical consultant with Shell Oil Co. in New Zealand. • **Mark R. Hall**, ChE, and **Debbie** enjoy living in O'Fallon, Mo. • **Maureen E. Hall**, ME, would love to hear from some of her classmates and Chi O sisters at 16812 Vicky Ln., Orland Hills, IL 60477. • **Lt. Richard L. Hampton**, Econ, Psyc, has reported for duty with the guided missile destroyer Precommissioning Unit Laboon, based at Bath, Maine. • **Scott W. Klamm**, ChE, won the Kansas State Championships for mountain dulcimer in summer 1993 and plans to release a recording this spring. Interested alumni can write 3812 Mercier St., Kansas City, Mo. 64111-3830. • **Thomas E. Krolak**, GGph, lives in Alaska two-thirds of the time, where he works for Cominco Alaska. • **Scott E. Mayes**, MetE, and **Jennifer (Pellier)** were married in September 1992. Scott was promoted to product manager of the ozone water treatment group at Marley Cooling Tower Co. in fall 1993. • **Gregory T. Peacock**, ChE, and **Kathy** enjoy playing with son Gregory. • **Jeffrey C. Rehm**, ChE, is production manager at Rheox Inc. Jeffrey, wife Nancy and son Jason, 2, reside in Herculaneum, Mo. • **Suzanne (Cooper) Riney**, CE, accepted a position with Schreiber, Grana and Yonley Inc. in October 1993. Now she lives and works in the same zip code! • **Forrest W. Rogers**, CE, married Sheri Smith, and they have two children, Charity and Ethan. Forrest works for the Illinois Department of Transportation in Carbondale. • **Jerome B. Sanderson**, CSci, and

Karen R. (Gray), CSci, write, "Work is exciting but incredibly busy! Karen enjoys staying home with Zachary and Jordan, but being home all day with a four and two year old is starting to test her patience!" • **Christopher Schaefer**, ChE, works in research for Dow Chemical USA. He switched from process modeling to pilot plant operation 18 months ago and has accepted a one-year assignment in Dow's Baton Rouge, La., facility. • **Barbara Ann (Steyh) Skaggs**, ME, continues to work for Boeing Co. in Washington, where she and her husband have lived for over three years. Friends may write 3721 SW 338th Pl., Federal Way, WA 98023. • **James A. Telthorst**, ME, graduated from the St. Louis University School of Law in May 1992 and practices law with Heyl, Royster, Voelker and Allen in Edwardsville, Ill. • **Randall A. Wood**, ME, is completing his PhD at UMColumbia and starting an engineering consulting practice, specializing in injury prevention, productivity improvement and custom equipment manufacturing. Randall, Laurie and Ryan have relocated to Joplin, Mo.

1986

• **Scott D. Avis**, MetE, writes, "In the last year I have bought a house, gotten married to wife Cami, gotten a chocolate lab named Nestle, and changed jobs at Caterpillar Inc. to central purchasing, but other than that it's been pretty uneventful here in Peoria." • **Tracy A. (Miller) Baysinger**, ChE, and Conley purchased a home and a dog in anticipation of their first child. Their address is 1235 7th Avenue NW, Hutchinson, MN 55350. • **Robert A. Crowe**, AE, earned his master's degree in theoretical and applied mechanics at the University of Illinois last year and began a new job with Cummins Engine in Columbus, Ind. • **Suzanne (Black) Cunningham**, AE, and Philip write, "We're still

happily working in Florida at NASA. Thank God for the success of the space shuttle Hubble Mission." • **Bonnie F. Daily**, GeoE, and Charles R. Wright were married Aug. 14, 1993. Bonnie is assistant professor at New Mexico State University, where Charles is completing his PhD. They live in Las Cruces, N.M. • **John D. Deibert**, ME, designs special machinery and tooling for Ehrardt Tool and Machine Co. in Illinois. • **Curtis D. Eshelman**, NucE, was promoted to training manager of Westinghouse's Naval Nuclear Power Training Unit in South Carolina, where Navy officers and sailors are trained prior to their deployment on submarines and surface ships. • **Stephen J. Fiscor**, MinE, writes, "Recently promoted to associate editor of COAL magazine; Rolla English teachers should get a kick out of that." • **Daniel W. Greenwood**, GeoE, has transferred with-in ATEC Associates Inc. to open a geotechnical engineering and materials testing division in St. Louis. • **Jonna L. (Cole) Horn**, ChE, works for Natural Gas Pipeline, and **Richard G.**, ChE'87, has taken a new position with UNOCAL in Illinois. • **Kevin C. Kasten**, ME, and Carla (Haertling) were married May 29, 1993. Both Kevin and Carla work for Chrysler Technologies Airborne Systems and live in Hewitt, Texas. • **Navy Lt. Vernon P. Kemper**, ChE, graduated in December 1993 with an MS in financial management from the Naval Postgraduate School in Monterey, Calif. • **Patricia M. Kieran**, MSChE, graduated with a PhD from the University of the City of Dublin and works on the academic staff. • **Curtis A. Krueger**, ChE, has opened a consulting firm, Krueger-Stone Inc., devoted primarily to environmental engineering and located in Springfield, Ill. • **Navy Lt. Michael D. Parker**, ChE, became a "plank owner" and completed seven weeks of Combat Systems Ship Qualification Trials while with the guided missile cruiser U.S.S. Vella Gulf. The term "plank owner" is given to original

JOB HUNTING?

The Career Opportunities Center has installed Academic Software, a computer software package to expedite service to students, alumni and companies. Job seekers purchase and complete a resume disk and return the disk to the Center. The information is loaded into the Center's computer where it is stored until the information is sent to a prospective employer whose specifications meet the alum's qualifications.

A resume disk costs \$15 and entitles the alum to one year of resume referral. The disk will only work in IBM and IBM-compatible computers.

In addition to the resume disk, the Career Opportunities Center offers alumni the Job Vacancy Bulletin. The cost of the subscription is \$25 for 12 issues over a six month period. When subscribing specify the experienced or entry-level bulletin.

For more information:
Write:
Marcia Ridley
Career Advisor
Career Opportunities Center
304 Norwood Hall, UMR
Rolla, MO 65401

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EMAIL: MRIDLEY@UMR.EDU

crewmembers when a ship is commissioned. • **James K. Pazdera**, EE, and **Evelyn M. (Bruno)**, PetE, have two children, Ryan, 4, and Kiersten, 2, and may be reached at 1908 South Park, Kingsville, TX 78363. • **Warren Bradley Pierce**, ME, changed roles at Ford Motor Co. to product development engineer, with resign and release responsibilities for the anti-lock brake and traction-assist systems for T-bird/Cougar and Mark VIII. • **William T. Priesmeyer**, CE, was accepted into the Missouri Society of Professional Engineers in fall 1993. • **David L. Rose**, MetE, works with metal matrix composites for Alcan Aluminum's Duralcan USA in San Diego, Calif., and recommends the beach and sun to all! • **Scott C. Stewart**, ME, works at Newton Power Station, Central Illinois Public Service Co. He writes, "Work is starting to pick up with the clean air legislation deadlines drawing near." • **Stacey Stover**, CSci, works in Best Western International's corporate office and has bought a house in Phoenix. She will marry this spring, and her address is 5829 N. 18th St., Phoenix, AZ 85016; her phone is (602) 230-1769. • **Joe W. Swan**, MinE, enjoys his work as a maintenance engineer with TX Utilities Mining Co. His wife, Terri, teaches kindergarten, and they have two daughters, Laura Nicole, 9, and Holly Jo, 5.

1987

• **Darryl S. Basham**, CE, and Marty (Webb) were married Oct. 22, 1993. The couple reside in Independence; Marty is a teacher in Overland Park, Kan., and Darryl is an engineer with Terracon Environmental Inc. • **David J. Bayless**, ME, and Sally (Howe) were married Aug. 14, 1993, in Rolla, Mo. • **Sarah R. (Reeves) Bock**, ChE, writes that everything is going well and husband **Dan**, ME, became senior product engineer for NEWTEC Inc. in March 1993. • **Phillip M. Borthacyre**, Hist, works with Delano Oil Co. in Rolla, Mo. Phil II and Beth are in first and second grades, and wife Kim will complete her degree from UMR soon. • **Sandra (Sonderman) Brasier**, Econ, and **James A.**, MinE'89, were married June 26, 1993. James works with Griesemer Stone Co. in Springfield, Mo. • **Brian C. Buchanan**, ME, and wife Debbie live in Clayton, N.C., where Brian is a design engineer for Caterpillar Inc. • **Christopher V. Calandro**, CE, writes that he is doing fine with a good job, a housewife and three small children. • **Brian K. Donley**, ChE, and Beth recently bought their first home in St. Louis, Mo. • **Dr. S. Keith Hargrove**, MSEMgt, is an assistant professor of mechanical engineering at Tuskegee University in Alabama. He earned his PhD in industrial engineering from the University of Iowa. • **Jeffrey L.**



Harpring, CE, works with the Illinois Department of Transportation as a rail safety engineer. He says his hobbies include wife Nancy; Katie, 4; Gregory, 9 months, and an occasional magic show here and there. • **Bruce Kasubke**, ME, and Mary Ann (Stahl) were married July 17, 1993, in Mexico, Mo. Bruce is a manufacturing engineer for A.B. Chance in Centralia, Mo., and Mary Ann is a first grade teacher. • **Gregory A. Mitchell**, ME, earned his MS from UM-Columbia in May 1993 and teaches mathematics at Penn Valley Community College in Kansas City; he spends summers fishing off Kodiak Island, Ala. His address is 933B S.E. 3rd St., Lee's Summit, MO 64063, and phone is (816) 246-5096. • **Mary (Zuehlke) Rose**, CE, recently finished structural design of the new football stadium in St. Louis, Mo., as part of the EDM/DMA design team. Mary will be involved in construction management as the stadium is being built. • **Dharma R. Shakya**, MSCE, earned his PhD from Southern Illinois University at Carbondale and works for TD2 consulting firm. • **Bradley F. Skidmore**, ME, was accepted into the Missouri Society of Professional Engineers in fall 1993.

1988

• **Robert D. Borchelt**, EE, enjoys his job as an assistant professor at the University of Wisconsin-Milwaukee. **Elizabeth J. Borchelt**, AMth '89, is working toward

DID YOU KNOW?

You can choose your class year! Check the mailing label on this issue — the two-digit number on the second line should indicate the year we have listed as your "preferred" class year. If this is NOT the year you would prefer, just let us know and we'll change it. Contact Janice Turner in the Alumni Office, Castleman Hall, UMR, Rolla, MO 65401-0249 or by phoning (314) 341-4145

her PhD in industrial engineering at UWM. Bob, Jean and their three children have a new house and may be reached at N109 W7340 Balfour St., Cedarburg, WI 53102, or at (414) 375-2195. • **Richard T. Bradley**, CE, worked long hours for the St. Louis Board of Public Service during the Flood of 1993 and met many other UMR graduates practicing flood engineering. He writes, "Their enthusiasm, stamina and hard work was commendable." • **John H. Fox**, MetE, and Kathleen were married May 8, 1993. John is an MBA candidate and head coach for the rugby team at Mount Saint Mary's College, and Kathleen is a graduate of Virginia Commonwealth University and Medical College. • **Lt. Gregory J. Gibson**, ME, serves as a Navy helicopter pilot for Helicopter Airborne Mine Countermeasures Squadron 14 in Norfolk, Va. • **Anthony G. Hafner**, AE, writes, "I am an instructor navigator for the 37 ALS, Rhein Main, Germany, in adverse weather aerial delivery system c-130 Hercules, USAF. We are busy with humanitarian airdrops to former Yugoslavia." • **Timothy S. Hudwalker**, CE, earned an MSCE from Clemson University in 1990 and went to work for H.B. Zachry Co. He is working to build a chemical plant for Amoco in Decatur, Ala. • **Kevin W. Low**, CE, was accepted into the Missouri Society of Professional Engineers in fall 1993. • **Keith McCarthy**, Econ, is a new biology and general science teacher at Maries R-II high school in Belle, Mo. He is also the scholar bowl and freshman class sponsor. • **Max F. Middendorf**, CE, has become a registered professional engineer in Missouri and is applying for registration in Illinois. Max reports that business at Mecro Engineering Co. is growing in a new facility on Highway 61 in Hannibal, Mo. • **Daniel C. Nix**, MetE, and Nancy E. (Ravenscraft) were married July 17, 1993, and reside in Ohio. Daniel works as a department manager with Armco

Steel and Nancy is a cost accountant with Ghent Manufacturing. • **John E. Pearson**, CE, passed his professional engineer exam in Illinois last April and celebrated his first wedding anniversary with wife Juliane in October 1993. • **Sonuel L. (Ivery) Smith**, ChE, and Carl E. were married Saturday, April 17, 1993. They reside in Cincinnati, Ohio, where Sonuel celebrated her five year anniversary with Procter and Gamble in June, and Carl is a design engineer for General Motors. • **Regina (Kunzler) Topi**, MetE, and **Marty**, EMgt, are updating a 63-year-old home in south St. Louis City. Marty works for Emerson Electric, and Regina works for Alcoa, writing that she would love to hear from her old "met buddies."

1989

• **Tracey A. Clavenna**, AE, and Dave Chriske, AE from Syracuse University, were married July 31, 1993. They met as engineers at General Electric, where Tracey now works in patent law operation. Tracey is halfway through law school. • **Gene A. Harper**, EE, writes, "I have started a business called Income Options to work with ambitious persons seeking to expand their income." • **James K. Hovis**, AE, and Michelle are building a home on their farm outside Fredericktown, Mo. Jim writes that work is going well. • **Charles V. Muerhoff**, GGph, works at Hecla Mining Co.'s Golden Promise Mine in Washington as a mine geologist. His wife, Debbie, works for Hecla Mining as the payroll clerk. • **Gerald P. Rauch**, ME, was accepted into the Missouri Society of Professional Engineers in fall 1993. • **Steve E. Scott**, ME, is a new member of the Missouri Society of Professional Engineers. • **Susan (Housh) Slade**, MetE, and Cary were married in March 1993. They live in Lake Jackson, Texas, where both Susan and Cary work for Dow Chemical. Susan provides technical support to the European sector of Dow's magnesium business. •

Scott A. Snoble, ME, works in the engine division--analysis section of Caterpillar in Pekin, Ill. Wife Stacy teaches chemistry at Pekin High School.

Nineties

1990

• **Jay J. Baudendistel**, ME, works for the Michelin Corp. in Spartanburg, S.C. Jay, wife Laura and their children, Peter, Caitlin and Audrey, reside in Moore, S.C. • **Timothy A. Bauer**, EE, and Carmen (Pineiro) were married June 26, 1993. They live in Edwardsville, Ill., where Carmen works for the local school district. Timothy works for Andersen Consulting in St. Louis. • **Bruce M. Borcherd- ing**, EE, works for Rockwell International, designing modems for HF radios for both military and commercial applications. • **Lisa (Dan- aher) Doyle**, ChE, and Kevin were married in August 1993 and live in Indianapolis, Ind. • **Timothy D. Emmerich**, EE, and **Jane (Cochran)**, CerE '93, were married Aug. 21, 1993. They live in Corvallis, Ore., where Timothy works for Hewlett Packard. • **Gary J. Hatfield**, MinE, was transferred to Eastern Associated Coal Corp.'s corporate office in Charleston, W.Va., as manager, engineering. • **Daniel R. Hauschel**, ME, and **Elaine M. Yonker**, AMth '92, were married June 19, 1993. Daniel is an engineer with Panhandle Eastern Corp. and Elaine is a computer consultant with Andersen Consulting; they reside in Houston, Texas. • **Christopher A. Layton**, CE, and Kristy (Brune) were married Oct. 16, 1993, and will live in Baton Rouge, La. Chris changed careers to work in construction with Traylor Bros. Inc. • **Dr. Hsien-Ren Lee**, PhDME, is exploring climate control for Chrysler's 1993 LH car design by using computational fluid dynamics analysis. Dr. Lee works as project engineer. • **Katrina**



ALUMNI NOTES

McDaniel, EMgt, works in Kimberly Clark's new feminine care facility in Appleton, Wis., as a team leader managing the production of a new product called Secure-Hold. • **Nancy K. Meyer**, MetE, and **Timothy E. Harster**, MSCerE '93, were married June 12, 1993. Nancy works for Fort Wayne Foundry in Indiana. • **Robert Phillips**, LSci, MinChem, and **Katherine**, NucE, bought a house in Gainesville, Fla. Kathy is an assistant in engineering at the University of Florida, nuclear engineering sciences department, overseeing grants and research, and Bob attends medical school and works with the American Medical Association, where he finds patient care to be very rewarding. • **David B. Platt**, ChE, and Liane (Jennings) were married and live in Lake Jackson, Texas. • **Timothy A. Stelljes**, EE, began working for Engineering Design Service in Topeka, Kan., last fall. Most of the contractor's work is with the Quaker Oats pet food plant in Topeka. • **Martin T. Whalen**, AE, is a lieutenant in the U.S. Air Force, working as an aircraft coating development engineer in Wright Laboratory at Wright-Patterson Air Force Base in Ohio. • **Loren P. Whetsell**, Hist, graduated from the University of Missouri -Columbia in December 1993 with an MA in British history and continues to work on his PhD. His wife, **Lucy A. Bell**, Psyc, Min-

Hist, is working on a master's degree in early childhood special education. New daughter Lindsay will have a hard time getting away from UMR, having two parents, a grandfather (**Paul Whetsell**, PetE'61) and an uncle (**Dennis Bell**, ME'90) who have attended. • **R. Daniel Wiltshire**, EMgt, and Jayne were married in May 1992. Daniel is manager of engineering for Johnson Controls Battery Group Inc. in St. Joseph, Mo., and Jayne is a beauty consultant with Mary Kay Cosmetics.

1991

• **Eugene Bae**, EE, joined the Department of Defense as a Clinton appointee, focusing on environmental security issues. He earned an MS degree in technology and policy from the Massachusetts Institute of Technology in May 1993. • **Charles E. Comeau**, MinE, reported for duty aboard the submarine USS Batfish, homeported in Charleston, S.C., in September 1993. • **Lt. James E. DeVaney Jr.**, AE, MinHist, writes, "I'm in Oklahoma flying the E-3 AWACS, doing my job and seeing the world--mainly Saudi Arabia, Panama and Turkey. Drop me a line at 5305 Eden Dr., Oklahoma City, OK 73135." • **Karri Hall**, CE, was accepted into the Missouri Society of Professional Engineers in fall 1993. • **Joanne Marie Holm-**

es, MetE, reports that daughter Rebecca, 2, enjoys "reading" mom's old met textbooks. • **Glen P. Hoppe**, ChE, and **Krista (Sheftick)**, CerE'92, were married July 17, 1993. Both Glen and Krista work for Archer Daniels Midland in Clinton, Iowa. • **Jamie Page**, CE, began work as assistant city engineer in Washington, Mo., in October 1993.

1992

• **Ellen (Brown) Biermann**, EMgt, and John were married in fall 1993. They live in Cleveland, Ohio; John is a UM-Columbia graduate and Ellen is an engineer with Ford Motor Co. • **Rebecca O. (Workman) Duneheew**, EE, and **J. Matthew**, MetE, were married in April 1993. Rebecca works as a power systems engineer with Procter and Gamble. • **Scott J. Harris**, ME, was accepted into the Missouri Society of Professional Engineers in fall 1993. • **Mary (Strouse) Hawkins**, EMgt, and **Thomas W.**, ME'93, were married Sept. 4, 1993. • **Kimberly D. Roper**, ChE'92, and **Gregory S. Head**, MetE, were married May 29, 1993. Kimberly is a chemical engineer for Black and Veatch, and Gregory is a metallurgical engineer in quality assurance management for United States Steel. • **Charles A. "Tony" Smith**, ME, and Nicole were married March 20, 1993, and

live in Kansas City, Mo. Tony works for Black & Veatch and Nicole works for State Beauty Supply. • **George S. Stewart**, ChE, works for Anheuser-Busch Cos. Inc. in the corporate research and development department and is considering forming his own company. • **Marshall L. Strouse**, EE, writes, "Having a great time in Texas. Lots of engineering jobs in a great city--Austin!"

1993

Andrew S. Adams, EE, and **Lisa G. (Willhaus)**, ChE, were married Aug. 28, 1993 in Kansas City, Mo. Andrew works with Emerson Electric and Lisa works with Procter and Gamble Co. • **Jarrold P. Browning**, CE, and **Stephanie (Herndon)** were married June 26, 1993, in Louisiana. Jarrold works for the Missouri Highway and Transportation Department and Stephanie is a grade school teacher. • **Navy Ensign Larry S. Criscione**, EE, was commissioned in his present rank upon graduation from Officer Candidate School in December 1993. • **Elizabeth J. Dare**, CE, works with the Missouri Highway and Transportation Department and lives at 13420 Kingscross Ln #4, St. Louis, MO 63141. She was accepted into the Missouri Society of Professional Engineers in fall 1993. • **Matthew D. Groves**, MetE, accepted a full time position with Campus Crusade for Christ as campus missionary at the University of Nebraska-Kearney. • **William G. Persons**, MinE, has worked in the petroleum industry for over 40 years. He writes, "Friends welcome in Jackson Hole, Wyo.!" • **Mitchell L. Rackers**, ME, and **Deborah (Archibald)**, CE, were married Sept. 4, 1993, and are living in Kansas City, Mo. • **Gary E. Schaper**, CSci, works as a programmer with John Steffen Associates of St. Louis, a CAD consulting firm. • **Navy Ensign Jeffrey R. Schmitt**, EE, was commissioned in his present rank upon graduation from Officer Candidate School in December 1993.

What's New With U?

We admit it: We're nosy. We would like to share your news about your professional accomplishments with your classmates, including job change, promotion or retirement; community and volunteer activities; recent marriage or addition to your family; or any other news you have.

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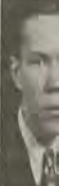
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In Memory

The MSM-UMR Alumni Association extends its condolences to the families and friends of the following deceased alumni:



1922

John L. Bulger, MinE, has died at age 95. At MSM, he was a member of Lambda Chi Alpha, Mercier Club, "M" Club and the Mines and Metallurgy Association. After graduation, John worked in the Providencia Mine in Mexico and later was in charge of the Wolfgram Mine in Bolivia. He worked in Bolivia many years before retiring.



1930

Allen R. Maune, CerE, died May 15, 1993. At MSM, Allen served as circulation manager and board member for the Miner and as president of Phi Kappa Alpha. He was also a member of Satyr and the Glee Club. He worked at Harbison-Walker Refractories, serving as district superintendent in Fulton, Mo., until his retirement. Allen lived with wife Dorothy in Fulton.



1933

George Musson, MetE, died Nov. 29, 1993. At MSM he was a member of Tau Beta Pi. George spent most of his career as a flotation metallurgist and a fluor-spar milling specialist working in southern Illinois. He retired from Minerva Oil Co. in 1989. (Information provided by Gill Montgomery, MinE'35.)



Elmer A. Roemer, CE, died Nov. 13, 1993. He transferred from Central College and was a member of the MSM track team. He

moved to Rolla in 1940 to work for the USGS and retired in 1975. Elmer lived in Rolla for 53 years and was active in the Boy Scouts of America, a member of the MSM Alumni and Lettermans Club, and a registered professional engineer. (Information provided by Ted Hunt, CE'33.)



1936

Nyle M. Adams, CE, died in July 1992. At MSM, Nyle was a member of Sigma Nu. He worked with the Illinois State Highway Department for five years after graduation. In the 1940s, he worked as assistant supervisor for Illinois Central Railroad and, later, was field engineer for the Portland Cement Association until retirement.

1937

Donald F. R. Grimm, CE, died Nov. 10, 1993. At MSM, he played basketball and served as vice president for Triangle, Senior class president and St. Pat's Board secretary. He was an officer in the U.S. Army during World War II. He held various engineering jobs until 1960, when he became city engineer for Ferguson, Mo., a position he held for 24 years. Donald was one of the engineers who initiated the Coop Construction Program small storm sewer projects. He was preceded in death by his wife, Korma.

MEMORIAL GIFTS

If you would like to make a memorial gift in memory of a loved one or friend, please contact the MSM-UMR Alumni Association, or simply send a check, made out to the MSM-UMR Alumni Association, and include a note indicating the individual you would like to memorialize.



1942

Thomas A. Hughes, CE, died Dec. 10, 1993. He worked as a civil engineer with the USGS for 30 years before retiring to Florida with wife Dana. His career was in research and development, and he received several patents for his innovative concepts. Thomas was a U.S. Army veteran of World War II and retired as a major from the U.S. Army reserve.

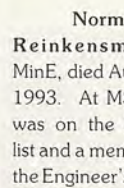
1947

Alanson Dale Topping, MSCE, died Nov. 1, 1993. He earned his BS from Purdue University, his MS from MSM and a PhD from the University of Illinois. Dale taught at all three schools before going to work for Goodyear Aerospace Corp. in Akron, Ohio. During his 25 years at Goodyear, he developed an interest in lighter-than-air aircraft. After his retirement, he became editor of "Buoyant Flight," the 12-page bimonthly newsletter of the Lighter-Than-Air Society. He also was consulted by the media for information about balloons and airships. He and Mary lived in Roswell, Ga. (Information provided by George Leck, ME'61.)



1949

Don W. Carey, MinE, died Aug. 21, 1993. Don was retired and living in Las Cruces, N.M., with Victoria.



Norman W. Reinkensmeyer, MinE, died Aug. 13, 1993. At MSM he was on the Honor list and a member of the Engineer's Club. He went to work for Harbison-Walker Refractories in 1949, where he stayed for 35 years, travelling through the United States, Iran and South America. Norman lived in Hoyleton, Ill.



Arthur H. Weber, CE, died Nov. 3, 1993. At MSM he was a member of Kappa Alpha. He worked as manager of estimating at Dow Chemical USA and as supervising estimator at Fluor Corp. Arthur and Pat lived in Houston, Texas.

1950

Albert M. Petska, GGph, died Jan. 9, 1993. At MSM, Albert was on the honor list and lettered in football. He worked as a student assistant in the athletics department and was a member of C.L. Dake Geology Society. Albert worked as a state engineer for Oregon for many years before becoming president of AMPCO Engineers Inc. He and wife Margot lived in Salem, Ore. (Reported by his wife, Margot Petska.)



Linus J. Renner, MetE, died Oct. 8, 1993. At MSM, Linus was a member of Tech Coop. Club, A.S.M., Independents and on the Honor List. He worked for Joseph T. Ryerson and Son Inc. and Spaulding Fibre Co. Inc. before founding Renner and Associates Inc. in 1972. Linus served as owner and president of his company. He lived with wife Bernice in Chesterfield, Mo.

1951

Donald L. Rober, ME, died in June 1993. Donald lived in Burlington, Mass., with wife Edna and worked as president of United Distributors Inc.





1952
Robert E. Campbell, EE, died June 14, 1992. At MSM, he was a member of Independents, A.I.E.E. and the Engineer's Club. Robert began working for General Motors after graduation and retired in 1988 as senior research assistant for GM-Delco-Remy. He lived in Anderson, Ind., with wife Patricia.

1953

George E. Hargraves, MinE, died in February 1993. At MSM, he was on the honor list and a Deister Concentrator Scholarship recipient. He was a member of Sigma Nu and Independents and served as president of the Engineer's Club. George retired from the Carmac Coal Co. and lived in Marion, Ill.



1954
Generoso V. Sancianco, MinE, died Aug. 10, 1992. At MSM he was a member of Tau Beta Pi. He briefly worked in the mining

industry for G.V. Sancianco and Sons, before forming his own natural fruit company, Tropic Fruits. Generoso lived in the Philippines, where his wife, Lourdes, and family continue to run the company.

1956

Richard P. Hirsch, CE, has died. At MSM, he was a member of Kappa Sigma, the Rollamo Board and A.I.C.E. and was a student assistant in the library. He went to work for Goodyear Tire and Rubber Co. in 1959 and was a technical engineer at Goodyear at the time of his death. Richard lived in Houston, Texas.



1959
James G. Taylor, EE, died in April 1993. At MSM he received the Phi Kappa Phi Bookplate Award, was on the Honor list and was a member of Eta Kappa Nu and Tau Beta Pi. At the time of his death, James was operations manager for Taylor Sand and Gravel. He and Doris Jean lived in Caruthersville, Mo.

1960

Paul M. Walker, PetE, died Aug. 18, 1993. He was employed with J.M. Huber Oil and Gas Co. for 25 years. Paul and wife Wanda lived in Amarillo, Texas.



Col. Raymond A. Whelan, CE, died June 4, 1993. Raymond earned his BS in military science from the University of Maryland. He came to MSM in 1958, was listed on the honor list and graduated in 1960 with second honors. He was a member of A.S.C.E., Chi Epsilon and Tau Beta Pi. A decorated colonel and veteran of the Korean War, Raymond served in the U.S. Army for 27 years and in the U.S. Navy for three years. He retired as vice president of Survcon Inc. and lived with wife Pearl in Houston, Texas. (Reported by his wife, Pearl Whelan.)

1962

Frederick W. Haushalter, ME, died May 24, 1993. At MSM he was on the Honor list and a member of Independents, S.A.E. and A.S.M.E. He worked at Douglas Aircraft Co., United Aircraft Products Inc. and Kenton Tech Inc. At the time of his death, he was vice president of sales and engineering at Robinson



Fin Machines Inc. Fred and Ruth lived in Kenton, Ohio.



1963
Ronald L. Cowperthwaite, Phys, died Aug. 25, 1993. At MSM, he was a member of the Engineering Club, Sigma Gamma Epsilon, Independents, Kappa Mu Epsilon, the Honor List and Sigma Pi Sigma. He received the Curators Award, the Phi Kappa Phi Book Plate Award and the Silver Key Award. Ronald worked for McDonnell Douglas Corp., APO Inc. and the U.S. government before his retirement. He lived in Eldridge, Mo.

1964

John E. Lundy, EE, MSEE '67, died Sept. 10, 1993. John received first honors at graduation from UMR and was on the Honor List every semester he attended. He received the Phi Kappa Phi Book Plate Award two years in a row and was a member of Tau Beta Pi, A.I.E.E., the *Miner* board and TKE. John began working for Hallmark Cards Inc. in 1976, where he served as manager of equipment and manufacturing engineering until April 1992. He then worked as staff engineer. John and Christine lived in Merriam, Kan.



1968

Joel K. Michel, CerE, MSCerE '73, died Nov. 7, 1993. At UMR, he was a member of GDI and Tau Beta Pi. He was plant engineer for Elf AtoChem in Pryor, Okla., where he had worked almost 15 years. He was a member of the American Ceramic Society, American Chemical Society, MENSA and the American Institute of Plant Engineers. (Information provided by his brother, Andrew J. Michel.)



1970
Philip W. Jacobs, CE, died Oct. 2, 1993. At UMR, Philip was a member of M.R.H.A., G.D.I., A.S.C.E., N.S.P.E., Tau Beta Pi and Chi Epsilon. He also received a degree in mathematics from Illinois College in Jacksonville. He last served as senior vice president for Daily and Associates Engineers Inc. in Peoria, Ill., where he had worked for 24 years. In 1993, he was elected president of the Consulting Engineers Council of Illinois. Philip and Connie lived in Peoria, Ill.

1974

William J. McGranahan, MSChem, died Oct. 5, 1993. At UMR, William was a member of Alpha Chi Sigma. He had worked as a systems analyst for JEOL Inc. and as an instrument specialist for Iowa State University and Northwestern University in Illinois. William and Patricia lived in Salisbury, Mass.

1977

Pedro L. Hernandez, ME, died in December 1992. Pedro worked as a mechanical engineer for Maraven SA. He lived with his family in Venezuela. (Information provided by his mother, Maria de Hernandez.)



1983
Alan L. Finley, AE, died Sept. 9, 1993. At UMR, he served on the Independents Council and as a resident assistant and house governor in the Quad. Alan worked as an aerospace engineer for the U.S. Army Aviation Systems Command in St. Louis before becoming ill in 1992. The Alan Lee Finley Scholarship for aerospace engineering students has been established through the MSM-UMR Alumni Association.

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<p><i>Each year</i></p> <ul style="list-style-type: none"> Century Club decal <p><i>Year 1</i></p> <ul style="list-style-type: none"> Plaque with plate designating first member year <p><i>Future</i></p> <ul style="list-style-type: none"> Membership plate for that year 	<ul style="list-style-type: none"> All Century premiums, with Silver designation Sepia-toned limited edition lithographs <p>1994—Fulton Hall 1995—Old Metallurgy Building 1996—Harris Hall 1997—UMR Stonehenge 1998—Rolla Building 1999—Chancellor's Residence 2000—Parker Hall 2001—Norwood Hall 2002—Castleman Hall 2003—McNutt Hall</p>	<ul style="list-style-type: none"> All Century and Silver premiums, with Gold designation Lithograph is framed Two free tickets to Silver and Gold Homecoming Party (on request) 	<ul style="list-style-type: none"> All Century, Silver and Gold premiums, with Platinum designation Complimentary season pass for athletic events on campus Special parking privileges on request

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Engineer working for graduate senior r GM-Delic Anderson

1953

George Graves, A in Febru. AlMSM, the hono: Deister C for Schol cipient. F ma Nu served at neer's Cl the Carm Maton, I



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Richard I CE, has MSM, h member Sigma, th Board an and was assistant!

work for Goodyear Tire and Rubber Co. in 1959 and was a technical engineer at Goodyear at the time of his death. Richard lived in Houston, Texas.

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vided by his brother, Andrew J. MSM-UMR Alumni Association.

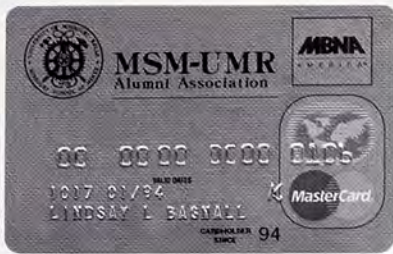
(Michel.)

United Aircraft Products Inc. and Kenton Tech Inc. At the time of his death, he was vice president of sales and engineering at Robinson



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Or, you could have a civil attitude like Brenda (Ellerbrake) Liescheid of Chesterfield, Mo. Brenda, who is a senior financial analyst for the May Department Stores Company, "got tagged" just last year.

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A GLASS ACT:

Students find new uses for old jars and bottles

UMR's research on "glasphalt" -- asphalt mixed with crushed waste glass -- has paved the way for studies into new uses for old glass jars and bottles. Three UMR students -- **Chad D. Brown** of Edwardsville, Ill., **Theresa M. Pierce** of Hillsboro, Mo., and **Garth Brown** of Rolla -- are experimenting with waste glass through the UMR Opportunities for Undergraduate Research Experience (OURE) program. OURE, now in its third year, provides stipends of up to \$1,000 for undergraduate students who conduct research under the direction of faculty members.

Studies on waste glass at UMR date back to the mid-1960s, when researchers began mixing waste glass with asphalt to form "glasphalt" for road and parking lot construction. Now, the OURE students are looking at waste glass as a substitute for clay in

architectural bricks, as a substance for "sandblasting" corrosion from bridges and other metal structures, and as an inexpensive replacement for a costly type of paint pigment.

Thick as a brick

Chad Brown, a sophomore in ceramic engineering, is trying to make an architectural brick substitute that could still be produced with normal masonry and cement-bonding techniques. In traditional brickmaking, brick becomes a mixture of clay and sand that is held together by a glass "glue" formed by high-temperature reactions during baking. "Unfortunately, the process of making bricks also releases undesirable fluorides into the atmosphere," says Brown, and manufacturers are under pressure to come up with a cleaner way to make the bricks.

The problem comes from the clays, which give off fluorides during baking, he says. Bricks made of glass, however, would not release the pollutants.

Brown's adviser, **Douglas Mattox**, a professor of ceramic engineering at UMR, says the bricks will be made mostly of glass instead of clay and will contain a "filler" ceramic to reduce brittleness. The glass bricks will bake solid at lower temperatures than conventional brick, thereby saving energy, Brown says.

A "glassblaster"?

Pierce, a senior in chemistry, is exploring a method to use specially coated, particle-size recycled glass to clean corroded metal surfaces while coating them at the same time. She is attempting to bond the coating to tiny

glass beads that could be "sandblasted" to clean corrosion from weathered metal bridges and other surfaces. During blasting, the special coating would adhere to the cleaned metal surface. "The end result will provide a one-step operation to clean corrosion from surfaces and to coat those surfaces with a protectant," Pierce says.

Pierce is working under the direction of **Harvest Collier**, a UMR associate professor of chemistry.

Bright future for paint

Also under Collier's direction is Garth Brown of Rolla, who is using small particles of recycled glass to create an inexpensive substitute for titanium oxide, a costly pigment used in paints. His research involves crushing recycled glass into powder and attaching an "optical brightener" -- a chemical compound that absorbs ultraviolet light and has optical properties similar to certain paint pigments -- to its surface.

So far, Brown has found that the glass shows visible light coming from it and "that is a good indication," he says. The finished paint from the current study will mostly be used to paint markings on highway surfaces, Brown says. The current product "is still pretty rough because of the mixture of glass particle sizes being used." He hopes to get the glass particles small enough so that the finished product can be used on walls or in primer paint. ■



The glass menagerie: From left to right Theresa Pierce, Chad Brown and Garth Brown might make Rolla's recycled glass center site a source for creating new products

FacultyFacts

Long gets Fulbright, goes to Belgium

UMR chemistry professor **Gary J. Long** is spending the year conducting research at the University of Liege in Liege, Belgium, thanks to a grant from the Fulbright-Hays Educational Exchange Program. Long is continuing his research in solid-state chemistry, with an emphasis in Mossbauer spectroscopy, at the university's Institute of Physics. The research involves work on inter-metallic compounds, which are hard, permanent magnetic materials.

Civil professor given ASCE's highest honor

Paul R. Munger, CE'58, '61, professor of civil engineering at UMR, received the President's Award from the American Society of Civil Engineers during the society's annual meeting in October in Dallas, Texas. The award is the society's highest honor and is presented to an ASCE member in commemoration of George Washington, the nation's first president, who also was a civil engineer and land surveyor.

The award recognizes Munger for his more than 30 years of leadership in the civil engineering field.

Four faculty members honored with prestigious professorships

John D. Rockaway Jr., professor of geological engineering, **John W. Wilson**, chairman and professor of mining engineering, **Lawrence O. Christensen**, professor of history and political science, and **Frank Blum**, professor of chemistry, have all recently received prestigious professorship awards. Rockaway was named UMR's second Gulf Oil Foundation Professor; Wilson became the campus's second Union Pacific/Rocky Mountain Energy Co. Professor; Christensen was named a Distinguished Teaching Professor of history, and Blum was named a Curators' Professor of chemistry.

Rockaway's appointment is supported by a \$100,000 endowment from Gulf Oil Foundation, and Wilson's appointment is supported by a \$110,000 endowment from Union Pacific Foundation. Both appointments are for four years. Earnings from the endowments supplement the recipients' salaries and pay for supplies, travel, assistantships and other expenses related to teaching and research.

The Distinguished Teaching Professorship was established at UMR in 1990 to honor outstanding professors, call attention to teaching excellence at UMR, and foster improvements in teaching and learning.

The Curators' Professorship that Blum received is awarded to outstanding scholars with established reputations in their fields of expertise.

Saving nuclear power plants will save energy, cut costs, professor says

Extending the life of nuclear power plants in the United States could save billions in energy dollars through the year 2030, according to **Arvind S. Kumar**, UMR chairman of nuclear engineering. Kumar, whose current research is focused on extending nuclear power plants' operations into the next century, sees nuclear power as a viable alternative to the aging coal-fired plants that now provide much of the nation's electricity.

"The United States will need substantial new sources of electricity in the early 21st century due to the retirement of much of the nation's electrical-generating capacity," Kumar says. "Most of the capacity loss will be due to the shutdown of the existing nuclear power plants between the years 2005 and 2025 if their current operating licenses are not extended beyond their current 40-year life expectancy."

Kumar notes that a recent report prepared by Sandia Na-

tional Laboratories in Albuquerque, N.M., estimates that renewing these nuclear power plants could save consumers more than \$200 billion between now and the year 2030.



Kumar has received more than \$600,000 in external funding to study nuclear power plant life extension.

Kumar's research focuses on the radiation damage to the pressure vessels and plant support structures. "The safety of the plant structures is determined through continuous surveillance," he says. "Part of our research effort is to try and improve the surveillance methodology of nuclear power plants." ■

Geologists can rock and roll with updated guidebook

Folks interested in a geological tour of the Rolla area now have an updated book to guide them. **Alfred C. Spreng**, professor emeritus of geology and geophysics, and **Paul D. Proctor**, former chairman and professor of geology and geophysics, recently revised and published the "Guidebook to the Geology of the Waynesville, Rolla and St. James Areas, Missouri," first published in 1972.

The book describes the geology along Interstate 44 and includes an explanation of sink structures and former clay pits, Maramec Spring, and photographs of primary and secondary structural features of sedimentary rocks in the area. Road logs in the guidebook, beginning at UMR's Stonehenge, were planned so that they cover all stratigraphic areas exposed in the territory. The route can be covered in about a day, Spreng says. ■

To order a copy of this book, contact: Geology and Geophysics Department, 125 McNutt Hall, or call (314) 341-4616. The cost of the book is \$10, including postage.



Prompted by flood, researcher has new designs on treatment plants

The way the Flood of 1993 knocked out water treatment plants throughout the Midwest points out the need for new approaches to designing these facilities. That's the opinion of **Dee Ann Sanders**, an instructor in civil engineering, who is studying ways to make water and wastewater treatment facilities more floodproof.

"Conventional solutions have been to elevate the plants or build levees around them so flood water can't get to them," says Sanders, CE'71 EnvE'74, who is studying alternative design methods through a \$50,000 grant from the National Science Foundation. But as last summer's floods proved, levees don't always prevent damage. Flooding can harm treatment units even when the levees around them hold.

"Most water and wastewater treatment plants are constructed using large, in-ground tanks," says Sanders. "During a flood, even if the plant is protect-

ed by a levee, the ground inside the levee will be completely saturated. This can cause the tanks to begin to float, causing major structural damage. Other types of damage can occur as well."

Federal laws, including the Clean Water Act and the Resource Conservation and Recovery Act, require these facilities to be built outside 100-year floodplains. "But these are the only federally-mandated compliances for flood events," says Sanders, and they aren't always practical. "Since rivers are the source of water for most cities and the point of discharge for most wastewater treatment plants, these facilities are always going to be located near rivers." So ways to redesign plants inside the floodplain so that they can continue operations during a flood must be considered as well, she says. "I'm convinced that changes in the design of water facilities must be made for the benefit of our health and our environment."

Sanders' funding comes from the NSF's Small Grants for Exploratory Research program. ■



Dan Seifert/Stone House Photography

"...changes in the design of water facilities must be made for the benefit of our health and our environment." —Dee Ann Sanders

Rave "Review": Students give UMR high marks in survey

UMR is back in the rankings again -- this time as one of four Missouri campuses, and the only University of Missouri campus, to be listed in "The Princeton Review Student Access Guide -- The Best 286 Colleges." The guidebook is the only one based on students' opinions of their schools.

For each campus, the book offers a two-page analysis that discusses academics, campus life, the students, admissions and financial aid. The book also lists "what's hot" and "what's not" for each college.

The Princeton Review says UMR "offers a fine engineering education at public school prices" and adds: "Most Rolla students are engineers, and accordingly, they study almost incessantly."

The book also takes note of UMR's outstanding liberal arts programs: "Surprisingly, students saved their nicest compliments for their liberal arts instructors. The English professors are intelligent, well educated, and determined to provide students with a wide range of literary educational experiences. Unfortunately, the English department is overlooked by those who would classify UMR as a technological university," wrote one engineer. "Among the hot items at UMR are 'studying hard,' 'conservative politics' and 'profs (who) teach upper courses.'" ■

UMR freshman, born in Vietnam, is Horatio Alger National Scholar

UMR freshman **Adam Dang** of Kansas City, Mo., recently joined the ranks of former President Gerald Ford, poet Maya Angelou and former football pro and Cabinet member Jack Kemp.

Like Ford, Angelou and Kemp, Dang is a Horatio Alger National Scholar. He was one of 63 Americans selected for the honor, which recognizes high school seniors not only for their academic ability, but also for their determination in overcoming obstacles. His story was recounted in the Feb. 20 edition of *Parade* magazine.

Dang was born in Da Nang, Vietnam, in 1974, just nine months before the fall of South Vietnam. After the fall, Dang's father, a pilot in the South Vietnamese Air Force, was sent to a concentration

camp for three years, while Dang, his mother and other family members were left to fend for themselves in a small village. In 1979, his father and an older brother left for the United States, leaving his family behind but vowing to someday send for them.

His father found work in a Kansas City restaurant and saved enough money to help his family escape. The family was reunited in Kansas City in 1984.

Dang entered North Kansas City High School somewhat behind in English, but persevered. In 1993, he graduated seventh in his class.

The key to adjusting to the new culture, Dang told *Parade*, was "My mom and dad. They have gone through so much. They're what keeps me going." ■

Dial-a-class: Students register by telephone

The days of standing in line to sign up for classes are over for most UMR students. Registration now is only a phone call away.

Last November, UMR students began using the campus' new "touch-tone/voice response" (TT/VR) system to register for the winter semester. According to **Myron Parry**, UMR's registrar, the system not only makes registration less time-consuming, but it also lets students know in an instant whether they will be enrolled in the courses they've chosen -- averting last-minute scheduling changes at the beginning of the semester. A total of 3,771 of the 4,665 students to register for the winter semester used the TT/VR system in November, Parry says.

The system has made registration more convenient for off-campus students, such as those who are working through the Cooperative Education Program or graduate students enrolled in UMR's Engineering Education Center in St. Louis.

In the future, Parry says, students may use the telephone-registration system to get earlier access to their grades at the end of each semester. ■



Calc 3?
Diff EQ?
Physics 12?
Hello?

Former Prime Minister Thatcher speaks of leadership, freedom



More than 5,000 people came to campus recently to hear Great Britain's "Iron Lady" say the world still relies on the Western democracies for leadership.

Margaret Thatcher, the 18th guest presented by the Remmers Special Arts/Lecture Series at UMR, spoke on Feb. 7 to a capacity crowd at the Gale Bullman Multi-Purpose Building. The former British prime minister focused on the common ties between her nation and the United States—they both "serve as a beacon to the whole world" during tumultuous times, she said—and presented her thoughts on a variety of foreign-policy issues. Below are some of the comments made by Lady Thatcher during her speech.

"In the end, there is no substitute for the leadership of the democratic nations, and our strategy of extending to the whole world the freedom of the individual and the rule of law, the market economy, the oldest system known to man. And with representative democracy, that is the strategy. And you find that once people get that, there is no record in world history of an established democracy with representative government that is fighting another established democracy. Because democracy is ruled by the people through a government, and that government can be turned out at any time.

"If we again keep our defenses strong and our message short, we shall find we will have a steadily improving century in the next century, but again always be prepared because the price of freedom is eternal vigilance. Now if that doesn't seem to be a very optimistic assessment, it is a very realistic assessment, with cautious optimism. I think perhaps the best thing of all is that most young people that I find as I go around have a desire to attach themselves to some cause greater than themselves and to know what they're doing is not only useful but it is right.

"I know all the difficulties with the increasing crime, but my friends, every day there are millions, millions, and millions of people in your country and mine going about their daily business—looking after their families, being responsible, showing some kind of responsibility to the community, contributing to the church, contributing to volunteer work. Millions, millions and millions doing that. And there lies the strength of our countries."

"The purpose of the university is to transmit the best of the past to future generations, to unlock the secrets of science and creation which have so far eluded us, and to blend the truths, which are timeless, with circumstances that are ever changing. There is no more noble enterprise than this."

Photos by Khan Powell '94



New leadership for Project 2000



Dan Seifert/Stone House Photography

The original Project 2000 Challenge, issued by (seated, left to right) Greg Junge, '65, Jack Haydon, '58 and John Mathes, '67; and the late Neil Stueck, '43, produced more than \$250,000 in commitments to the Department of Civil Engineering. This success has inspired four more alumni—(back row left to right) Dick Arnoldy, '69, Harley Ladd, '40, Bob Jenkins, '53, and Ed Calcaterra, '52, to issue Challenge II. These alumni will match dollar-for-dollar, each gift made during the next two years to the civil engineering department as a result of a person joining the Order of the Golden Shillelagh.



December commencement full of smiles

University of Missouri Curator John P. Lichtenegger, left, addressed approximately 500 UMR graduates on the need to hold on to their principles throughout life at December 1993 commencement exercises.

(Photos by Dan Seifert/Stone House Photography)



A shot of prevention: Programs provide alternatives to drinking

By Arleasha Mays

Laughter and the murmur of conversation from students seated around small tables mixes with the sound of bartenders clanking bottles and glasses, while waiters call out orders from the back of the room. The buzz of activity this night gives the cafeteria in University Center-East the look and feel of a night club. Only by watching the bartenders serve up drinks is it evident that things are not as they appear. While the drink orders have familiar names -- Bloody Marys, Pina Coladas, Harvey Wallbangers -- everything on the menu this night is alcohol-free.

The evening of mocktails and comedy was one of the UMR-sponsored IMPACT (Intelligent Miners Promoting Alcohol Concerns Together) events held last fall. These events are key components of the university's effort to discourage alcohol abuse -- by teaching students that they don't need to drink to have a good time.

That's been Camille Consolvo's mission since 1988, when she helped develop UMR's Substance Abuse Prevention Program (SAPP) in UMR's Division of Student Affairs.

Getting that message across is tough, she says, because often it involves getting students to break old habits. "About two-thirds of the students come to UMR already

having used alcohol," says Consolvo, UMR's coordinator for student development. "So it's not like they're learning all those things once they get here."

Consolvo hopes to encourage students to be more responsible "by helping them learn more low-risk ways to use alcohol if that's what they choose to do."

As on most college campuses, many students here drink on a regular basis. Surveys of those attending the nation's colleges and universities have found that 95 percent of students drink, with most of them lifting their glasses, bottles and beer cans at least once a week. Polls of the UMR student body have found that alcohol use on campus is comparable to the national trend. About two-thirds of UMR students responding to surveys say they drink.

The job of reducing the amount of student drinking on campus, Consolvo says, begins with finding out why students drink in the first place. When conducting SAPP presentations, Consolvo takes informal polls to get that answer. The responses indicate that many students see alcohol as a cure for whatever ails them.

"I get everything from 'There's not enough women on campus,' to 'It's very stressful so we study hard and party hard,' to the peer pressure that they feel," Consolvo

"About two-thirds of the students come to UMR already having used alcohol, so it's not like they're learning all those things once they get here."

— Camille Consolvo

says. SAPP programs attempt to show students that alcohol often can make matters worse.

For example, there's the myth that drinking relieves the stress of studying. In reality, Consolvo says, drinking creates more stress by interfering with students' sleep, so they're less rested and less able to deal with stress. And students with bad hangovers, she says, lose a day of studying.

Consolvo also tells students of other dangers of drinking including increasing a person's willingness to engage in unsafe sexual practices, and increased susceptibility to problems such as physical attacks. Moreover, excessive drinking can lead to alcohol poisoning and to death. Two such deaths occurred at UMR in recent years -- one in 1988 and one in 1991.

SAPP attempts to convey its messages in a way that is entertaining as well as educa-

tional. Role-playing, quiz games and social gatherings often are part of a presentation. Through these events, Consolvo says, students are not just *told* they can enjoy themselves without drinking, they actually *do* it. She hopes these lessons-by-example will lead students to seek more alternatives to drinking for entertainment.

SAPP which is in its sixth year, now includes programs on stress management and date rape. UMR TECHS (Teaching, Encouraging, Caring and Helping Students), a peer-education program in its third year, recruits and trains students to help their peers deal with problems relating to alcohol, stress and relationships -- topics the peer-educators have chosen as the most important issues to be addressed.

Consolvo says she has noticed that students have become more involved and aware of SAPP services. She acknowledges that SAPP can't assure that each student will make the right decision when it comes to drinking or other forms of substance use. But she is confident that the program can convince some that there are alternatives to these activities -- and assure that those who decide to use drugs or alcohol are informed about the consequences of those choices.

—Arleasha Mays is news director at public radio station KUMR in Rolla.



Celebrating 20 Years, UMR's Minority Engineering Program continues to push for progress

by Mary Helen Hunter

When UMR began its Minority Engineering Program 20 years ago, not many people of color were pursuing degrees in engineering. One reason was because they had few minority role models in the discipline. In addition, minorities often lacked the money for college, and their high school educations didn't adequately prepare them for the rigorous math and science coursework required for an engineering degree.

Even today, with more minorities enrolling in engineering schools, the percentage of minorities in engineering and science is still too low, says **Floyd Harris**, Psyc '74, director of UMR's Minority Engineering Program. "Certainly we've made some progress here at UMR, but there is still a lot that remains to be done," he says.

During the past two decades, the UMR program and similar programs at other universities have helped to raise the percentage of minorities who choose careers in engineering. But only recently has the need for such programs been recognized nationally.

"Minority engineering programs have been around for 20 years, but it has only been in the last five or six years that the government has begun to recognize that if we do not train more minorities and more women, we will not have the technical work force

to be competitive with our peers," Harris says.

When the MEP program at UMR was started, developers felt that few minority students pursued technical degrees because they had no role models or financial resources, says Harris. The MEP, which began in the summer of 1974 with 43 students, was designed to conquer both of these obstacles.

The UMR program has been successful in its mission, Harris says, because it has provided students with financial assistance, additional preparation in mathematics, science and other disciplines, and role models. As a result, the retention rate of minority students at UMR has grown from 52 percent during the first decade of the program to 80 percent since 1985. On the national level, the average annual number of minority engineering graduates per university from 1980-1990 was 13. UMR had an average of 28 during that same decade.

The MEP's success is due to its three components:

- Scholarships** to help attract qualified minority students. The program offers scholarships of up to \$7,200 per student, including any other scholarship or grant the student is eligible for. The scholarships cover the student's tuition, room and board, and books for the freshman year.

- A seven-week Pre-engineering Summer Program** which all students who receive MEP scholarships are required to attend. The program helps students in the areas of English, mathematics and sciences, and also helps ease the transition from high school to college, Harris says.

- Assistance** throughout the academic year. Every other week, students meet with counselors who monitor their progress and help them with any problems they encounter. Tutorials, file systems and computers are also available for student use in the minority engineering study center. The center also houses three of the campus' minority student organizations: the Society of Hispanic Professional Engi-

"... if we do not train more minorities and more women, we will not have the technical work force to be competitive with our peers."

— Floyd Harris

neers, the National Society of Black Engineers and the Society of Women Engineers.

While recruiting students is important, retaining students is the more difficult task, Harris says. Once the freshman year, which is covered by scholarship, is completed, MEP students once again face financial difficulties. In addition, some minority students cannot keep up with the difficult course work because the public schools they graduated from did not adequately prepare them for college engineering. And some minority students have said they feel isolated in the classroom.

To help retain these students, UMR recently developed two new programs: EXCEL and the Master Student course.

The EXCEL program, which is open to all UMR students, is a non-credit workshop targeting math and science courses that are often difficult for first-year students. Student facilitators conduct the workshop and also are available for three or four additional hours of study out of class.

The Master Student course, which is for minority students, is a credited course that helps minority students develop a sense of community among themselves. Students in the course meet each week to discuss issues of mutual concern; work on study skills, time management and stress management; and learn about the UMR culture. The



class also provides "clustering" of the students in their various courses so they never feel isolated in their classes. Harris says that in the future, the program may offer some cross-cultural training for faculty and staff to help sensitize them to the various issues and concerns of the groups they work with. Pilot programs in place at other universities suggest that this should be a successful program at UMR, Harris says.

Despite its success in the past 20 years, Harris does not believe that all of the MEP's goals have been met. Retention goals have been particularly difficult, he says. "It's easy to recruit students into engineering; the challenge is getting them through the degree program." Harris hopes to double the number of minority graduates per class -- to 5 percent from the current level of 2.5 percent -- by increasing both the number of freshmen and the number of transfer students from community colleges.

By the year 2000, studies show, the majority of the work force will be made up of minorities. Harris believes the MEP's role will expand to fit that projection.

"I think we need to draw upon the progress that we've made in the last 20 years and build upon that to expand our services," Harris says. ■

Mary Helen Hunter, Engl'94, is a student assistant in the UMR department of communications and marketing.

Astronaut Akers helps correct Hubble's vision



Above: Tom Akers maneuvers inside the bay which will house the Corrective Optics Space Telescope Axial Replacement (COSTAR) while assisting Kathryn Thornton (partially visible at left) with the installation of the 640-pound instrument.



Akers (back row, right) joins fellow crew members (front row, l-r) Claude Nicollier, Kenneth Bowersox and Richard Covey; (back row l-r) F. Story Musgrave, Jeffrey Hoffman, and Kathryn Thornton in Endeavour's cabin. Note the pennant on the wall in the left of the photo.

Air Force Lt. Col. **Thomas Akers**, AMth '73, '75, has returned from a successful mission in the space shuttle Endeavour after an 11-day flight to repair the faulty Hubble Space Telescope. As a result of the December mission, Akers now holds the record for an astronaut spending the most time working outside a space vehicle while in-flight.

Akers, one of a team of seven astronauts selected for the mission, helped equip the Hubble with new gyroscopes and solar panels, an optical device to correct Hubble's blurred mirror, and a new wide-field camera. Akers and astronaut Kathryn Thornton grabbed the four-story Hubble Space Telescope and lowered it into the shuttle's cargo

bay where the repairs were made.

This was the third shuttle mission for Akers. He was on the May 1992 Endeavour mission during which an Intel-sat-6 communications satellite was rescued from an orbit that was too low. In October 1990, he was on the mission that deployed the Ulysses spacecraft.

Akers was valedictorian of Eminence (Mo.) High School before attending UMR, and he also was principal of that high school prior to joining the Air Force. In December 1992, he spoke at UMR's commencement, telling graduates that teamwork is the key to success in space flights as well as in everyday life. ■

Photos courtesy of NASA



Croatian Dikan Rendic is one reason for the UMR swimming team's success this year.

South Africa barred from participation in the Olympic games because of apartheid...11 Israeli athletes murdered by Arab terrorists at the 1972 Munich Olympic Games...In 1980, 62 nations, including the United States, boycott the Moscow Olympic Games in protest to the Soviet Union's invasion of Afghanistan...Rene Arocha, a member of the Cuban national baseball team, seeks political asylum in the United States after defecting in Miami in 1990.

by John Kean

Politics and sports.

The two issues seem to become hopelessly entangled in today's world. Yet some athletes find a way to succeed despite political obstacles. **Dikan Rendic**, a native of Split, Croatia, and one of the newest members of the UMR swimming team, is one such athlete.

Since becoming an independent republic in June 1991, Rendic's homeland has been involved in a brutal war, as

forces from neighboring Serbia have been attempting to create a "Greater Serbia" by eliminating rival factions in the former Yugoslavia. The war in Croatia has become a forgotten conflict, as most of the Western media's attention has focused on the war in Bosnia, another former Yugoslavian republic that borders Croatia to the southeast. And although United Nations peacekeeping forces have tried to intervene over

the past 2 1/2 years, Croatians just spent their third straight Christmas season with conflict.

The war goes on.

"I lived only 30 minutes from the battle line," Rendic says. "It is a real war. There is a lot of fear. Bags of sand are being used on shelters to protect the buildings."

The situation in Rendic's homeland reached a point that helped him decide to come overseas to continue pursuing

his lifetime ambitions. He wanted to swim competitively and continue studying electrical engineering, but the conflict in Croatia was making it increasingly difficult to do either.

The war has closed Croatian universities at times. It also has resulted in the conversion of many outdoor swimming facilities into training facilities for the military -- making it difficult for swimmers like Rendic to train. Also, most of the pools

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A world away

Croatian swimmer finds peace in America, success at UMR

are electric-heated, but with the power being shut off for 12 hours out of every 24, the pools cannot heat adequately.

But since coming to UMR, Rendic has flourished -- academically as well as athletically. At the Christmas break, he had already broken the 9-year-old school record set by **Scott Carney** (GeoE'86) in the 100-yard butterfly with a time of 50.41 seconds. That was also the fastest time in the nation in that event, .02 of a second faster than the time posted by defending NCAA Division II national champion Chris Zoltak of Oakland University (Mich.). Rendic also holds the fourth-best time in the nation in the 50- and 100-yard freestyle events, and has qualified for the national meet in the two 100-yard events.

"I think that Dikan is very competitive on the national level," says head swimming coach **Mark Mullin**. "He has the ability to be a national champion, and the opportunity is there for him to make a run at it."

"It's easy to get psyched up for a meet when you have him around," says **Ed Midden**, a junior who is the Miners' team captain this season. "He has already made the national cuts which is incredible. I'm not sure when **Jeff Kuta** (AMth'92) made the cut, but **Mark Cresswell** (a senior on the UMR team) made it last year at the end of the season." Midden adds that Rendic is no different than any other member of the team -- "but he is fast."

Success as a swimmer is nothing new to Rendic. First,

he has the bloodlines -- his mother was a national record-holder in the backstroke in the early 1960s. In addition, he has been setting records since he was 12 years old, when he set national age group marks in the former Yugoslavia. He was part of a team that set a national record in the 400-meter individual medley relay and had an 18th-place finish in the 50-meter butterfly at the 1992 European Championships.

Rendic swam for 14 years for the Jandran Swimming Club in Split, a port city of about 170,000 people, located on the Adriatic coast. The 70-year-old Jandran Swimming Club has a tradition of producing strong swimmers. By age 12, Rendic performed in his first international meet as the national team competed in Italy. He continued to compete at the international level until he left to come to the United States.

"It was kind of different, but I really liked those kinds of things," Rendic says. "After 14 years, though, there were no surprises -- all of the races were kind of predictable. I couldn't be first -- we had the world champion in the 100-butterfly -- so it was always 'Who's going to come in second?'"

The need for change brought him to North America. It was a fellow Croatian, **Darko Milankovic**, who began the process to bring Rendic overseas. Milankovic came to the United States in December 1990 and eventually became part of Mullin's coaching staff at UMR.

Milankovic was a swimmer himself in the former Yugoslavian republic and found out about Rendic in a rather ironic manner.

"The first swimmer from Croatia we contacted received an offer from Syracuse and decided to accept it, but I talked to his mother -- whom I swam with in Croatia -- and she told me about Dikan," Milankovic says. "He was already in school studying electrical engineering, in the same type of school that we have here, and he was looking for something in this country."

Rendic has friends who were already in the United States -- at schools like Northern Michigan, Brigham Young and Florida State -- and through them he was aware of what this nation had to offer. The opportunity to swim and go to school at the same time -- something he wasn't able to do in Croatia -- was appealing.

"In Croatia, school is not made to go together with sports," he says. "Here, things are set up nicely where you can swim as part of a team and still be a good student. I decided to come here and try it because I can get a good bachelor's degree and be part of a team. The fact that the team is first in the region (UMR is the defending Mideast regional champion) and one of the best in the nation academically helped me in my decision."

"I think he has done very well," Mullin says. "There is always a concern when you have someone who is coming in from a foreign country. I'm

sure that the first semester was the biggest challenge, not only battling the tough academics but also the language. He has been doing well in dealing with both."

In his first semester at UMR, Rendic posted a grade-point average of over 3.0. He also has done well getting acclimated to his new team. In the pool, the Miners certainly appreciate his contributions as they had a 6-2 record in dual meets and repeated as Midwest regional champions.

Even in the one meet the Miners lost this season -- against seven-time NAIA national champion Drury College of Springfield, Mo. -- Rendic was one of the top swimmers. He won both events in which he was entered, including a win by three seconds in the 100-yard butterfly.

"Dikan has been important to the team," Mullin says. "He has a lot of good team qualities that I like to see in an individual, and he is supportive of the team just as they are supportive of him. This is a closely knit team that really enjoys being together, which is one reason it has accomplished as much success as it has this year."

Rendic did have some barriers to overcome. For instance, there was plenty of paperwork involved in his transfer. There was dealing with the English language on a daily basis. There is the factor of having to make new friends in a new country. Then there is dealing with everyday life in America -- although, as Rendic pointed out, the movies and music in Croatia are similar to what is available in this country. Fortunately for Rendic, he has Milankovic to help him deal with culture shock.

Continued on page 52



Rendic, cont.

"Here, things are set up nicely where you can swim as part of a team and still be a good student."

"He will call me about something dealing with everyday things," Milankovic says. "He has had a lot of help from the swimmers, which has worked out well since the first day. Dikan came here a week before school started and nobody was here yet, and that was tough. When the swimmers started showing up, that made things better. He is really happy with the school and the team."

Even with the happiness he has found in America, the situation back home is always on Rendic's mind. He has now seen the war from two perspectives -- inside the country and from thousands of miles away.

He thinks the American media has a misperception of what is really going on. For instance, when a Serbian force attempted to take over a newly constructed bridge of strategic importance and was pushed back by the Croats, the story was handled erroneously by the media, Rendic says.

"The people at home made an action to push them back, yet we were accused of being aggressors in our own country," he says. "That was an extremely important bridge that we were defending. The news only makes it more confusing. They (reporters) don't know what is right and what is wrong."

What has turned out right for Rendic is his decision to come to UMR. Here, he has the opportunity to do something positive, which is all he wanted to do in the first place. He can do so every day rather than wondering when he would be able to attend class -- or even swim -- because of that unfortunate but seemingly inevitable mix of sports and politics.

S P O R T S B R I E F S



Dan Sailer/Stone House Photography

All-American candidate **Joe Kvetensky** rushes past an UMSL opponent in a winning game for the Lady Miners this season.

Winter squads off to fast starts

The winter sports season at UMR has been nothing short of sensational as the teams returned in January. The women's basketball team has set the pace by opening the 1993-94 season with a 10-1 record and a No. 12 national ranking in the first NCAA Division II poll. The men's basketball team has started the year with nine wins in its first 11 contests, while the Miner swimming team has gone 4-1 in dual meets and won two invitational meets in convincing fashion.

The Lady Miners' successful run has included six wins away from home and eight over Division II teams. UMR has posted road wins over highly-regarded Abilene Christian, SIU-Edwardsville and Southern Indiana -- coming from behind in the second half to win all three games. All-America candidate **Joe Kvetensky** leads the team in scoring with an average of 20 points per game and also leads the way in four other offensive categories. However, six other players have averaged at least six points a game for a team averaging nearly 79 points a contest.

The Miners' 9-2 record is highlighted by a win over Quincy, ranked 22nd in the *Division II Bulletin* rankings and a team that received votes in the NCAA Division II poll. The men's squad has also been featuring balanced scoring, with no player averaging better than **James Sinner's** mark of 14.6 points a game. Freshman guard **Tim Holloway** is averaging 14.4 a game and **Jamie Brueggeman** is scoring 13.4 a contest for a team that also has four other players with at least six points per game.

Some of the top-ranked swimmers in Division II compete for the Miners this season, as the team has seven individuals who are ranked among the top 20 in the nation in various events. Heading the list are two of the newest members of the team, **Dikan Rendic** and **Bill Unzicker**, both of whom have qualified for the national meet. Through Dec. 6, Rendic (see related story) had the best time in Division II in the 100-yard butterfly.

UMR won a relay meet at Washington University in St. Louis and an invitational at Milliken during the first two months of the season. The team's only losses were to seven-time NAIA national champion Drury in November and Southwest Missouri State.



Listerud named to three All-America teams

Eivind Listerud, the placekicker for the Miner football team for the past three seasons, was named recently to three All-America football teams for his performance on the field and in the classroom.



Listerud was selected to the Kodak All-America squad, a group of 24 players from NCAA Division II and NAIA Division I chosen by the American Football Coaches Association, and to the second team of C.M. Frank's All-America squad covering the same schools. He also was named as a second-team Academic All-American by GTE and the College Sports Information Directors of America.

Besides the All-America honors, Listerud participated in the first Snow Bowl game, a Division II all-star game that was played Jan. 6 in the Fargodome in Fargo, N.D. In the game, Listerud made two extra points and a 35-yard field goal on his only attempt.

"These are tremendous honors for Eivind and our football program here at the University of Missouri-Rolla," said head football coach **Jim Anderson**. "We knew that we could count on him to get the job done when we called on him, and having him in the all-star game created great exposure for the program."

Listerud made more than 91 percent of his placekick attempts for the 3-7 Miners in 1993, connecting on 20 of 22 extra points and 12 of 13 field goals. He set a conference record by making 10 straight field goal attempts (nine came in 1993), and tied school records for field goals made in a game with four and a season with 12.

Additionally....

Besides Eivind Listerud, five other Miners were selected to the All-MIAA team. First-team selections included defensive lineman **Jerry Wallock** and cornerback **Matt Henry**. Wide receiver **Chris Dawson**, offensive guard **Bill Smith** and running back **Ernest Brown** -- the Miners' first 1,000-yard rusher in 15 years -- were named to the second team...**Tom DeGonia** (Hist'93) was chosen along with Listerud to the academic all-district first team. Named to the second team were Henry and offensive tackle **Rob Ives**...One more football note: quarterback **Mike Wise** set the UMR school record for total offense, finishing his career with a total of 4,225 yards...**Becky Wilson** finished in 52nd place at the NCAA Division II cross country championships. Wilson, who was second at the MIAA and NCAA Great Lakes Regional, completed the 5-kilometer course in Riverside, Calif., in a time of 19:32. She had posted a school record time of 18:12 at the regional...**Steve Hostetter** (EE'93) of the men's cross country team also earned all-conference honors after taking fourth at the MIAA Championships in October.

Be a Miner in Paris!



Join your fellow alumni as they depart from St. Louis for a fabulous week in Paris, France Aug. 5-13, 1994. TransGlobal Tours, in conjunction with the MSM-UMR Alumni Association, is escorting this tour, with an estimated cost of \$995 per person.

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THINKING OF JOINING THE CENTURY CLUB?

Join the Century Club for the first time this year, and we'll send you a handsome walnut plaque with the MSM-UMR Iron Wheel casting. The plaque has hooks on the bottom from which hangs a plate recognizing the year and level of Century Club membership. If you are already a loyal member of the Century Club, we'll send you the plaque this year if your gift is at the Silver Century level or above.

The MSM-UMR Alumni Association wants **your** support, and this is our way of saying thank you to those of you who make a commitment to the association by your Century Club membership. For your convenience, you may use the envelope attached to this issue of the *MSM Alumnus* to send in your contribution.



GENEROUS SPIRIT



Chancellor John Park wants to double your money!

Your gift to the university can now have *two times* the impact!

The **Chancellor's Challenge**, a challenge fund provided by the **\$350,000** estate gift of William Edward and Clara Drinkwater Newnam, makes it possible for you to **double** the value of your gift.

If you are making a new gift of \$25 or more, or are increasing your gift or pledge from last year by \$25 or more, you are eligible for matching Challenge funds.

The Chancellor's Challenge will match your increase in giving, or new donation of \$25 or more, **up to \$1000**. The Challenge match follows your gift designation, whether you choose to give to the **Alumni Association, scholarships, departmental support** or anywhere else at UMR!

Here's how it works:

For example if your gift last year was \$100:



And you increase your gift in 1993-94 by \$200:



The Chancellor's Challenge Fund will match your \$200 increase:



For a total designated gift of \$500:



WHY I GIVE

I gave back to the UMR psychology department because it equipped me to work in a career in human services, specifically for the Division of Family Services (DFS). I found that the theory I learned at UMR was true and could be put into practice in my work.

Psychology broadens the education of every student on campus—by adding depth to any degree program. For example, an understanding of people will help engineers in their day-to-day lives. The quality of the department is excellent and we need to see that it is maintained.

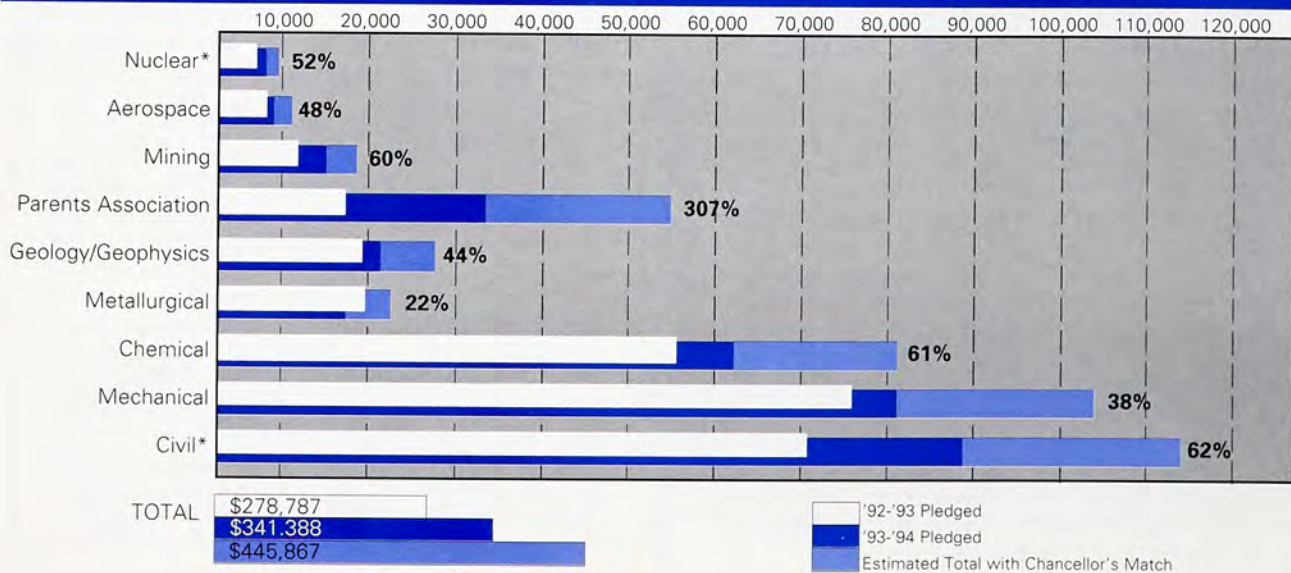
I have stayed in touch with the UMR psychology department by establishing practicum [internship] programs between the department and DFS, and by serving on the psychology advisory board. The practicums help students in the decision-making process for their careers. I have been very impressed with the quality of student we have seen in this program.

The more I thought about the department's needs the more I wanted to be part of the ongoing support. The Chancellor's Challenge Fund helped me make the decision to make a larger gift to the department this year, because I knew that for every dollar of increased giving up to \$1,000 my money would be matched by the Fund.

I hope others will consider doing the same while their gift can be leveraged by the Chancellor's Challenge Fund.

—Lois Highfill, *Psyc'86, Rolla, Missouri*
Supervisor with the Dept. of Social Services
Division of Family Service, State of Missouri
379th Member of the Order of the Golden Shilleagh

PERCENTAGE INCREASE IN PLEDGED DONATIONS BY DEPARTMENT INCLUDING CHANCELLOR'S CHALLENGE FUND



* Phonathons not completed as of 2/28/94

Education: Quenon earned his mining engineering degree from West Virginia University in Morgantown and his law degree from George Washington University.

Background: Raised in Fairmont, W. Va., Quenon spent the first 15 years of his career in his home region in the Appalachian coal fields before joining Exxon Corporation. Here, he got the chance to develop and manage new coal mines for Exxon in Illinois and Wyoming's Powder River Basin. "That was a great opportunity," he says. He stayed with Exxon until 1977, then joined Peabody Coal Co. in St. Louis as executive vice president. He became president and CEO a year later and in 1985 was named president and CEO of the parent company, Peabody Holding Company, Inc. He was chairman of the company from 1990 until his retirement in 2004. He stays active today as Chairman of the Federal Reserve Bank of St. Louis and as a director of several publicly traded corporations. Quenon received an honorary doctorate from UMR in 1999.

Gifts to MSM-UMR: Quenon has pledged \$150,000 as part of a \$1.5 million commitment to establish The Robert H. Quenon Chair in Mining Engineering.

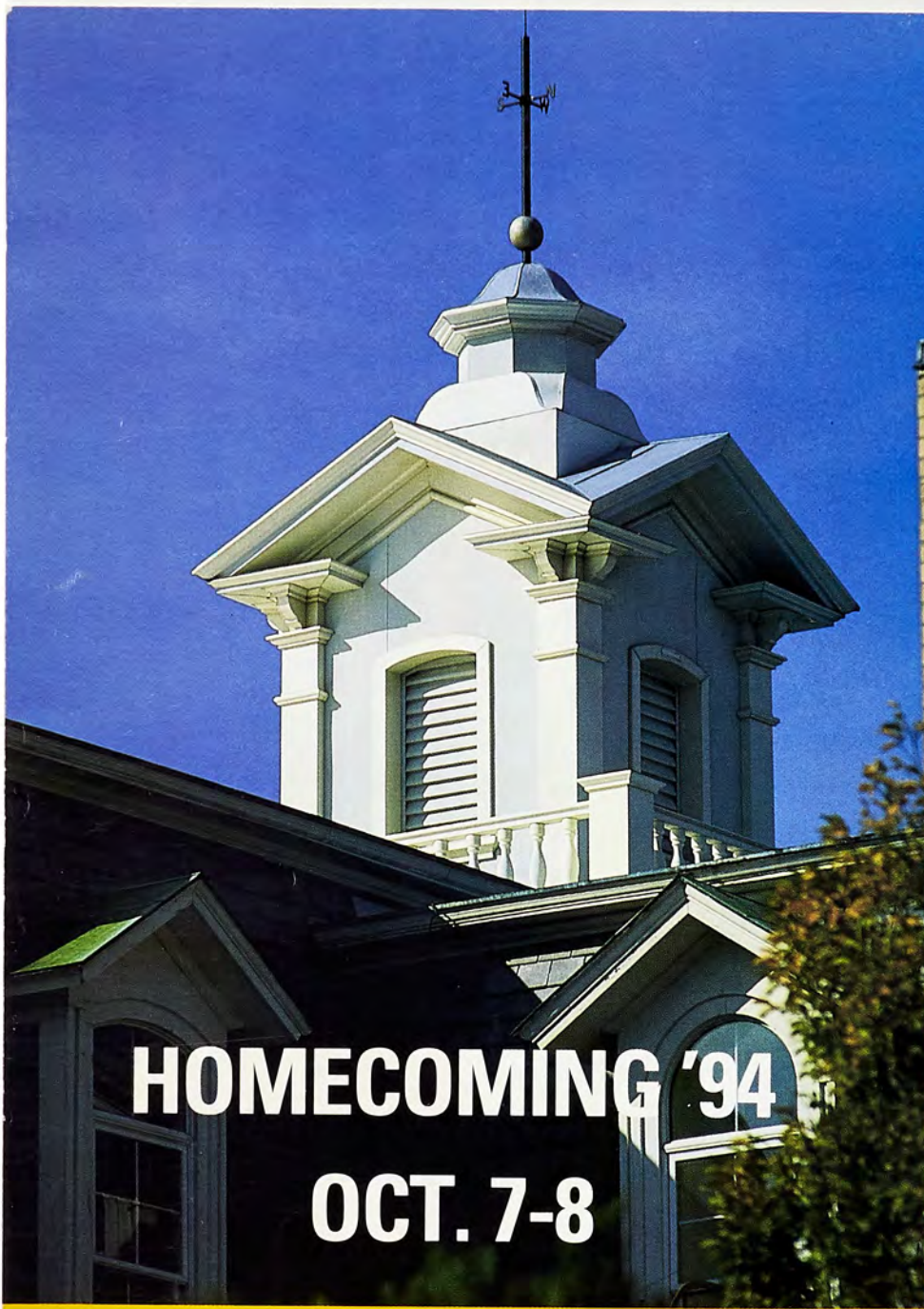
Quote: "Today, more than ever before, the mining engineering profession field is ripe with new developments occurring on a global basis. UMR has one of the best mining engineering disciplines in the country, and our students should be well prepared to take advantage of these challenging opportunities."



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1. The fun of seeing your classmates, friends, and favorite faculty again!

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