THE MAGAZINE OF THE MIZZOU ALUMNI ASSOCIATION | WINTER 2012
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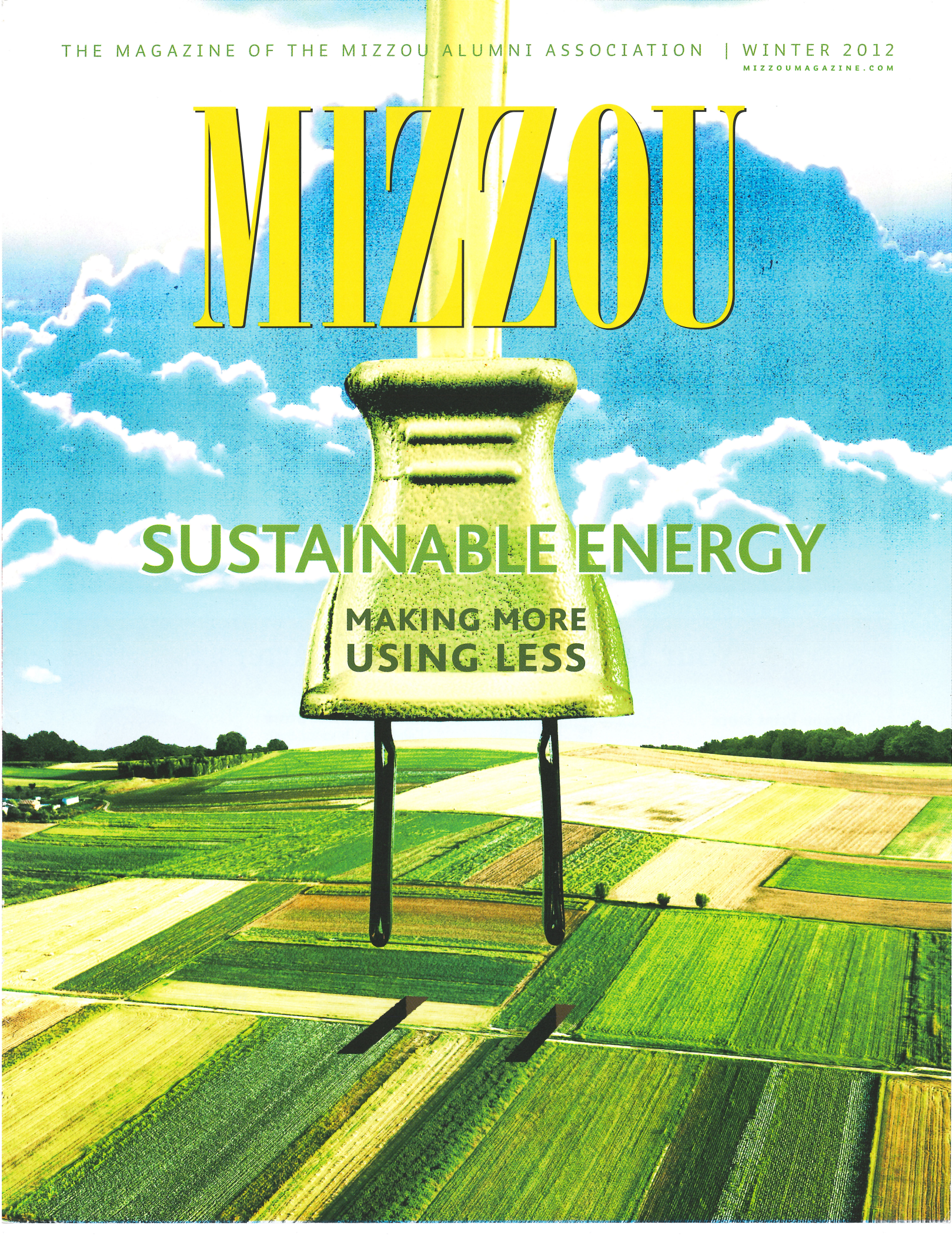

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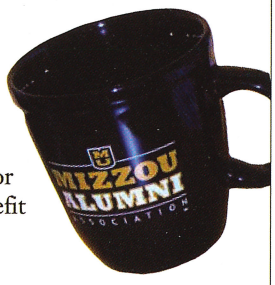

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THE MAGAZINE OF THE MIZZOU ALUMNI ASSOCIATION

MIZZOU

WINTER 2012 | VOLUME 100 | NUMBER 2

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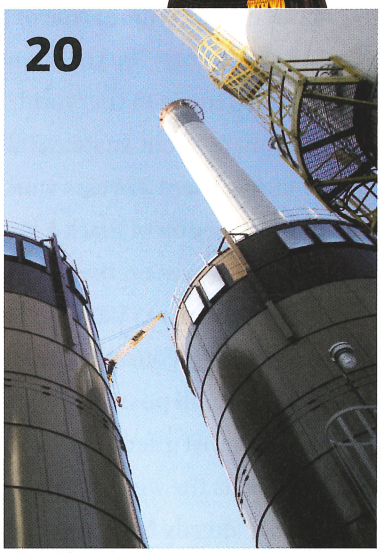

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About the cover: Art director Blake Dinsdale illustrates sustainable energy. Image credits this page, clockwise from top left: Steve Moore; Rob Hill, Rachel Coward, Nicholas Benner

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Be the change

This issue of MIZZOU is devoted to sustainable energy. It is the fourth of five Mizzou Advantage areas being covered by the magazine.

Something alumnus Ron Wood said about energy reminds me of Mahatma Gandhi's quote, "Be the change that you wish to see in the world." Clearly passionate about sustainability, Wood, BS EE '64, spent 42 years working in the energy division of Black & Veatch Corp. and now serves on the board of Missouri Energy Initiative (MEI). He encourages conservation education and moving forward on all possible energy solutions.

"The most effective sustainability solution is the wise use of the energy that we already have," he says. With our seemingly insatiable appetite for energy, "At most, 25 percent of America's needs could come from renewables."

Photo by Rob Hill

When Jim Fischer and wife Sharon built their home in 2007, Energy Star appliances such as ceiling fans had limited availability.

Wood introduced me to Columbian Jim Fischer, BS Ag '68, MS '69, PhD '72, MEI secretary. Fischer has also devoted his career to educating others about energy, including renewable production from wind, solar, geothermal and biomass. As a board member of the Energy Efficiency and Renewable Energy programs for the U.S. Department of Energy (DOE), he worked to enhance its efficient use. When he and wife Sharon moved to Columbia in 2007 to begin an energy consulting business, they incorporated what they had learned, putting DOE's best practices into designing and constructing one of the most energy-efficient homes in the Midwest. Their home energy costs are about 50 percent less than a comparable Columbia home, and the structure returned the energy-efficient investments in 2.3 years. In addition, their carbon footprint is two-thirds lower than the typical American home.

In these pages, we cover sustainable energy: the engineering researchers who study solar, geothermal and wind energy; MU's Power Plant leaders who are bringing a biomass boiler online in 2012; students who moved into Sustainahouse in fall 2011; and another student who has pared his belongings to 86 items.

— Karen Flandermeyer Worley, BJ '73

Feelin' the love

Readers' reaction to the Fall 2011 issue devoted to 100 years of Homecoming was, well, gratifying. Thanks for all your calls, letters and emails. Your opinions are welcome. Keep reading, and keep writing.

MIZZOU
magazine staff

Photos courtesy of Gloria Vear

The house at 210 Price Ave. (now College Avenue) held 11 members of the Bud and Gloria Vear family while Bud, MD '66, attended medical school and Gloria ran a beauty parlor in a front room. In this photo taken for the 1964 holiday season, from left seated are, Terry, Candy, Gloria holding Lisa, Bud holding Ricky, Tony and Pam. Standing from left are Gay, Steve and Ray.

House at 210 Price Ave.

Talk about resurrecting a memory! While glancing through the latest edition of MIZZOU, I noticed a picture of a house on Page 7, under the title "Living Green" [Around the Columns, Fall 2011], which looked similar to where my wife, Gloria, and I lived nearly 50 years ago. After comparing it to an old picture we had, we concluded that it was the same house. Our address was 210 Price Ave., but Price was a continuation of College Avenue at the time.

When I enrolled in 1962 at the age of 36 to pursue my childhood dream of being a doctor, we had eight children (nine by the time I graduated; we ended up with 12), and we purchased this house because who in their right mind would rent to such a large family! We had very few resources, but fortunately I have a creative and visionary wife. She focuses on the goal rather than the obstacles. The year before I started medical school, she earned a cosmetology license so she could have a home beauty shop to generate some income. (We battled city hall for 18 months after arriving in Columbia before they would grant us permission, but that is another story.) Then Gloria decided that with some renovations we could have seven of our children sleep in the basement and rent out the second floor to four MU students to cover the mortgage. We put in a bathroom and kitchen upstairs and another bathroom in the basement to make this plan a reality. The basement sleeping arrangement was unique, bordering on primitive. Our four daughters slept on a cement shelf that covered a storm sewer running from the front to the back of the house, and three of our sons slept in a curtained-off area in another part of the basement. The front bedroom on the first floor became the beauty salon, and Gloria and I slept in the first floor bedroom with our youngest son in a crib.

The house was our home for four years and generated plenty of memories. Gloria was a 1950 graduate of Stephens College, so she was familiar with Columbia. With no car, I rode a bike to the medical school about two miles away, and we shopped at a grocery store, Wyatts, just a block away. We always borrowed one of their shopping carts to bring home the groceries. On Sundays, we frequently walked to Stephens Lake to swim and grill hot dogs and hamburgers for family picnics. The large storm sewer that ran through the house had an opening in our backyard, and our two oldest sons climbed down and explored its length on more than one occasion. (No, we did not give them permission!)

It appears that the house has not aged at all. Unfortunately, we have. Thanks for resurrecting a distant memory for us.

Dr. Charles "Bud" Vear, MD '66
Hillsdale, Mich.

Spotlight on Warren Bass

The day Warren Bass ["Crowd Pleaser," Fall 2011, Page 41] arrived on campus, he popped over to my dorm. We were both from St. Louis, and he had been told to look me up. To say Warren carried his own spotlight is putting it mildly. He was enormously self-confident, and mentally and emotionally lived in his own universe. At a time when the university had a tiny enrollment of African-American students just beginning to express their discomfort with limited social opportunities and other inequalities, Warren quickly become an unexpected and unlikely

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star. Seeing us together, people would ask me later, "You know Warren Bass?" as if that raised my cachet.

Wayne Brasler, BJ '62
Westchester, Ill.

Does tradition linger?

I just finished reading the article about MU's Black Family Reunion in the Fall 2011 issue of the alumni magazine. After seeing the comment about Kappa Alpha Order's waving of a Confederate flag at a football game during the 1960s, I was reminded how shocked I was when I first saw that happen during one of the first games I attended as a transfer student in 1966. I later learned that the fraternity held — and perhaps still does hold — an Old South party every year, complete with Confederate uniforms and the shooting of a cannon. As a resident of Illinois at the time, I had always regarded Missouri as another Midwestern state and had forgotten its role as a border state in the Civil War. Nevertheless, some traditions were divisive and nasty, and I'm glad they're gone.

Karen Daigle Schickedanz, BJ '68
Tucson, Ariz.

Editor's note: Tom O'Neal reports the Kappa Alpha Order at MU does have a spring formal, like most fraternities. It is still called the Old South Ball, "but the days of flag waving and uniforms are long gone, as is the cannon in front of the house," says O'Neal, who serves the chapter in an advisory capacity and is executive director of advancement for regional programs at MU.

Oldest football rivalry

I enjoyed Stephanie Detillier's article about Homecoming ["Did Mizzou really invent Homecoming?" Fall 2011, Page 22]. I graduated from the business school in 1969, and hope I can make the Homecoming game again this year.

Just as the originator of Homecoming is probably a matter of definitions, so would be the oldest U.S. football rivalry. The first two schools to play the game were Rutgers and Princeton, in 1875, and so those teams would clearly have some claim on that title.

I enjoyed the article and look forward to more of the same.

Paul Agathen, BS BA '69
Washington, Mo.

What about Kenny Downing?

The Homecoming centennial issue [Fall 2011] is terrific. It reminded me in part of great Tiger football players of the past. Where is Kenny Downing, the standout defender and special teams player of the mid-1970s? He was a human highlight film who played much bigger than his size. At Iowa State, he once covered a punt ahead of everyone else, clocked the much-larger blocking back, then tripped up the returner — a play not unusual for Downing's Saturdays. Tiger fans of that era know.

Bill O'Neill, BJ '76, Lenexa, Kan.

Editor's note: As any sports fan knows, the beauty of all-time-greatest lists are the debates they incite! Downing, a fantastic athlete, was thoughtfully considered. He had a brief career in the Canadian Football League for the Ottawa Roughriders from 1978–80. Since 1987, Downing of Westwood, Kan., has been a chiropractor. He and wife Kris have four children. "I hope they attend Mizzou some day," he writes.

Recounting memories

I read with interest the spirit squad story in the Fall 2011 issue ["Rah!," Page 36] As a Mizzou Spirit Squad member, I was on the all-girl cheerleading squad from 2000–04. During that time, two memories stand out in my mind. The first was in 2004, when the

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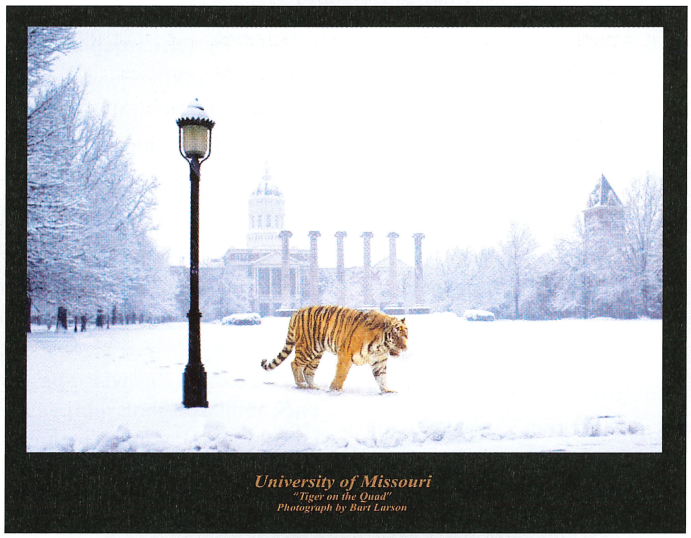

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all-girl squad took fifth place at the National Cheerleaders Association Collegiate National Championship in Daytona Beach, Fla. We competed in the All Girl 1 division, made it to the finals and ended up in fifth place. We were very proud of ourselves because there is a tremendous amount of talent at that competition.

When Mizzou beat Nebraska for the first time in 20-plus years in 2003, not only was it a huge win, but also just as memorable was cheering in the rain with some great friends. All we could do was laugh that we were soaking wet. We were on such a high from the game, we never even noticed how wet we were! It happened to be Dad's Weekend for my sorority, and my dad was in town. He still talks about how cool it was to be a part of that game. I still have that "Victory" poster hanging in my home office. I look at it often to remember what a great day that was. Way to go Mizzou!

Molly White Lyman, BS Ed '05, M Ed '06
Columbia

Used suits and ties needed

I enjoyed the note regarding Amanda Wooden's efforts to "dress up" the students [Around the Columns, Fall 2011, Page 10]. Good work. I thought about the ties I have hanging in the closet. If she would like them, I'll be glad to either send or possibly deliver them. I don't think they are too outdated.

Gary Christoff, BSF '65, MS '66
Eldon, Mo.

Editor's note: Wooden will be collecting clothes in summer 2012 for the next annual fall suit drive. You may reach her at woodenam@missouri.edu.

Solo twirler dates to 1951

Congratulations on your superior 2011 Homecoming edition of MIZZOU, the magazine of the Mizzou Alumni Association. It is the best edition I have read in the entire 56 years I have been receiving it. I was the first specialty solo twirler at the University of Missouri in 1951.

Photo courtesy of Laura Fairfax

Laura Fairfax was a twirler for Marching Mizzou in the early 1950s. She wore her black-and-gold Smith-Cotton High School uniform.

I performed at football games during 1951 and 1952. Marching Mizzou was an all-male band at that time, and there was no uniform for me. I used my retired Sedalia Smith-Cotton High School uniform because the school colors were the same: black and gold. Smith-Cotton graduating twirlers were allowed to keep their retired uniforms because we sold cupcakes to buy new uniforms for Smith-Cotton twirlers during our senior year.

Because I was the first specialty solo twirler at MU, I had few guidelines. The band director told me to do whatever I thought appropriate, because Smith-Cotton's band, where I marched during high school, was considered to be one of the best in the state.

Our band director was George C. Wilson. My name must still be on the records, because I received an invitation to participate in the Marching Mizzou Alumni Band.

University Singers was also special to me. There were 63 in Singers when Tom Mills directed it. In 1954, I wrote a news feature for *The Columbia Missourian* about the Singers. I wrote the news feature as class work for Sarah Lockwood Williams, wife of School of Journalism founder Walter Williams.

I gave up twirling with Marching Mizzou when I entered journalism school, in order to have more time to study.

Our Fairfax family has earned degrees from the University of Missouri for the past three successive generations. The Fairfax men earned degrees in engineering. Young Connor Fairfax plans to enter the College of Engineering in 2012.

Laura Fairfax, BA, BJ '55
Jacksonville, Fla.

Reporting in from India

I was delighted to receive the Fall 2011 issue of MIZZOU magazine, announcing the centenary celebrations of Mizzou Homecoming.

I often remember the wonderful time I spent in the beautiful town of Columbia, including the high quality education I received under the guidance of Dr. Adrian Pauw. While living on Hitt Street, I shared the accommodation with Dr. Ridgeway who was then pursuing postdoctoral studies in biology. Besides studies, I was the membership chairman of YMCA and in the editorial board of SHAMROCK magazine. Out of my savings from the research assistantship I received from the university, during long weekends I could explore the richness and the beautiful architecture for which the Midwest is known. During my next visit, I hope I will be able to revisit the campus with my grandchildren and show them around my alma mater.

R. Rajappa, MS '64
Mumbai, India

MU signs lease on Missouri Theatre

Jesse Auditorium hosts about 230 events a year, from Broadway musicals to commencements to student and faculty recitals. No longer able to accommodate demand for the 1,732-seat hall, MU officials reached an agreement in August 2011 to lease and manage the Missouri Theatre in downtown Columbia, with an option to buy the historic venue after three years.

The university is leasing the theater, which is owned and operated by the Missouri Symphony Society (MOSS), for $12,000. Mizzou will have the option to purchase the facility for $3.7 million in 2014.

MU will use the theater for School of Music performances, University Concert Series events, graduation ceremonies and student-related programs. Michael J. O'Brien, dean of MU's College of Arts and Science, calls the landmark "a magnificent facility that has been nurtured with great care.

"The Missouri Theatre offers a venue that is very attractive and versatile, while enabling MU to avoid duplication of performance facilities already in existence right down the street," O'Brien says.

Built in 1928, the 1,216-seat Missouri Theatre was renovated in 2008. MOSS has struggled to pay off loans related to the renovation, which forced the organization to shut down the theater for a time and lay off staff.

Carole Sue DeLaite, co-president of MOSS, says the theater will remain the home of the Missouri Symphony Orchestra, the Missouri Symphony Conservatory, the Plowman Chamber Music Competition and the Piano Showcase. The agreement with MU will allow the society to continue to focus on its mission of increasing awareness of classical music in the community.

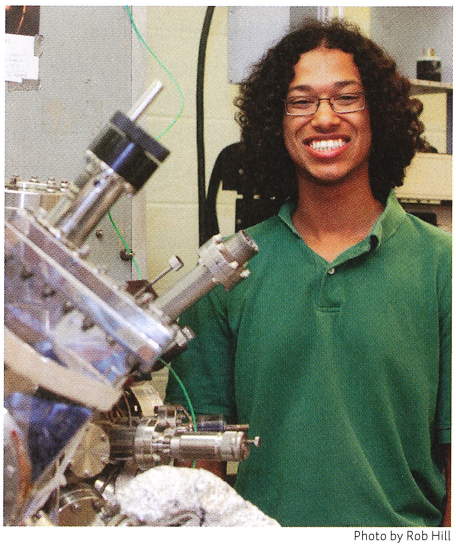

Photo by Rob Hill

As an undergraduate, Nick Cobblah of Sedalia, Mo., did humanities research before switching to his current work in physics.

Combining art and science

As a recipient of the Brazeal Honors College Endowed Diversity Scholarship, Nick Cobblah earned a spot in Mizzou's Discovery Fellows program, which put him in a research setting as soon as he stepped on campus.

Cobblah, a physics and English major, spent his first two years at Mizzou doing English research before switching over to his current studies in physics. Among double majors, the combination of physics and English is rare. However, don't tell that to Cobblah.

"I think in some ways science has an impact on literature and literature has an impact on science," says the Sedalia, Mo., native. "A lot of times you'll be reading through a piece of literature and there will be some science reference that captures people's minds. The reverse also happens when you get literature driving the scientific process, especially with regard to the imagination found in science-fiction writing."

Cobblah, now a senior, uses his research experience as a student ambassador in MU's

Photo by Rob Hill

MU leases, and has an option to buy, the 1,216-seat Missouri Theatre built in 1928 at 203 S. Ninth St. in downtown Columbia. The venue will host events including student performances, Concert Series shows and graduation ceremonies.

Office of Undergraduate Research. It is an ideal role for someone who understands the differences and the opportunities in both hard sciences and humanities research.

Cobblah is working on a research project with Paul Miceli, a professor in MU's department of physics and astronomy. Cobblah, Miceli and four graduate students are examining thin films that grow on top of other material. In their study, a layer of silver is grown on top of silicon.

"The method we use for making the thin films has many technological applications," Cobblah says. "Films like the ones we study are used in everything from pacemakers to vending machine controls. If we can gain a better understanding of the way in which these films grow, that knowledge can be used to improve how they are utilized by those technological applications."

Cobblah graduates in May and plans to pursue a master's degree. However, whether his focus will be physics or English remains undecided. His best-case scenario: Find a way to incorporate both.

MU's enrollment continues to grow

MU notched its 10th consecutive year of record-breaking enrollment this fall, welcoming 6,138 first-time college students for a total student body of 33,805.

Since MU established the Division of Enrollment Management in 2002, the university has added 7,681 students. The decade of steady enrollment growth has been marked by several trends, including the following:

- Record enrollments of underrepresented groups: The number of African-American students has increased 69 percent to 2,277 in fall of 2011; the number of Hispanic students has increased 127 percent to 884,
- Record retention rates: MU's six-year graduation rate of 68.9 percent is well above the national average of 53.5 percent,
- Increases in low-income students: MU students eligible for federal Pell grants have increased 61 percent to 5,962, and
- Increases in high-ability students: ACT scores in the 33–36 range are up 137 percent to 168.

With the number of Missouri high school graduates projected to decrease by 9,000 by 2014, MU has increased the recruitment of students from out of state. Between 2002 and 2011, first-time, non-resident undergraduates increased by 142 percent, or 1,917 students. International undergraduates are also up by 111 percent to 688 in the last decade.

Briefly

Nancy West is the new director of MU's Honors College. She envisions the Honors College as a hub connecting students to opportunities in the Office of Undergraduate Research and Office of Service Learning as well as sponsoring public forums, interdisciplinary events and community outreach programs.

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Visitors with cellphones can take a self-guided audio tour through the heart of campus and brush up on University of Missouri trivia. Started in September, the tour, sponsored by the Mizzou Alumni Association, acquaints visitors with 16 sites near Francis Quadrangle.
More: mizzoumagazine.com

University of Missouri Health Care is one of the nation's "Most Wired" hospitals, according to a survey released in the July issue of *Hospitals & Health Networks* magazine. The survey, which asks hospitals and health systems to share details about their information technology initiatives, recognizes hospitals that are aggressively using health information technology to improve care.
More: mizzoumagazine.com

Two MU faculty members recently joined prestigious organizations. James Birchler, Curators' Professor of Biological Sciences, was elected to the National Academy of Sciences, an honor society of scholars engaged in research. Michael LeFevre, MD '79, MSPH '84, professor of family and community medicine, was elected to the Institute of Medicine, a group of individuals known for professional achievement and commitment to service. Birchler and LeFevre are two of seven MU faculty members in these organizations.

Nurse in training

Science classes scared Katy Disinger away from nursing as a first-time college student in 1999. "I thought it was going to be too hard," says the Muncie, Ind., native. She majored in history and followed a job path that led from U.S. Sen. Dick Durbin's Chicago headquarters to U.S. Sen. Claire McCaskill's Columbia office.

Then, in fall 2007, Disinger's father was diagnosed with non-Hodgkins lymphoma. With her father's health and future in jeopardy, Disinger revisited her dream of being a nurse. "I didn't want to sit in an office and push paper," she says. "Sometimes that's how I felt. I wasn't actively making things happen."

Two years and seven prerequisite courses later, Disinger applied to MU's accelerated nursing program, which awards a bachelor of science after 15 months of study. The following January, she received a letter from the Sinclair School of Nursing: "Congratulations! You've been wait-listed."

Associate Dean Roxanne McDaniel estimates 120–150 qualified students apply annually to the program, which can accept only 50. "It's one of our biggest challenges," McDaniel says. "You've got these great students you'd love to have, but we don't have enough space and faculty to take more."

Getting wait-listed was a setback, but Disinger decided to try again. She retook pharmacology, boosting her grade to a B in Pam Evans-Smith's class. "Pharmacology and pathophysiology are the big building blocks for nursing," says Evans-Smith, accelerated BSN program coordinator. "We look pretty heavily at how applicants do in their science classes."

Photo by Nicholas Benner

One of 50 accelerated nursing students in 2011–12, Katy Disinger earns clinical experience at University Hospital (above) and MU Women's and Children's Hospital.

The second envelope from the nursing school carried good news: Disinger had earned a coveted spot in the 2011 entering class.

As Disinger prepared for fall semester 2011, her father prepared for a stem cell transplant. By mid-October, he was back home, gaining strenth and receiving physical therapy twice a week.

Asked where she'd like to work after graduation, Disinger says she's thinking about hospice or palliative care. "I've seen all my grandparents in nursing homes, and it's not fun," she says. "I think if they'd had the means to stay at home, they would have done it."

Writing on a wave

Writing is a "generative process" of discovery for Amy Lannin, assistant professor in English education and the new director of MU's Campus Writing Program. But when she logged onto her Facebook account recently to discover a post from one of her former middle school students, that description took on a new meaning.

"His message was, 'Remember in eighth grade when I told you that I would send you a copy of my first book?' " Lannin says, beaming with pride. " 'I need your address.' "

Lannin taught English at the middle school and high school levels, taught courses at Peru (Nebraska) State College and co-facilitated the Nebraska Writing Project in the '90s. Since 2003, she has been associate director of Missouri's arm of the National Writing Project, a network of 200 sites throughout the country that dedicate

Photo by Nicholas Benner

Amy Lannin now leads MU's Campus Writing Program, which supports more than 300 writing-intensive courses.

themselves to improving the teaching of writing.

Although she is taking over a successful and nationally recognized program that provides support for MU's more than 300 writing-intensive courses, she sees some ways in which the program can improve.

"People need to know about us," Lannin says. "We need to make connections with other campus programs, such as educational technologies and service learning."

In addition to the faculty writing workshops in which instructors compose and tweak syllabi and classroom assignments, Lannin looks forward to faculty writing retreats. Working from the historic Conley House, the program will open its doors one Friday a month and provide snacks and coffee to faculty who wish to confer about projects or simply write, undisturbed.

"If I start writing and allow myself to keep at it, I'll discover something," Lannin says. "Maybe it's a poem one day, an academic article, something for publication or even a memoir. You may not know that you are going to go in a direction, but as you write, things start to tumble out. It's that surprise and discovery."

Running for your life

A rat's brain may be smaller than a penny, but it knows something about exercise, health and longevity.

In a recent study, John Thyfault, assistant professor in the nutrition and exercise physiology, and internal medicine departments, found that people who transition from high amounts of physical activity to inactivity exhibit negative physiological changes associated with a higher risk for type-2 diabetes.

The findings were similar to those from studies conducted by MU researcher Frank Booth, in which the running wheels of typically active rats were locked, resulting in increased belly fat and insulin resistance — also precursors of diabetes and cardiovascular disease.

Thyfault fitted physically active humans with sub-dermal glucose monitors and asked them to stop exercising. The subjects also reduced activity from 12,000 steps a day to fewer than 5,000 steps and ate the same foods at the same time, daily.

"When our subjects became inactive — even on the first day — their glucose-level spikes were much more dramatic with each meal," Thyfault says. "It used to be thought that diabetes-induced pathologies were caused by chronic hyperglycemia [high blood sugar], but there is more evidence that these big fluctuations in glucose after meals cause oxidative stress and damage the heart and vascular system."

Thyfault's study supports his theory that inactivity provides a platform for certain pathologies to develop, even for someone who exercises regularly. His advice? Break up long periods of sitting at work, and try to get more than 10,000 steps every day plus regular exercise.

But if you happen to indulge in the occasional greasy burger and fries, do yourself a favor: Mimic the rats.

"In rodent models, you commonly feed them a high-fat diet to cause them to become insulin resistant and obese," Thyfault says. "If you give them access to a running mill, the high-fat diet does not cause insulin resistance."

Extra cheese, please. The metabolic similarities between rats and humans are helping MU researcher John Thyfault study diabetes risk factors.

Photo illustration by Blake Dinsdale

Student office upgrades

Atop a bookshelf inside Kathy Murray's office sits the A022 door plaque, an artifact beloved by those who fondly recall the former student organization offices in Brady Commons.

But while nostalgia lives inside Murray's office, outside lies a modernized workspace with plush couches, semi-private cubicles, group worktables and high-tech conference rooms. The Center for Student Involvement's new home on the MU Student Center's upper level provides office space and storage for student governments, student organizations, Greek organizations, campus activities, the Student Design Center as well as leadership development and community service groups.

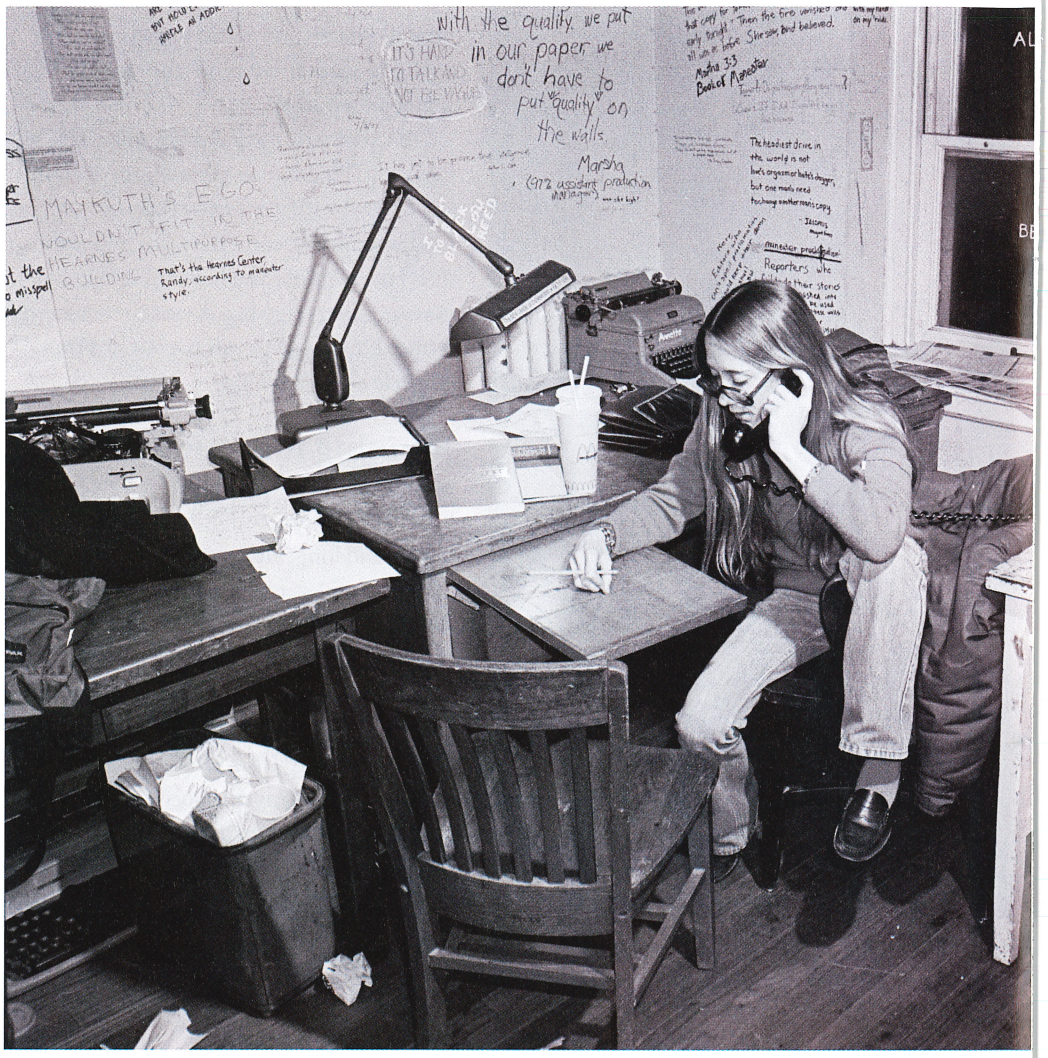
"Since we moved in, I've seen much more collaboration and coordination across group boundaries," says Murray, BJ '81, MBA '84, assistant director of campus activities. "It's really become a community. You might think of students being online all the time, but here they're face-to-face working on projects and ideas."

Student groups were originally scattered across campus, with several housed in Read Hall. After the 1986 renovation and expansion of Brady Commons, organizations moved into A022, a labyrinth of tall, closed-in cubicles in the basement.

Nick Evans, student organizations coordinator, says students soon outgrew the allotted area. It wasn't uncommon for three organizations to share an 8-by-8-foot cubicle and for closets to be turned into makeshift offices. The student organizations' area, which accommodated 15 to 20 groups in Brady, now houses up to 60 groups in the Student Center.

"Students are impacted by the new space and can appreciate the value we place in student activities," Evans says. "In turn, it encourages them to be here more and inspires them to work hard."

Student groups began moving into the Student Center in phases, starting in 2010.



Centers devoted to lesbian, gay, bisexual and transgender resources; multicultural students; relationship and sexual violence prevention; wellness; and women have relocated to the Student Center's ground floor along with student media outlets.

The Maneater staff has settled into professional-looking digs complete with a conference room, editors' offices and space for multimedia and photography staffs. Student radio station KCOU left Pershing Hall's basement for newer equipment and furnishings on the lower level of the Student Center. And television station MUTV, which previously used MU Academic Support Center's production studio, will soon be moving into its own studio and offices.

Owning the future

When four MU journalism students developed NearBuy, a real estate search application for Apple's iPhone, it wasn't going to make them rich. After all, NearBuy costs nothing to download.

But the app's success did prompt Mizzou to do something few colleges have considered: award students full ownership rights to the intellectual property they develop while enrolled in the university.

"These are arguably some of the most progressive student [intellectual property] rules in the country right now," says Keith Politte, who manages the MU Reynolds Journalism Institute's Technology Testing Center. "This is a huge deal."

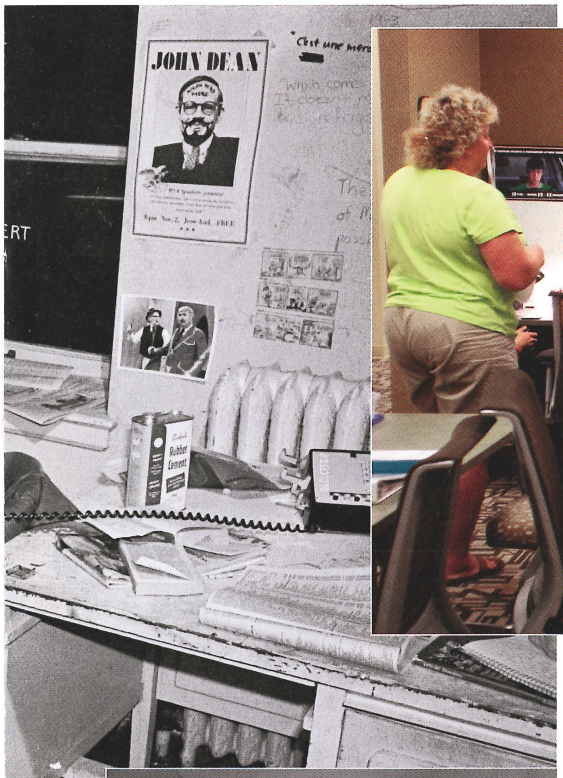
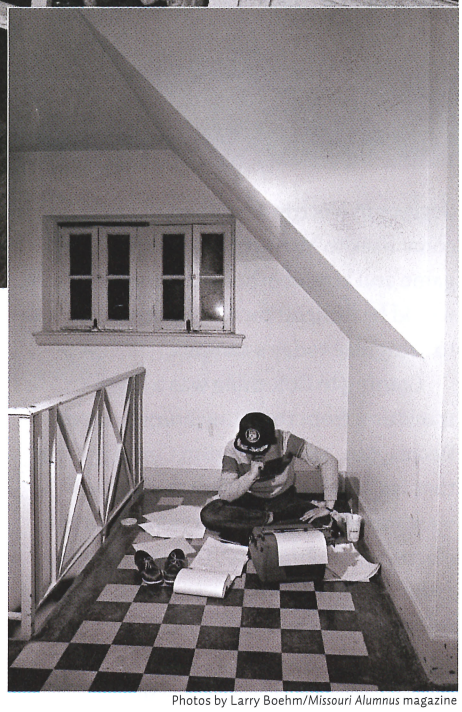


Photo by Nicholas Benner



Photos by Larry Boehm/*Missouri Alumnus* magazine

Above right, the MU Student Center boasts great new offices for student organizations, including *The Maneater*. The current facilities are more spacious than those on the third floor of Read Hall, circa 1980, above left and inset, where *Maneater* staffers got the job done before moving to Brady Commons.

The new rules distinguish students from university employees, who share with MU the rights to inventions developed using campus resources and any licensing revenue they generate. Approved by the UM Board of Curators in July 2010, the changes attracted the attention of the Kansas City-based Ewing Marion Kauffman Foundation, which awarded Mizzou a $100,000 grant to help advance student entrepreneurship.

The money supports the MU Student Angel Capital Program, which provides startup funding for student entrepreneurs, and Collaboration Leadership and Innovation for Missouri Business, a platform that allows students to build entrepreneurial experience around inventions the university already owns.

The foundation grant will also fund Politte's project to record the efforts of student entrepreneurs in a series of short videos. The objective is a "digital repository" that captures the evolution of a startup, from the eureka moment to commercialization.

The new intellectual property rules have paved the way for these initiatives by "resetting the playing field" for student entrepreneurs, whom Politte calls "digital natives." He says the next step is to consider ways to provide legal advice, accounting assistance and other services that young entrepreneurs need to get a business off the ground.

"Students today have better skills and broader expectations of what they can do," he says. "They expect to go out and create and build. So the university should unleash those students and enable them in as many ways as possible to play on that field."

Knock it down, build it up

In spring 2011, workers finished demolishing the Beta Theta Pi fraternity house at 520 S. College Ave., and work has begun on a 45,000-square-foot structure scheduled for completion by fall 2012. The building will feature a two-story great hall for dining and socializing, Wi-Fi, a library, bedrooms for 105 students (plus 20 in the existing annex) with private bathrooms, a conference center and an auditorium.

As of August, the fraternity's capital campaign had netted $8.1 million toward its goal of $10 million by the end of 2012. "The previous house, built in 1959, had served the Beta Theta Pi chapter well for the past five decades with a location and facility that were the envy of other fraternities," says Dave Spence, BS HE '81, of St. Louis, who directs the capital campaign. But growth in membership and students' need for new learning technologies prompted the chapter to commission a new structure.

View construction progress at missouribeta.com.

Civil War weather

Weather has shaped some big battles, says MU meteorologist and war history buff Tony Lupo. In 1815, for instance, soggy conditions at Waterloo forced Napoleon to delay his attack, which led to his defeat, he says. In the early days of June 1944, German forecasters predicted the weather was too bad for the Allies to attack, and they were unprepared during what turned out to be the D-Day invasion. Now, Lupo and meteorology student Mike Madden have contributed to the lore of war weather with a study of conditions during Civil War battles in Missouri.

To produce their "retrocast," Lupo and Madden employed analog forecasting methods that match existing data to historical weather patterns. "It's now about one degree warmer in Missouri than it was during the Civil War, but we know that the weather patterns have remained very similar," Lupo says.

Although meteorologists typically use analog forecasting methods to predict weather at sea beyond the reach of radar, Lupo and Madden adapted it to the Civil War project by combing an array of historical data. For instance, they dug into contemporaneous records from a primitive weather station at Fort Leavenworth, Kan., and sorted through ships' logs, books, letters and newspaper accounts.

The researchers discovered that weather helped save the lives of soldiers in some early Missouri battles. "At Wilson's Creek, for instance, weather delayed a Confederate attack so that it was less of a surprise. The Union lost that battle, but at least it wasn't a rout," Lupo says. The outcome was similar at Lexington, where heavy rains helped Confederate soldiers by soaking hay bales they used as cover. The wet bales mitigated losses by absorbing Union cannon blasts without catching fire.

An army may travel on its stomach, but it can sometimes rise or fall with the barometric pressure.

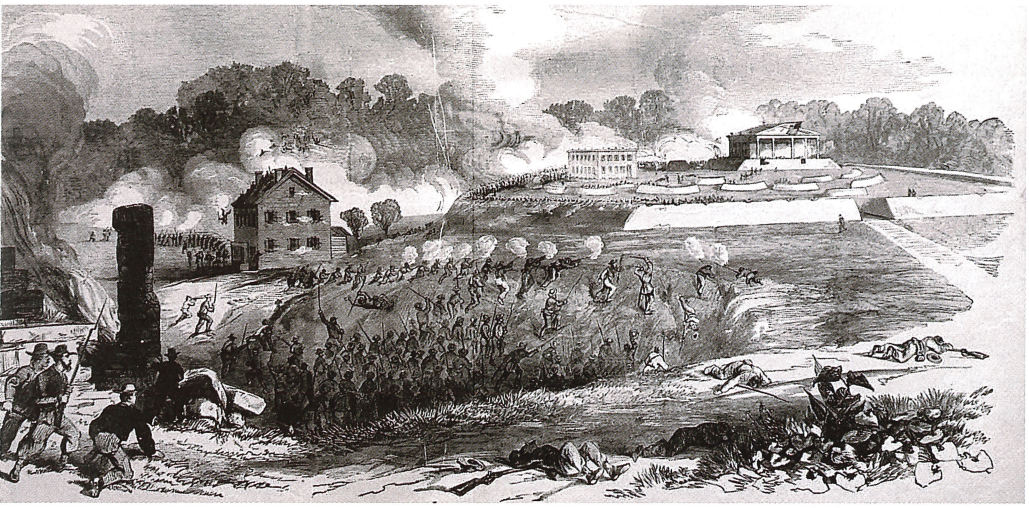


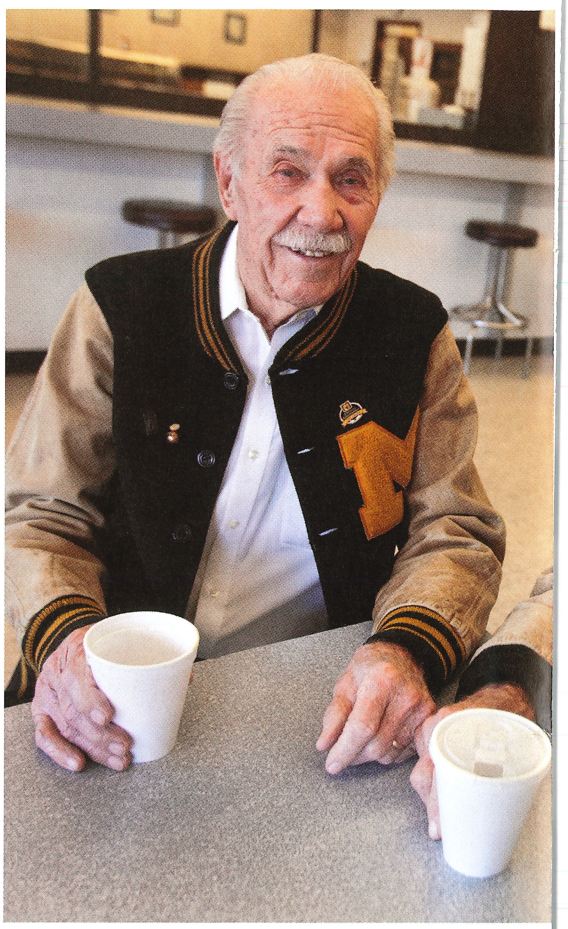
Photo courtesy of Library of Congress

Meteorologist Tony Lupo has developed "retrocasts" showing how weather may have influenced Missouri Civil War battles, such as the one pictured here in Lexington. This engraving was originally published in *Frank Leslie's Illustrated Newspaper* in 1861.

Double double

In addition to basketball talent, Beau and Cliff Minx have always possessed keen mathematical skills. Perhaps that's because the identical twins have spent their lives dividing and multiplying everything by two.

Nearly 70 years after their sneakers squeaked on the Mizzou hardwood, the Minx brothers will return to Columbia for birthday No. 92 on Jan. 8, 2012. Beau and Cliff, both of whom earned bachelor's



degrees in electrical engineering in 1944, come back to MU almost annually to catch a game and attend other alumni events, but it would be difficult for the Minx boys of 1940 to recognize today's campus.

Coming to Columbia was a huge transition from their tiny hometown of Rocola, Mo., in Washington County, a "city" that isn't on most modern maps. They were raised in a two-room cabin with no electricity or plumbing. Their blacksmith father rode a motorcycle and once tried to transport the children — twins and older sister — to school during a snowstorm. They crashed into a horse-drawn wagon.

"Dad landed on top of the wagon with two of us in the ditch and one in the road," Cliff says. "That was the last time the four of us rode on a motorcycle."

Beau and Cliff had no basketball experience when they signed up late in

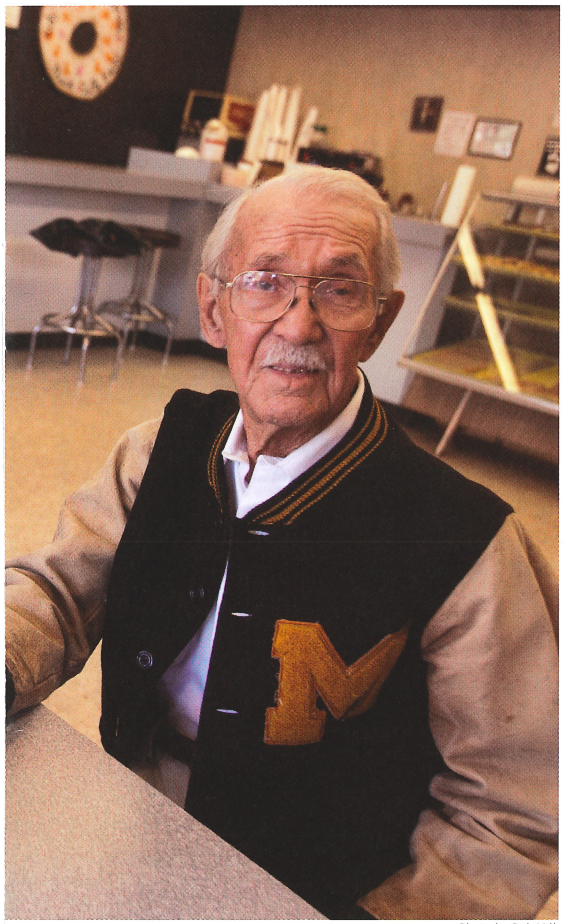


Photo by Rob Hill

Cliff, left, and Beau Minx, identical twin brothers who played basketball at MU during the 1943–44 season, turn 92 on Jan. 8, 2012.

their high school careers, but they caught on quickly. Once, they switched jerseys mid-game so the higher-scoring forward, Cliff (Beau was a guard), could avoid fouling out. When Mizzou Coach George Edwards recruited the twins, their mother borrowed $300 to pay for their rent and one set of books that the boys shared. They worked at Gaebler's Black and Gold for meals and money, and they were hired as assistant math instructors at MU.

The Tigers finished 9-8 in 1943–44, and the Minx twins led Mizzou to its first NCAA appearance in Kansas City, Mo., where Cliff now resides. Beau lives nearby in Olathe, Kan., and the brothers meet every Wednesday morning for coffee at Fluffy Fresh Donuts.

"[The tournament] was quite an accomplishment because when we got to Missouri, basketball had just changed from a two-handed to a one-handed shot," Beau says. "I don't ever remember once fighting with Cliff, but I remember beating Kansas that season."

Charles, meet Lucy

Charles Darwin would have loved to meet Lucy, aka *Australopithecus afarensis*, or AL-288-1 for short. Lucy is the 3.5 million-year-old hominid whose skeleton unearthed in Ethiopia in 1972 shows that early human ancestors walked upright. Her personal effects suggest she also used tools. Darwin would've been thrilled to know she walked tall and knew how to handle a stick, in accordance with his theories. But she would have had a big surprise for him, too, says Carol Ward, professor of integrative anatomy in MU's Department of Pathology and Anatomical Sciences.

During the 2011 Corps of Discovery lecture Sept. 6 on campus, Ward explained how recent discoveries including Lucy are altering the chart of human evolution. The lecture series, named for the Lewis and Clark expedition, highlights MU faculty who are at the forefront of learning.

Ward paints a picture of Darwin pondering evolution in the 1800s, before a fossil record had been compiled for humans. He looked at our large brains, facile hands and upright locomotion, and theorized that these characteristics evolved as a package for making and using tools. But recently discovered fossils show that ancestral humans' posture and predilection for tools came along millions of years before our all-important large brain developed. Ward points at her own head. "This is not about using tools," she says. Darwin missed the boat on that one.

Ward says it was when our immediate precursor, *Homo erectus*, arrived that the brain started growing rapidly. But why? She and her colleagues theorize that it takes a big brain to handle humanity's social situation. "Being social is the fundamental feature of our daily lives," she says. We spend a great deal of time thinking about friends, family, whether the boss is mad, or how to find that ideal guy or gal. "No other animals have been able to live in large groups, build skyscrapers, put people into space, cure diseases," she says.

Mastering tools may have helped our ancestors manage their environments to find food and avoid predators, Ward says, but with that under control, it was possible to develop more social savvy powered by bigger brains. Increased gray matter fostered empathy, foresight, planning and collaboration. That starts a "positive feedback loop," Ward says. "The better we negotiate the physical world, the more social we can become. The more social we become, the better we are at dealing with the physical world. It became an arms race between intelligence and brain size and social capability that leads us to who we are today."

Dinner on the tracks

Columbia's fine dining options now include four-course dinners and Sunday brunches aboard a vintage locomotive train.

Since July 2011, The Columbia Star Dinner Train has transported passengers roundtrip from Columbia to Centralia using the 21-mile COLT Railroad track, formerly known as the Wabash Railroad. The restaurant attraction was pieced together using locomotives built in 1948 and 1953 for the Great Northern Railroad. Having a locomotive on each end allows the train to travel to Centralia and back on the same tracks. The train's three 1938 dining cars from the Southern Pacific Railroad seat more than 200 people, and a former baggage car has been converted into a full kitchen.

The restored train departs from the Brown Station Road terminal at 7 p.m. on Fridays and Saturdays and at 11:30 a.m. on Sundays. *More: dinnertrain.com*

Photo by Nicholas Benner

Photo by William Greenblatt, BS Ed '77

Above, Commissioner Mike Slive welcomes Chancellor Brady J. Deaton to the Southeastern Conference at the Nov. 6, 2011, official announcement event. A total of 2,314 alumni, students, faculty and staff crowded into the MU Student Center to hear the big news.

Mizzou makes SEC change

The long wait is over, and Mizzou has a new home in the Southeastern Conference (SEC) beginning July 1, 2012.

Conference realignment rumors originated as far back as April 2010 and resumed in 2011. But it became real for Tiger fans when Chancellor Brady J. Deaton announced the switch to 2,314 vocal alumni, students, faculty and staff at the MU Student Center Nov. 6, 2011, a few days before this issue went to press.

"The University of Missouri and the Southeastern Conference are joined in a commitment to excellence on the athletic field and in the classroom," Deaton said. "We're not abandoning our past at all. We're expanding upon it, and we're fulfilling that historical frontier tradition that has marked the University of Missouri from the very beginning."

As the SEC's 14th member, the Tigers will compete in the Eastern Division against Florida, Georgia, Kentucky, South Carolina, Tennessee and Vanderbilt. Texas A&M University, which also left the Big 12 Conference for the SEC in September 2011, will join the Western Division with Alabama, Arkansas, Auburn, Louisiana State, Mississippi State and Ole Miss.

The SEC Presidents and Chancellors, led by native St. Louisan and University of Florida President Bernie Machen, voted unanimously to accept Mizzou. The move ends a 104-year relationship with the Big 12 and its previous incarnations.

Reaction was mixed.

"In my opinion, the move is a colossal mistake," says former MU basketball All-American Charles Henke, BS Ag '61, M Ed '66, of Concordia, Mo. "I think it will have a negative impact on our ability to recruit. We're not a southern university, we're a midwestern university, and we need to be here. Then there's the tradition and rivalry with Kansas."

MU Director of Athletics Mike Alden and the Board of Curators have expressed interest in maintaining a nonconference rivalry with the University of Kansas in all sports, including the annual Border Showdown in Kansas City, Mo. However, KU officials have indicated that future competition was contingent on Mizzou's Big 12 membership.

"MU's involvement [in Kansas City] is not going to diminish in any way," Deaton said, implying that MU could play a different regional opponent at Arrowhead Stadium. "The MU Board of Curators asked us to explore a basketball tournament in Kansas City and football matches with key rivals. All that continues."

When Mizzou began exploring its conference options, Alden cited equal institutional treatment and conference stability as the top two priorities. As for conference revenue distribution, the average amount paid to each SEC school in 2009–10 was about $18.3 million. Missouri received about $10.3 million from the Big 12 in 2009–10 but is expected to receive $15 million to $17 million in 2011.

Founded in 1932, the SEC added Arkansas and South Carolina in 1991. MU is one of four SEC member institutions of the prestigious Association of American Universities. The others are Florida, Texas A&M and Vanderbilt.

"Missouri is known as the Show-Me State," Alden said. "This is an opportunity to step up and show people who we are."

SUSTAINABLE ENERGY
MAKING MORE USING LESS

MIZZOU'S SUSTAINABLE SENSIBILITY IS growing from the top down, bottom up and in nooks and crannies all over campus.

As an MU student, Ben Datema knew he wanted to get other students involved in environmental issues. "People want to do what's best, but we don't always know what that is," says Datema, BA '10, who is now MU's student sustainability adviser. "For instance, should I use paper towels or a powered hand dryer? Well, that depends on where the paper and the power come from." The issues can get muddy quickly.

So, when Datema came upon the idea of an online dashboard that monitors and displays individual buildings' electricity use, he jumped on it. "Dashboard's feedback is immediate, and I saw it as a way to give students real-time information they could act on to change their behavior."

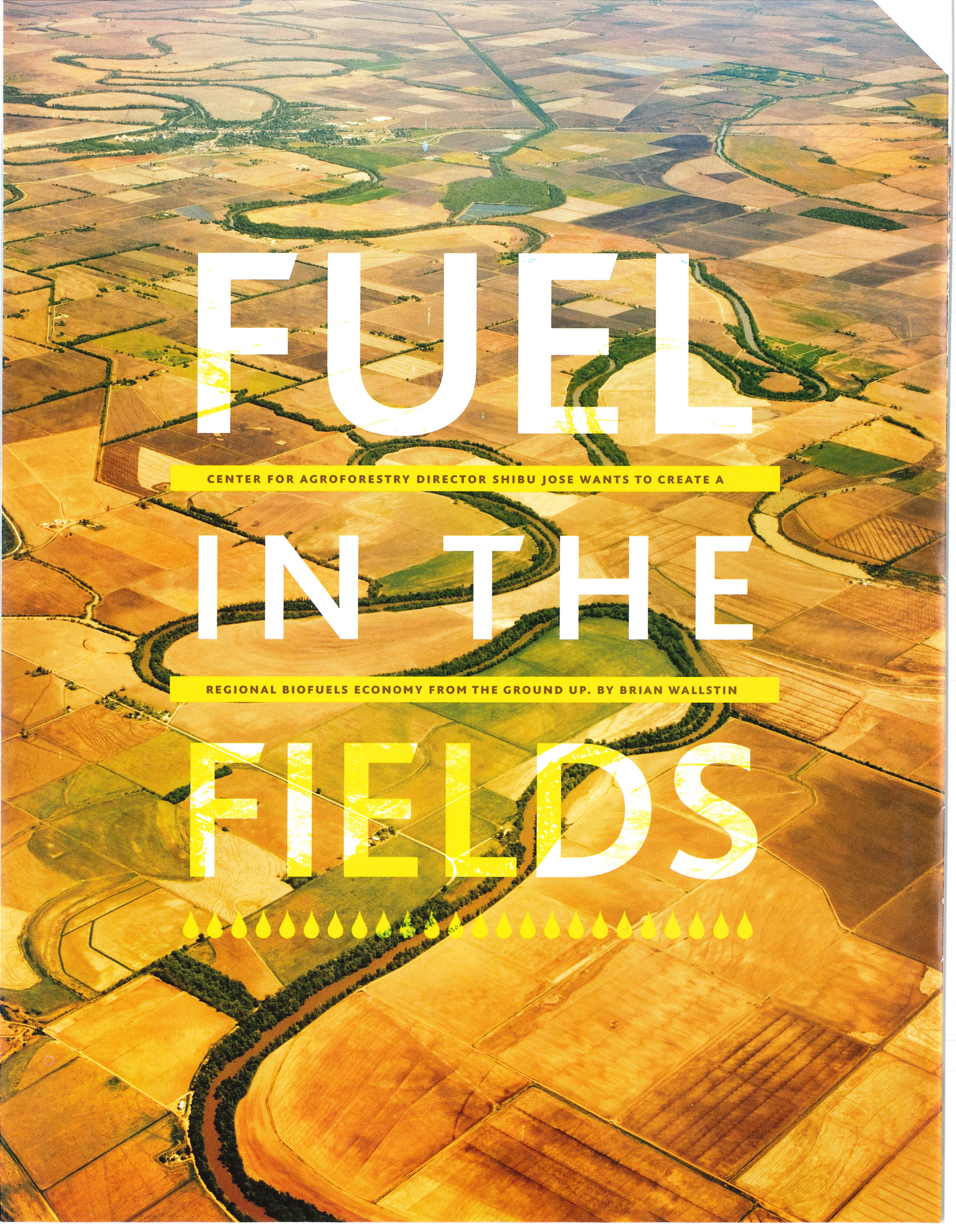
Datema won a grant from MU in 2008 to install Mizzou Dashboard in Hatch, Schurz and College Avenue residence halls. The dashboard can display building data side by side, a feature that played into the next part of his plan. He worked with members of the student environmentalist group Sustain Mizzou to set up a weeklong energy-use competition between the halls' 1,400 residents. The task: conserve.

To launch the idea, Datema and others formed a "ninja crew" of guerilla marketers who gathered at 5 a.m. one day to blanket the residence halls with sticky notes and flyers bearing the provocative message: "You Suck (energy)." The ninjas also tagged copiers, printers and other appliances with information about how much energy they required. "We started quite a buzz," Datema says, and the competition was a hit. Schurz won, reducing electricity consumption by 3.4 percent to College Avenue's 3.0 and Hatch's 1.1. Together, the students conserved 1,283 kilowatt hours of energy in one week. Mizzou Dashboard is now in nine residence halls, and annual competitions continue.

Working at the grassroots level, students such as Datema have helped shape Mizzou's sustainability agenda, says Steve Burdic, sustainability coordinator at MU. Sustain Mizzou started in 2004 to work on education and local environmental action. Burdic also points to a top-down institutional commitment. For instance, Chancellor Brady J. Deaton created Burdic's office in 2009 to foster sustainability across campus. That same year, a student sustainability office was formed to get students involved using funding from a sustainability fee that students pay. And in 2011, Mizzou released a Climate Action Plan outlining how it will reduce its greenhouse gas emissions during the coming years.

Looking out for the environment is becoming a way of life on campus. Check out Mizzou Sustainability by the Numbers at the bottom of pages throughout this section.

More: mizzouadvantage.missouri.edu



FUEL IN THE FIELDS

CENTER FOR AGROFORESTRY DIRECTOR SHIBU JOSE WANTS TO CREATE A REGIONAL BIOFUELS ECONOMY FROM THE GROUND UP. BY BRIAN WALLSTIN

IN 1925, HENRY FORD

told *The New York Times* that a farmer could squeeze enough ethyl alcohol from an acre of potatoes in one year to power the machinery needed to cultivate the field for the next century.

"The fuel of the future is going to come from fruit," he said, "like that sumac out by the road, or from the apples, weeds, sawdust — almost anything."

Ford, whose early Model Ts ran on both ethanol and gasoline, also had a sentimental reason to favor alternatives to crude oil, which by the mid-1920s was cheaper to refine than ethanol. A champion of rural values who grew up on a farm, Ford believed American farmers wouldn't survive unless they produced something in addition to food, and almost as valuable — energy.

Nearly a century later, tens of billions of dollars in government incentives and private investments have been spent on the science and technology of converting plants into liquid fuel. Yet prospects for Ford's "fuel of the future" are still uncertain: Despite aggressive federal mandates to produce 250 million gallons of advanced biofuels in 2011, U.S. energy officials have been forced to lower this year's goal to as little as 6.6 million gallons. Advanced biofuels come from crops other than corn, which has dominated efforts to commercialize a sustainable alternative to gasoline since the 1970s.

The reasons for the disappointing output are the same supply-chain problems encountered by early 20th century proponents of ethyl alcohol: Who will grow the so-called energy crops, and what crops will be grown? Who will refine the crops into fuel, and what technology will produce the most energy at the lowest cost? How will the refined product be distributed, and who will use it?

With the help of a $20,000 grant from Mizzou Advantage, Shibu Jose, director of MU's Center for Agroforestry, has established a comprehensive blueprint for a commercial biofuel industry. The Mississippi/Missouri River Advanced Biomass/BioFuel Consortium has about 50 partners, including land owners, researchers, conservationists, biorefineries and potential customers such as FedEx, which wants to replace a third of its jet fuel with biofuels by 2030.

"What we're trying to do is have everybody, from the producer all the way to the end user, sit down at the same table to talk about the best way to make this happen and to give assurances to each other that they're going to start making it happen," Jose says. "We want to show that it can work, then replicate it in the United States or anywhere in the world."

In 2007, Congress called for an annual increase in U.S. biofuels production from 4.7 billion gallons to 36 billion gallons by 2022. The Energy Independence and Security Act established a goal that 21 billion gallons of the 36 billion gallons must be advanced biofuels.

Jose is confident that enough biomass can be cultivated along the Mississippi River corridor, from Minnesota to Louisiana, to produce 30 percent, or 6.5 billion gallons, of the 2022 goal. He estimates that more than 110 million acres in the corridor are only "marginally productive" for traditional row crops, such as corn and soybeans, because of frequent flooding and soil erosion.

The land is, however, ideal for growing high-yield feedstocks that can be converted to advanced biofuels, including:

- perennial grasses, such as switchgrass and miscanthus;
- sweet sorghum, a warm-weather grass that tolerates drought;
- energy cane, a relative of sugarcane that's taller and higher in fiber;
- willow and cottonwood trees, fast-growing species that are native to the region.

Planting and harvesting just 1 million acres in the corridor could generate 1 billion gallons of advanced biofuels in the first five years after planting, Jose says. "If you look at the land base, it has the highest productivity of any region," he says, "so it has the best potential to produce biomass."

Jose says he plans to integrate MU Extension and educational activities into the consortium to help train a workforce for a biofuels economy. An economist on the consortium's advisory board has estimated that growing, transporting, storing and processing biomass could create thousands of jobs and have an economic impact of $3 billion to $4 billion a year for the river corridor.

There are other benefits of cultivating biomass along the rivers. Most of the feedstock crops are perennials, which are healthier for the soil. Floodwaters would have little impact on the crops and might even help them thrive. Short-rotation crops, such as willow and cottonwood, and native grasses require little, if any, fertilizer or herbicide, so chemical runoff into the river is reduced. And once the crops are flourishing, Jose says, the land could serve as wildlife habitat.

"Conservationists have been trying to restore this river corridor by planting trees and perennial grasses, but this gives them a reason to approach landowners and say, 'Here is an economic opportunity,' " Jose says. "It's a market-based approach to conservation."

Roughly 600 farmers have already agreed to grow advanced biofuels feedstock, thanks to a U.S. Department of Agriculture program that pays landowners to establish sustainable energy crops. In May, the USDA chose Show-Me Energy Cooperative of Centerview, Mo., to launch the first Biomass Crop Assistance Program. Eventually, up to 50,000 acres in Missouri and Kansas, mostly unproductive cropland, are expected to be enrolled in the program to grow native grasses and herbaceous plants.

Landowners can receive payments for up to 75 percent of the cost of establishing a biofuel crop, in addition to five years of annual payments for grassy crops and 15 years of annual payments for woody biomass, such as willow and cottonwood.

Steve Flick, president of Show-Me Energy, says farmers bale and deliver the feedstock to the co-op for processing into biomass pellets. Show-Me Energy is producing about 100,000 tons of pellets per year, which are used to make a biofuel replacement for propane or blended with coal and burned to

Photo by Robert Llewellyn

MIZZOU SUSTAINABILITY BY THE NUMBERS

100: tons of trash collected by Tiger Tailgate Recycling at home football games during the past six years

generate electricity.

"We've perfected the front-end processing of this facility, and we make a final product that gets used locally," Flick says. "That's good for economic development, as well as for understanding the mechanics of processing this material. If you don't have that down, I don't care what kind of technology you have, it ain't gonna fly."

Show-Me Energy is in the process of building a 10-megawatt power plant in Centerview, along with a facility that will produce 1 million to 2 million gallons of biobutanol, a liquid fuel that can replace gasoline without the need for engine alterations.

Facilities such as Show-Me Energy are at the heart of the consortium's biofuels commercialization strategy. Jose calls them Advanced Rural Bio Refineries, or ARBRs, and under his plan, 60 to 80 of them would be scattered throughout the Mississippi River corridor.

The idea is that farmers would bring their biomass to the nearest biorefinery for processing into pellets, which would be shipped to major commercial refineries in the Midwest. One such refinery in St. Joseph, Mo., is testing small-scale production of fuel made from cellulose material such as switchgrass, sorghum and corn fiber.

"These major producers can collect pellets from a multitude of ARBRs," Jose says. "That's the concept: up to 10 major producers up and down the river corridor, each one supported by eight or 10 of these small rural processing facilities."

When Jose talks about the consortium, he never fails to mention George Washington Carver, a scientist and inventor who founded a research laboratory to develop new applications for agricultural products. Like his contemporary Henry Ford, Carver believed farms were "God's true storehouse," able to "synthesize material for every human need."

"That's what we are trying to promote to help our nation meet its biofuels goal," Jose says. "We aren't there yet, but we have to start somewhere."

HARVESTING ENERGY

RESEARCHERS ACROSS CAMPUS ARE INVESTIGATING WAYS TO TURN PLANTS INTO POWER. BY TARA BALLENGER

TREE CROPS

Fast-growing species perform best

When MU's power plant fires up its new biomass boiler in 2012, it will do more than make the campus energy supply more sustainable — it will create a new market for Missouri-grown tree crops, says Hank Stelzer, an associate professor of forestry in the College of Agriculture, Food and Natural Resources. The boiler, a $75 million project that will replace a 24-year-old coal-burning unit, will run on up to 140 tons of biomass each year.

Stelzer is studying which plants would work best as energy crops grown solely for biomass materials, not food.

Willow and cottonwood trees are performing especially well, he says. Within three years, they spring up 20 feet and can be cut and sold as biomass. Then, the trees regenerate and the process can be repeated. One tree can yield seven harvests in 20 years before it needs to be replaced.

Stelzer is comparing these trees to other biomass crops and observing how they fare on land that isn't optimal for growing wheat and corn. "On soils that are highly erodible and not suited for grain crops, woody systems have the potential to be a more productive crop and help rebuild the soil at the same time," he says.

MIZZOU SUSTAINABILITY BY THE NUMBERS

1,250: campus acres that are part of a botanic garden featuring native plants

SORGHUM

Sugar in stalks is converted into ethanol

Felix Fritschi is investigating how sorghum could be a sweet deal for Midwestern wheat farmers. Fritschi is an assistant professor in the plant sciences division of the College of Agriculture, Food and Natural Resources.

Winter wheat is planted in late fall and harvested early the following summer. To keep their fields profitable during the interim, many farmers have started to plant quick-growing biofuel crops — mainly soy.

But for farmers north of Interstate 70, that can be risky business. Soybean oil is extracted from the seeds of the plant, but if there is an early frost — not uncommon in northern areas — the plant won't produce seeds.

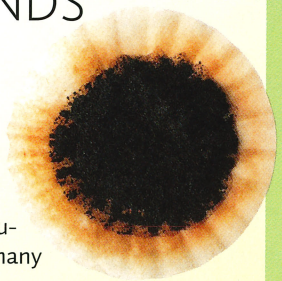
Better known as an ingredient in some syrups, sorghum's stalks have a high sugar content that produces cane juice. Once extracted, the juice can be fermented into ethanol without advanced technology. And because the biomass is found in the stalk and not the seed, the plant doesn't need to reach maturity to be harvested, so early frosts are not an issue.

"We're interested in it because it's drought-tolerant, fast-growing and easier to make in small-scale operations," Fritschi says. "It also doesn't take as much water."

Studying crops at MU's Bradford Research and Extension Center, Fritschi has documented which types of sorghum produce the most biomass and which are more drought-resistant so scientists can use selective breeding to raise the optimum plants.

COFFEE GROUNDS

Turning waste into biofuel

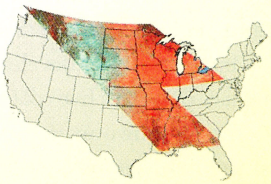


In 2010, a group of agricultural systems management students from Germany teamed up with Assistant Professor Bulent Koc to produce biofuel from discarded coffee grounds. The team used the typical solvent — hexane — to extract the oil, which can be mixed with traditional petroleum fuels.

The results were encouraging: 14 percent of the coffee grounds mixture was converted to biofuel. Not bad for a waste product that doesn't require cultivation. Since then, Koc has improved the system by treating the grounds with high-intensity ultrasound, a beefed-up version of the technology doctors use to create images of muscles and tendons. The method has increased the oil yield by nearly 30 percent.

GIS IMAGING

Mapping Missouri's biomass potential

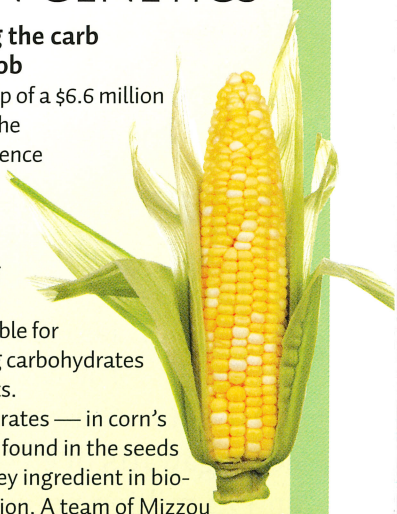


Without knowing exactly where biomass can be harvested, it is difficult to know the Midwest's true potential for production.

Geographer Cuizhen Wang is leading a team of researchers in using remote sensing and geographic information systems (GIS) to map out tracts of land suitable for biomass crops. The system creates a database by analyzing an area's soil type and vegetation. That information is then used to generate maps that illustrate the available areas and the percentage of land conducive to growing.

CORN GENETICS

Increasing the carb on every cob



With the help of a $6.6 million grant from the National Science Foundation, Mizzou researchers are studying which genes are responsible for transporting carbohydrates in corn plants.

Carbohydrates — in corn's case, starch found in the seeds — are the key ingredient in biofuel production. A team of Mizzou plant science researchers will work with universities in Florida, Indiana, Nebraska and Vermont to pinpoint genes responsible for transporting carbohydrates. That information could be used to genetically engineer corn that produces more biomass per plant.

ALGAE

Food, not fuel

Scientists have long known that algae contain oil that can be used to make biofuel, but figuring out how to extract the oil efficiently remains a challenge.

In the meantime, agricultural engineering Professor David Brune is using algae research to increase yields at shrimp farms.

Algae growing in shrimp raceways underneath a greenhouse at Bradford Research and Extension Center maintain high water quality, ensuring rapid shrimp growth. Tilapia then consume algae and shrimp waste to prevent algal overpopulation.

The process produces four times as much shrimp as conventional systems, eliminates the need for aerators and produces no discharge. Translation: more food, less pollution.

MIZZOU SUSTAINABILITY BY THE NUMBERS

2: Mizzou students pursuing environmental careers who received the prestigious Udall Scholarship during the past seven years

PLANT-POWERED POWER PLANT

The MU Power Plant turns to energy crops to shrink its carbon footprint. Story by Brian Wallstin. Photo by Nicholas Benner

The MU Power Plant might be considered the James Brown of the University of Missouri. Churning up to 66 megawatts of electricity and 1.1 million pounds of steam per hour, it's undoubtedly the hardest working facility on campus.

As coal-fired plants go, MU's is more efficient than most. Because it produces thermal heat and electrical power at the same time, the plant burns a third less coal than power-only plants, resulting in about 100,000 fewer tons of greenhouse gas emissions.

The plant's coal usage could shrink by another 25 percent by the middle of 2012, when a 100 percent biomass-fueled boiler goes online. At first, the new boiler will burn mostly waste from wood milling operations. But Campus Facilities Energy Management officials expect eventually to use up to 140,000 tons of other sustainable biomass — waste wood; corn cobs and stalks; prairie grasses, such as miscanthus and switchgrass; and fast-growing trees, such as willow and cottonwood.

"For the long term, we're looking at what some people call closed-loop biomass," says Gregg Coffin, superintendent of the MU Power Plant. "That's biomass specifically grown to produce energy."

The new boiler will feature what's called a bubbling fluidized bed. Coffin describes it as a large container of sand that heats up to 1,600 degrees Fahrenheit. When hot sand becomes fluidized, the liquid acts as a "thermal flywheel" that consumes fuels with high moisture content. The heat is turned into steam to generate electricity and thermal energy for the campus.

Coffin and his biomass team, which includes researchers from the College of Agriculture, Food and Natural Resources (CAFNR) and MU Extension, have been exploring alternatives to coal since 1995, when they started burning scrap tires. Corn cobs were added to the mix in 2006, and a year later the team tested woody biomass — mill waste, development clearing and discarded pallets.

The various fuel blends have reduced the amount of coal burned annually by about 5 percent to 125,000 tons per year. In June 2010, the plant received an Energy Star Combined Heat and Power Award from the Environmental Protection Agency for its efficiency, which lowers greenhouse gas emissions.

In 2010, MU was developing plans to replace one of its five coal-fired boilers. Coffin says the university had initially considered a boiler fueled by natural gas or a coal boiler that could take a higher percentage of biomass. Despite the plant's early success with coal alternatives, there was still a lot to be learned about biomass, including figuring out what Coffin calls "the chicken and egg thing.

"No one is going to develop a biomass source unless someone builds a plant to consume it," he explains. "But once the plant is operational and consuming the biomass, there will be more and more people interested in developing those sources."

One key to the new boiler's success is

located across campus, at the School of Natural Resources' Department of Forestry and the MU Center for Agroforestry in the Anheuser-Busch Natural Resources Building. Along with Extension Specialist Hank Stelzer, forestry researchers are identifying and developing viable energy crops, while scouting growing locations such as river bottoms and other land unsuitable for conventional row crops.

They are also exploring ways to tap the state's 14 million acres of forest. Stelzer has developed an interactive spatial analysis tool that screens locations that might be good sources of sustainable woody biomass. He and other forestry experts are establishing research plots to test various species of trees as energy crops, while developing guidelines that will protect the health of the forests.

MIZZOU SUSTAINABILITY BY THE NUMBERS

62: percentage water use reduction in education and general-use space since 1990, due to water conservation measures

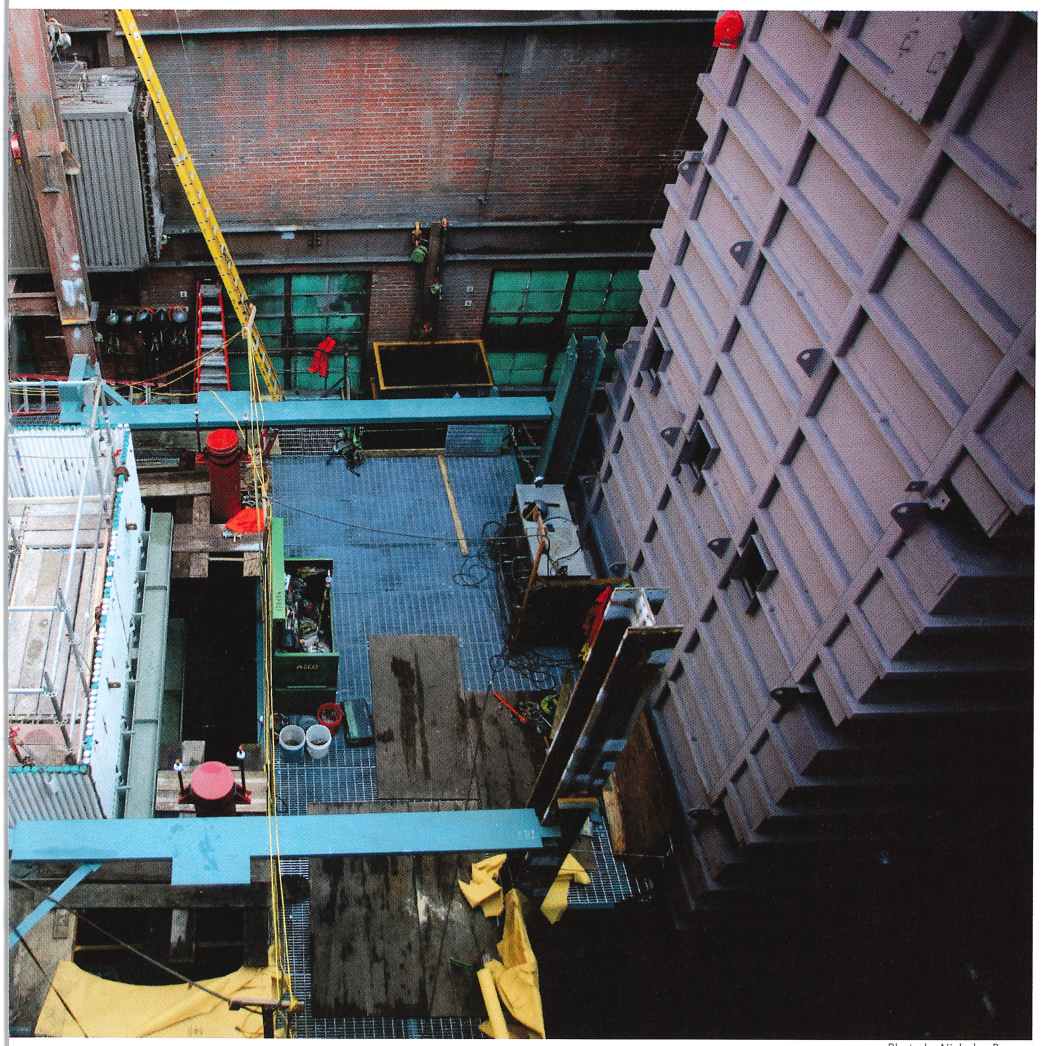


Photo by Nicholas Benner

Construction has begun on the 100 percent biomass-fueled boiler at the MU Power Plant. When operational in 2012, the boiler could shrink the plant's coal usage by 25 percent.

"We have set a really high bar in that we will only be taking wood from the forest once there is a management plan in place," Stelzer says. "A professional forester has to be involved not only in the development of the [biomass] plan, but also in the harvesting. Following that through and showing it can be done in a sustainable way, that's going to set a standard for other biomass projects in the state."

Back at the power plant, Coffin and his operations staff will need to answer some questions of their own. Can the boiler handle 100 percent switchgrass, or will it be necessary to mix it with an equal amount of woody biomass? What's the optimum combustion temperature?

Corn cobs and grasses have a high alkaline content compared to wood, which can cause problems with the boiler's mechanics and impair the efficiency of heat transfer. What are the costs in time and money of maintaining a 100 percent biomass boiler?

"There's very limited knowledge," Coffin says. "We'll have to learn what temperatures, the blend ratios, how often we have to change out the bed material and clean the tube surface.

"That's something we'll likely continue to partner with the academic community along with the boiler manufacturer to find out. There's the expertise to work together, to find out what types of these fuels can be consumed and what form do they have to be consumed in. There are some challenges ahead, but we'll work through them."

Gary Ward, associate vice chancellor for Campus Facilities, says the decision to go with a 100 percent biomass boiler was partly the result of "reading the tea leaves."

In January 2009, Chancellor Brady J. Deaton joined 650 other higher education leaders in signing the American College and University Presidents' Climate Commitment. MU's pledge is to reduce carbon emissions by 20 percent from 2008 levels by 2015, a goal that largely depends on reducing the amount of coal burned at the power plant.

Ward had also noticed that sustainability was becoming more important to students, faculty and staff. The university announced an official policy in March 2010 that strongly encourages departments to adopt environmentally sustainable practices. And in the past few years, student organizations have launched recycling and composting projects, as well as a program that awards small grants for student projects that demonstrate environmental stewardship.

"The biomass boiler fell right in line with the campus wanting to become a greener campus," Ward says. "We were starting to see a lot of change within stakeholders of the university and society in general of trying to get away from coal and find some other fuel sources."

Although it will be some time before other energy sources, such as solar and wind, are viable on a large scale, Coffin and Ward say Campus Facilities is willing to explore those options through demonstration projects. The department has accepted bids to install solar panels on the sloped side of a building at the power plant, and a small windmill is being considered for the grounds of the old Beef Barn at the corner of Stadium Boulevard and Champions Drive.

"As an energy provider, we need to learn how these technologies work because they will get more efficient and may at some point make more economic sense," Coffin says. "So we need to educate our staff, as well as our students and faculty."

MIZZOU SUSTAINABILITY BY THE NUMBERS

66: percentage of cleaning products used at MU that are green-certified

CASE IH
Leveloam Farms
Senath, Mo
COTTON EXPRESS

FOURTH-GENERATION COTTON FARMER SCOTT ANDREWS HAS SEEN COTTON BECOME MORE SUSTAINABLE FROM BOTH BUSINESS AND ENVIRONMENTAL PERSPECTIVES.

CLEANING UP COTTON

STORY BY STEPHANIE DETILLIER • PHOTOS BY ROB HILL

SCOTT ANDREWS spent his childhood getting significant on-the-job training. During fall break, he picked cotton end-rows on his grandfather's farm. For each pound, he earned about 3 cents — a good wage for a kid and good experience for a future cotton farmer.

Today, Andrews, BS Ag '76, continues his family's cotton legacy on a century-old farm in southeast Missouri. Part of his 900 acres dates back as far as his great-grandfather W.G. Petty, who managed to hold on to the property through the Great Depression. But much has changed since then, including nearly all cotton farming practices, which have become more sustainable from both business and environmental perspectives.

For starters, the amount of human labor needed to produce cotton dramatically decreased with the advent of the mechanical cotton picker. "When my dad went to college, he had decided he didn't want to get involved in a business that relied on hand laborers," Andrews says. "About the time he started farming, he bought one of the first machines from International Harvester in 1952."

Critics argue that the reliance on mechanized equipment, irrigation systems and pesticides adversely affects cotton's environmental footprint. But a closer look at the industry shows that technological innovations, especially genetically engineered seeds, have led to a decrease in pesticide use, soil loss, land use and water use. The Keystone Alliance for Sustainable Agriculture reports that from 1987 to 2007, energy used to produce a pound of cotton lint decreased 66 percent. That's not to mention the decrease in human labor.

As innovation has led to more efficient cotton practices, Andrews has seen his cotton yields nearly double since 1980, meaning more cotton can theoretically be produced on less land.

"The yields are better because the plants are better," he says. "The seeds cost so much more than they used to. We used to pay $8 to $10 an acre for seed, and now it's $80 an acre, but we're saving so much in chemicals that it offsets the costs."

Through cross-breeding and genetic modification, seeds have become more resistant to drought and pests such as worms and weeds. Cotton seed varieties with the Bt gene, for example, produce insecticidal proteins that help protect crops from insect pests and reduce the need for spraying. Andrews hires Victor Roth, BS Ag '74, of Roth Farm Service to inspect his fields once a week. His philosophy is to spray only as needed, where needed. For the 2011 crop, one 40-acre field needed to be sprayed six times; another field only once.

Farm worker Kevin Casey pilots a cotton picker down the rows at Leveloam Farms near Senath, Mo.

MIZZOU SUSTAINABILITY BY THE NUMBERS
90: percentage of buildings on campus with indoor recycling

COTTON

"We don't have whole-hog spraying," he says. "That means we don't see a bug on the windshield of a truck and spray the whole farm. If we sprayed helter skelter, that would just upset nature."

The farmer-supported Boll Weevil Eradication Program, a cross-country effort of the U.S. Department of Agriculture, has also led to yield increases of at least 10 percent and a 40 percent to 100 percent reduction in insecticide use.

Throughout his life, Andrews has witnessed not only environmental improvements but also improvements to cotton farmers' quality of life. In addition to the back pains and bloody fingers that once accompanied cotton picking, the pesticides of the past created hazards as well. He remembers the more toxic substances that were relied on when he was young. A skull-and-crossbones label was sometimes seen on pesticide jugs back then. Prior to that, in the 1900s, pounds of lead arsenate were spread per acre compared to the ounces of pesticides used today.

When determining which cotton varieties to plant and pesticides to use, Andrews turns to the University of Missouri's T.E. "Jake" Fisher Delta Research Center, which celebrated its 50th anniversary in September 2011. The center, located in Portageville, Mo., studies cotton, rice and soybean production as well as weed, insect and disease control in crops. Each year, Andrea Jones, a Delta Center research associate, releases a cotton crop performance report based on her variety trials at four southeastern Missouri locations. At the end of the season, each seed variety is graded on its yield, fiber length, fiber strength, waste content and other factors. In the 1980s, the center used some of the Andrews' sandy loam soil fields to conduct the study.

Farmers wait for the report each winter. "The seed companies do these tests themselves, but we all like to hear an unbiased opinion," Andrews says. "We all trust the University of Missouri's research. They have a field day in early September that a lot of us go to, and we're able to see the different varieties of cotton when they're close to harvest time. In the winter, we use the information they put together in deciding what varieties to plant or chemicals to use."

Scott Andrews, BS Ag '76, fits a covering over a module of cotton. During harvest, the modules, holding 12 to 15 bales of cotton, sit in the field waiting to be taken to the gin.

Jones says the staff is currently testing Environmentally Smart Nitrogen (ESN) fertilizer, controlled-release nitrogen granules that reduce fuel usage and nitrogen released into the environment. "What ESN lets us do is take only one trip across the field with the nitrogen, which it releases throughout the season," she says.

The Delta Center serves a prime cotton-growing territory. Although only seven counties in the southeastern part of the state

MIZZOU SUSTAINABILITY BY THE NUMBERS

17: tons of clothing and goods students donate annually to Tiger Treasures, with proceeds of about $14,000 going to the United Way

"WE DON'T HAVE WHOLE-HOG SPRAYING," SAYS SCOTT ANDREWS. "THAT MEANS WE DON'T SEE A BUG ON THE WINDSHIELD OF A TRUCK AND SPRAY THE WHOLE FARM. IF WE SPRAYED HELTER SKELTER, THAT WOULD JUST UPSET NATURE."

Andrews operates the module builder, which compresses the cotton for pickup. During picking, cotton is transported to the builder by boll buggies, allowing the two pickers to operate continuously in the field.

grow cotton, Missouri ranks ninth in the nation for cotton production. The Bootheel conditions are ideal for cotton. Andrews' farmland was originally Mississippi River Delta flood plain drained back in the early 1900s. The water table is quite high. While many farmers dig a 100-foot well for irrigation water, Andrews says that the water table on his land is only 20 feet down.

To improve the crop's sustainability, farmers have also started recycling cotton trash. As cotton is being ginned, the seeds removed are sold for cattle feed. But leaf and stem particles removed from the lint form a mountain of unwanted compost.

"When I was a kid, the gin burned the byproduct all fall," he says. "They thought that was the thing to do. Now we pay to have it hauled from the gin, back to the farm. We put it on the sorriest, sandiest ground. It adds organic matter back into the land and makes a big difference." In addition to being used as an organic fertilizer, the waste also has potential as a source of biomass energy.

For Andrews, who has an almost entirely cotton wardrobe, taking up the family business was a no-brainer. And so was attending Mizzou, where his father graduated and mother attended. When he moved to Columbia, he knew he would soon return to Kennett, Mo., but wanted to continue the family's heritage at Mizzou. Andrews' daughter Laurie, BES '06, has already carried out one family tradition, and Andrews expects that cotton farming will continue another generation as well.

"Although harvest is a lot of work, it's also a lot of fun. It's so rewarding to see that big module of cotton that's going to turn into a truckload of blue jeans, shirts or towels. To see a field of snowy white cotton, there's nothing like it."

SEE MORE PHOTOS OF FARMER SCOTT ANDREWS' COTTON PRODUCTION OPERATION. MIZZOUMAGAZINE.COM

What makes clothes sustainable?

FOR CONSUMERS, the path to finding the greenest garments on the rack can be a tortuous one, says Jung Ha-Brookshire, assistant professor in the textile and apparel management department of the College of Human Environmental Sciences.

Clothing made from bamboo has been touted as the latest and greatest in eco-fashion. But it takes harsh chemical processing to transform the bamboo fibers into rayon, she says.

In 2009, the Federal Trade Commission began cracking down on manufacturers that claimed their bamboo-based clothes were environmentally friendly. In reality, said the agency, the chemical used during processing pollutes the air, and the final product is a synthetic fiber and doesn't readily break down in landfills.

Organic clothing is another hot topic that deserves close examination, Ha-Brookshire says. Organic cotton farms steer clear of pesticides, but because they also produce a lower crop yield than conventional farms, they require more land and human labor.

"There's nothing wrong with consumers choosing organic products, but they should be informed of the trade-offs," Ha-Brookshire says.

She adds that the easiest way to go green is to buy durable clothing and to put quality ahead of quantity.

"People can buy as much 'green' clothing as they want," Ha-Brookshire says, "but if they turn around and throw it away to buy the next year's new fashions, it can't be called sustainable."

MIZZOU SUSTAINABILITY BY THE NUMBERS

$210,000: landfill fees avoided annually through recycling

HOME GREEN

Resident Henry Hellmuth hangs his laundry to dry on a clothesline behind Sustainahouse at 210 N. College Ave. Sally Waldman, Monica Everett, Kat Seal and Hellmuth, far left, try their hand at growing some of their own food. Left, Sustain Mizzou members join residents for a potluck dinner at the house.

MIZZOU SUSTAINABILITY BY THE NUMBERS

80: percentage of paper used annually on campus made from at least 30 percent post-consumer recycled content

HOME

Six students take over one old house with a mission to use less and conserve more. Welcome to MU's Sustainahouse. Story by Tara Ballenger. Photos by Rob Hill.

IN A PERFECT WORLD, sustainable living would be plucked right off the pages of a Sharper Image catalog — solar panels would power ultra high-efficiency appliances, and stylish zero-emissions cars would rule the roadways.

For the average American, that's far from reality. But a group of six Mizzou students wants to show by example that anyone, even the cash-strapped college crowd, can lead a more sustainable life.

Undergraduates Monica Everett, Kat Seal, Henry Hellmuth, Li Tang, Sally Waldman and Claire Friedrichsen are the proud new residents of Sustainahouse, a project designed to bring like-minded students together for a community living experience that emphasizes environmental responsibility.

Student environmental group Sustain Mizzou chose the roommates from a pool of applicants, and they moved in just before fall classes. The six-room brick bungalow at 210 N. College Ave. was built in the 1920s and fits right in with the East Campus neighborhood that many MU students call home. Going green in such living quarters is a challenge they welcome.

"It's more realistic," says Hellmuth. "We wanted to show what college kids would actually be able to do [to be more sustainable]."

Since most college students cannot afford $10,000 solar panels or other costly energy-saving technology, Sustainahouse inhabitants are keeping things basic.

The group plans to recycle, compost, grow a vegetable garden, get around by bicycle and keep an eye on electricity and water consumption in hopes of showing peers that the path to sustainability can be inexpensive — and even fun.

Above, setting rules for the community and discussing goals for Sustainahouse are topics as residents, from left, Henry Hellmuth, Kat Seal, Sally Waldman, Li Tang, Monica Everett and Claire Friedrichsen, convene on the living room floor in August. Shared duties include hauling food scraps from Sustainahouse to a neighborhood compost enclosure, performed by Waldman, right.

SEE HOW SUSTAINAHOUSE RESIDENTS COPE AS WEATHER COOLS. MIZZOUMAGAZINE.COM

MIZZOU SUSTAINABILITY BY THE NUMBERS

$1: per student/per semester fee to support the MU Student Sustainability Office

LIVING WITH LESS

Medical resident Lincoln Sheets has pared down his personal possessions to about 100 items. Story by Stephanie Detillier. Photos by Nicholas Benner.

LINCOLN SHEETS can't skip laundry day, but it's not much of a chore for him anyway. His wardrobe — every shirt, sock, undergarment and pair of pants he owns — totals fewer than 25 pieces and can be washed in a single load.

Sheets, MD '11, a first-year family and community medicine resident at MU, says that is just one of the benefits he has reaped from limiting his possessions to 100 items.

Shortly after Sheets started medical school at Mizzou, his wife showed him a 2008 *Time* magazine article about the "100 Thing Challenge," a minimalist experiment to limit personal possessions. "She plopped it in my lap and said, 'This reminds me of you,' " he recalls. "Then she was so sorry she had done so because she wasn't expecting me to do anything with it."

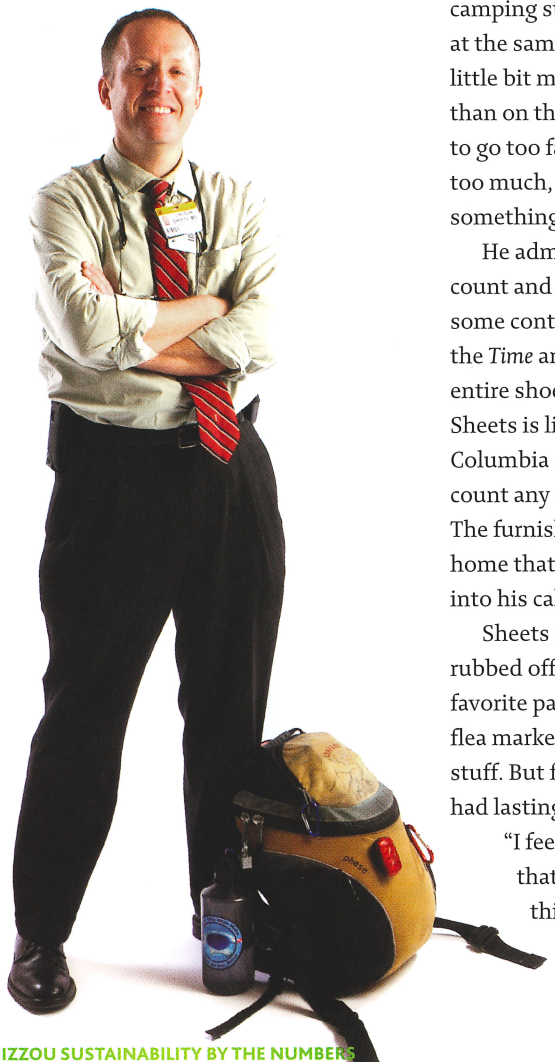
When Sheets adopted the challenge as his New Year's resolution, he had no clue how many items he owned (more than 700) and gave himself a more realistic goal (reduce to 500 items). He placed a garbage bag in his closet and started adding clothing that he wanted to give away to friends or to Goodwill. Before he knew it, he was down to about 150 items.

"The first 600 or so things were no-brainers," he says. "I had a ton of camping equipment that I only used once or twice a year, books I'd never read again and clothes I hadn't worn in two years."

Because he had come that far, he figured he'd continue whittling his belongings down to 100. It wasn't easy; what remained were Sheets' favorite, highest-quality items. He held on to a pair of $150 boots for a while before eventually giving them to a hiker friend.

"Every decision I made required pushing past that urge to hold on," Sheets says. "As I got closer to 100 things, I felt more successful. It was like sticking to an exercise plan or a studying plan."

Sheets planned to maintain the 100-possession limit for a year, but he says he has continued the challenge because it's been surprisingly easy. He now owns 86 things, including a stethoscope, blood pressure cuff, rain poncho, jumper cables, *Leonard Maltin's Movie Guide*, bicycle helmet and toiletries. Aside from his car, bicycle, motorbike and a few other items, everything the 48-year-old owns fits into his backpack, which makes traveling easy. When Sheets realizes that he needs something for a temporary use, he tries to borrow, instead of buy.



"I have a friend who I had done a lot of road trips and camping with, and he has a garage full of man stuff. I'm always borrowing something from him, and every time I do he teases me about my 100 things *plus his*," Sheets says. "But I think of that as a virtue of this project. Not everybody I know who likes to camp needs duplicate camping stoves. We won't be using them at the same time. It's kind of nice to be a little bit more dependent on other people than on things. Of course, I'm careful not to go too far. If I'm borrowing something too much, I need to buy it and get rid of something else."

He admits that deciding what items to count and how to count them can cause some controversy. One woman quoted in the *Time* article, for example, considers her entire shoe collection as one possession. Sheets is living with his mother-in-law in Columbia during his residency and doesn't count any of her furniture or possessions. The furnishings in his Springfield, Mo., home that belong to his wife don't figure into his calculations either.

Sheets says his new lifestyle hasn't rubbed off much on his family: His mother's favorite pastime is buying antiques at the flea market, and his wife has a garage full of stuff. But for Sheets, the 100-thing limit has had lasting benefits.

"I feel like the more I prove to myself that I'm OK without a bunch of things, the more I really am OK without a bunch of things," he says.

MIZZOU SUSTAINABILITY BY THE NUMBERS

$11,000: awards the Student Sustainable Initiative Fund has granted for student-driven projects

On a daily basis, Lincoln Sheets carries 39 of his 86 possessions in his backpack.

1. Backpack
2. Sentimental rock
3. Rosary from the Vatican
4. Razor
5. Shampoo
6. Hand lotion
7. Eye drops
8. Eyeglasses
9. Dental floss
10. Pain reliever
11. Toothpaste
12. Swimming goggles
13. Head lamp
14. Deodorant
15. Toothbrush
16. Locking pliers
17. Batteries
18. Medical tape
19. Medical scissors
20. Blood pressure cuff
21. Kelly forceps
22. C256 tuning fork
23. Forehead thermometer
24. Sunglasses
25. Water bottle
26. Pens
27. Razor
28. Stethoscope
29. Lunch
30. Laptop computer
31. First aid book
32. Passport
33. Padlock
34. Collared shirt
35. Protein powder
36. Book
37. Undershirt
38. Socks
39. Shorts

MIZZOU SUSTAINABILITY BY THE NUMBERS

2,255: shoppers on Lowry Mall for Mizzou's farmers market, an event sponsored by the Wellness Resource Center

LIVING THRIFTY

11/11/11 07:30 PM USER: SD

DESCRIPTION:

MU ALUMNA RAISES AWARENESS OF EXCESSIVE CONSUMPTION WITH PHOTOGRAPHS OF THRIFT SHOPS IN 39 STATES.

STORY BY STEPHANIE DETILLIER

PHOTOS BY JENNA ISAACSON

To celebrate their fourth wedding anniversary on June 23, 2011, Jenna Isaacson and Ed Pfueller exchanged gifts. From Isaacson, Pfueller received a personalized leather belt and western shirt. From Pfueller, she got a few tops and a Route 66 wall sign. All were purchased from a St. George, Utah, thrift store — a symbolic idea considering that their anniversary fell in the middle of Isaacson's cross-country thrift shop tour.

At the Goodwill outlet in Nashville, Tenn., items are sold by the pound. Emily fills her cart with $39.76 worth of toys that she will use in her business working with children.

ELECTRONIC TESTING
STATION
Confid

During summer 2011, Isaacson, BJ '01, of Washington, D.C., drove a 19-foot camper through 29 states to photograph thrift store shoppers and good finds. She hopes the project, which she blogs about at allthriftystates.com, will raise awareness about excessive consuming habits and change the perception of many who believe thrift stores are places to donate, not shop.

"When I got my first job making money, I quickly realized that I could buy one shirt for $40 or go to the thrift store and get 10 shirts for $40," says Isaacson, who buys most of her wardrobe secondhand.

Isaacson has long been a thrifty shopper. Growing up in Kansas City, Mo., she accompanied her now 97-year-old grandfather to secondhand stores in Quincy, Ill., where he'd buy her something with his senior discount.

"It was a cool way to be introduced to thrift stores," she says. "He taught me to appreciate secondhand goods, and I carried that lesson with me through weight gains and losses, buying clothes for my first job and getting furniture for my apartments."

In 2010, Isaacson, a laid-off newspaper photographer now working as an independent visual journalist, began taking photos of items in various thrift stores during her visits to friends and family in 10 states, including Virginia, Maryland and Texas. The personal project combined her three loves — photography, people and thrift stores — and allowed her to learn the personalities of the communities she visited.

Isaacson began posting the thrift store photos on her blog, and in September 2010, she learned about Kickstarter, a website that allows people to pledge money to fund creative projects. Isaacson had no idea whether others would be interested, but she proposed a plan to document thrift stores in all 50 states. The response was overwhelming. By April 2011, she raised $7,600 through Kickstarter, and in July, she secured a $6,400 sponsorship from Goodwill.

Isaacson, who inherited "trucker blood" from her truck-driving father, used the funding to embark on a 9,000-mile journey through 29 additional states in seven weeks. She averaged 200 miles a day. Her work continues.

Among her favorite thrift store finds: A bowling pin fashioned into a lamp, a $10 print of *Where Have All the Flowers Gone?* by Judith Hahn (the original hangs in the Smithsonian) and a T-shirt with the slogan "Sponsored by ... Your Mom."

"I usually go to the T-shirts first," she says. "What people will wear on their chests says a lot about who they are."

Isaacson, who is still raising money to visit the 11 remaining states on her list, hopes to turn her photography project into a documentary, book or traveling art gallery.

After seeing rows and rows of items people have discarded, she has found easy ways to cut down on waste. For one, don't buy new gift baskets. The majority of the secondhand shops stock unwanted baskets that have been cast aside after the Easter candy, fruit or canned nuts have been consumed.

Also, skip the kitschy souvenir shops. "You can find a Las Vegas souvenir in every thrift store," she says, "except those in Las Vegas."

More: allthriftystates.com

"WHEN I GOT MY FIRST JOB MAKING MONEY, I QUICKLY REALIZED THAT I COULD BUY ONE SHIRT FOR $40 OR GO TO THE THRIFT STORE AND GET 10 SHIRTS FOR $40."

Downtown Coeur d'Alene, Idaho, is a thrifty place. This photo was taken from the front window of the Women's Center Thrift showing the Idaho Youth Ranch Thrift Store across the street.

MIZZOU SUSTAINABILITY BY THE NUMBERS
2,500: tons recycled by MU annually

A bridal boutique inside of an Omaha, Neb., Goodwill Reserve store is one of a handful of Goodwill's boutique stores that appeals to a hip, trendy crowd.

A grid of glasses in a display case appeals to customers at a vintage thrift store in Brooklyn, NY.

Above: Barbie and children Malia, 4, and Kace, 6, shop at the Bozeman [Mont.] Community Thrift, which also offers customers free loaves of bread and sells locally raised organic eggs.

Left: Photojournalist Jenna Isaacson, BJ '01, wants people to know thrift stores are places to shop for used clothing, not just to donate them.

MIZZOU SUSTAINABILITY BY THE NUMBERS

22: tools at each of two bicycle repair stations on campus

HOME OF THE FUTURE

MU RESEARCHERS ARE WORKING ON THE NEXT GENERATION OF SUSTAINABLE ENERGY TECHNOLOGY. HERE'S A PEEK AT HOW THOSE INNOVATIONS MIGHT CHANGE OUR HOMES IN YEARS TO COME. BY TARA BALLENGER.
ILLUSTRATION BY BRYAN CHRISTIE DESIGN

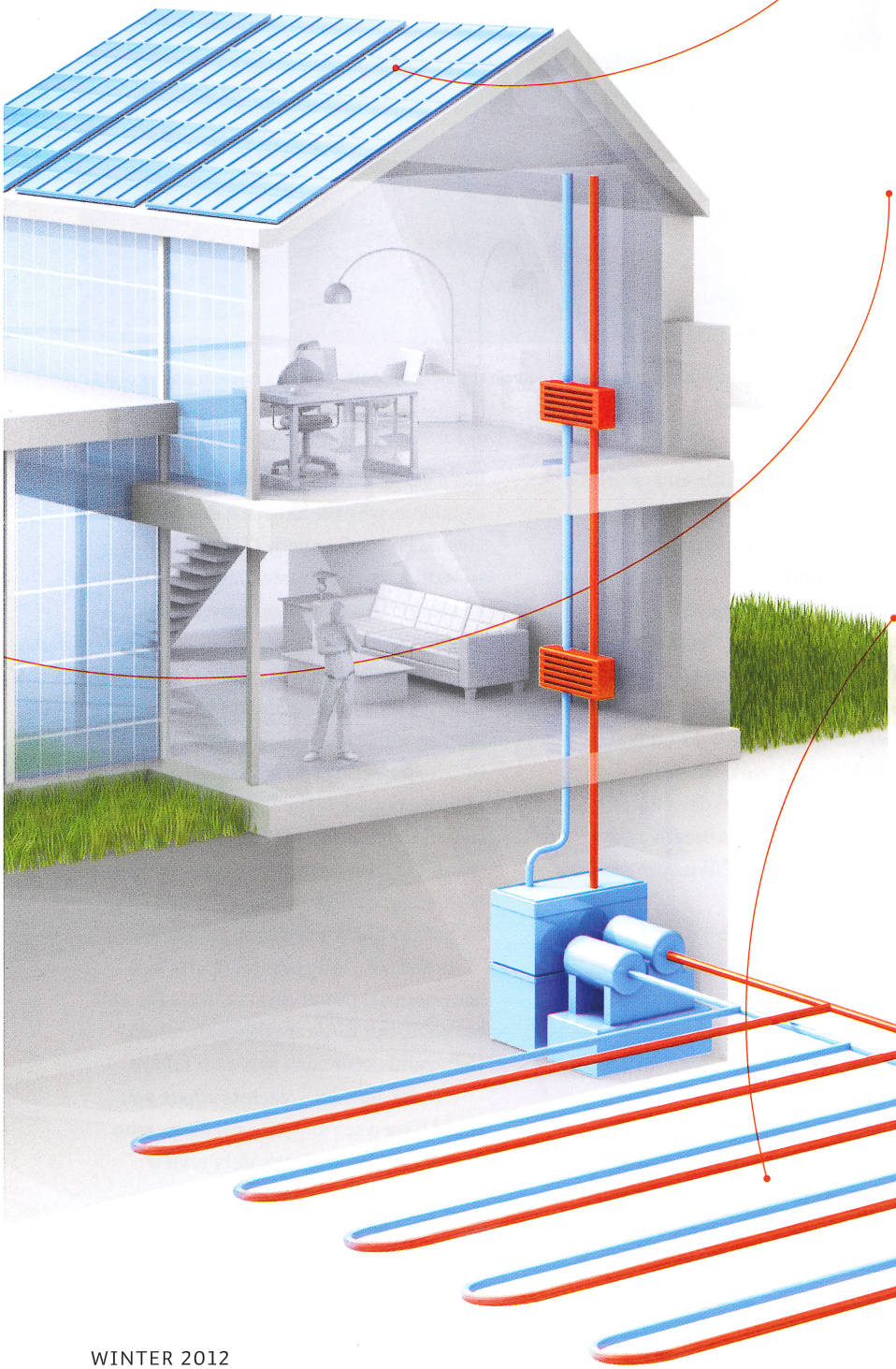
MIZZOU SUSTAINABILITY BY THE NUMBERS

$219,000: costs avoided annually by reusing chemicals and lab equipment, including glassware

WIND POWER

Because the wind doesn't always blow, the key to making it a reliable energy source is the ability to store the power for later use. Atmospheric scientist Neil Fox and engineer Noah Manring hope to solve that puzzle by using wind energy to pump water into a water tower so it can be stored for later hydroelectricity production.

The cycle starts when the wind turns the blades of the windmill, creating energy that is used to pump water into a tower for storage. To produce energy later, the water is released, driving another turbine that creates electricity, similar to a small-scale dam.



SUPER-EFFICIENT SOLAR

Chemical engineering Professor Patrick Pinhero is part of a national research team developing a flexible solar panel that can harvest more than four times as much of the sun's energy as today's solar cells. The team is placing tiny antennas on thin pliable sheets that could eventually be incorporated into rooftop shingles and other building materials instead of being mounted on top of them.

Current photovoltaic systems make use of only 20 percent of the sun's rays, but the microscopic antennas Pinhero is using have a circuitry capable of processing as much as 90 percent of the light spectrum, including infrared, which isn't visible to the human eye.

ORGANIC SOLAR CELLS

When the right combinations of carbon-based (organic) molecules are sandwiched between two electrodes, they create an electricity-generating film thin enough to be installed over entire rooftops or in awkward crevices unreachable by traditional solar cells.

The film is one-tenth the cost of current solar cells, but only half as efficient, so physics Associate Professor Suchi Guha is tinkering with the composition of those molecules to find the best ones for generating light and electricity. By conducting tests on different configurations of atoms, she can identify which combinations increase the efficiency of the film.

Some organic molecules are also photoluminescent — they use the sun's energy to give off a steady glow. When affixed to windows, the translucent sheets let in natural sunlight by day and emit their own illumination by night.

GEOTHERMAL

The key element of geothermal heating and cooling systems is a network of water-filled underground pipes. Because temperatures remain fairly stable beneath the Earth's surface, soil surrounding the pipes cools the water in summer and warms it in winter. The system still requires electricity to further cool or heat the water to the optimal temperature before pumping it through ducts in the home's ventilation system, though it's just a third of what traditional systems require.

Because of steep initial costs, many shy away from geothermal heating and cooling. In response, civil and environmental engineering Associate Professor Shawn Xu has developed less expensive installation methods. Instead of placing pipes in deep holes, which are costly to bore, he lays them parallel to the surface at a much shallower depth alongside utility and sewer lines before housing construction begins. In all, the savings on initial costs can be as much as 50 percent.

MAKING NUCLEAR CLEAR

Dale Klein, former Nuclear Regulatory Commission chair, aims to clear the air about nuclear energy as a sustainable resource.

ATOMIC ENERGY has a unique set of public relations challenges. To most Americans, a monolithic nuclear cooling tower has a different connotation than a gently twirling windmill, shimmering solar panel or even the soot-smeared face of a coal miner.

So when it comes to sustainable energy, the power of the atom might not top most people's lists. Dale Klein, former chairman of the U.S. Nuclear Regulatory Commission, isn't most people. Although he has returned to academia as the associate vice chancellor for research at the University of Texas System, Klein remains an international figure who carries the message of nuclear power as a sustainable alternative.

"Any sustainable energy plan needs to include nuclear," says Klein, BS ME '70, MS '71, PhD '77. "It's compact, and it generates power when the wind is not blowing or the sun's not shining."

Nuclear power is also far more efficient than other sources, according to Klein. When a molecule of any fuel is burned, it produces carbon dioxide and roughly two electron volts of electricity. The splitting of a uranium atom, however, creates 200 mega electron volts, or approximately 100 million times the juice.

Klein says the nuclear industry has not done a good enough job educating the public about its safety. Yet there have been only three major reactor accidents in the history of civil nuclear power — Three Mile Island in 1979, Chernobyl in 1986 and Fukushima in March 2011.

Public fear of power plant safety and nuclear waste is partly due to the "mystic" — silent, invisible and odorless — nature of radioactivity, according to Klein. But it also has to do with the mushroom cloud.

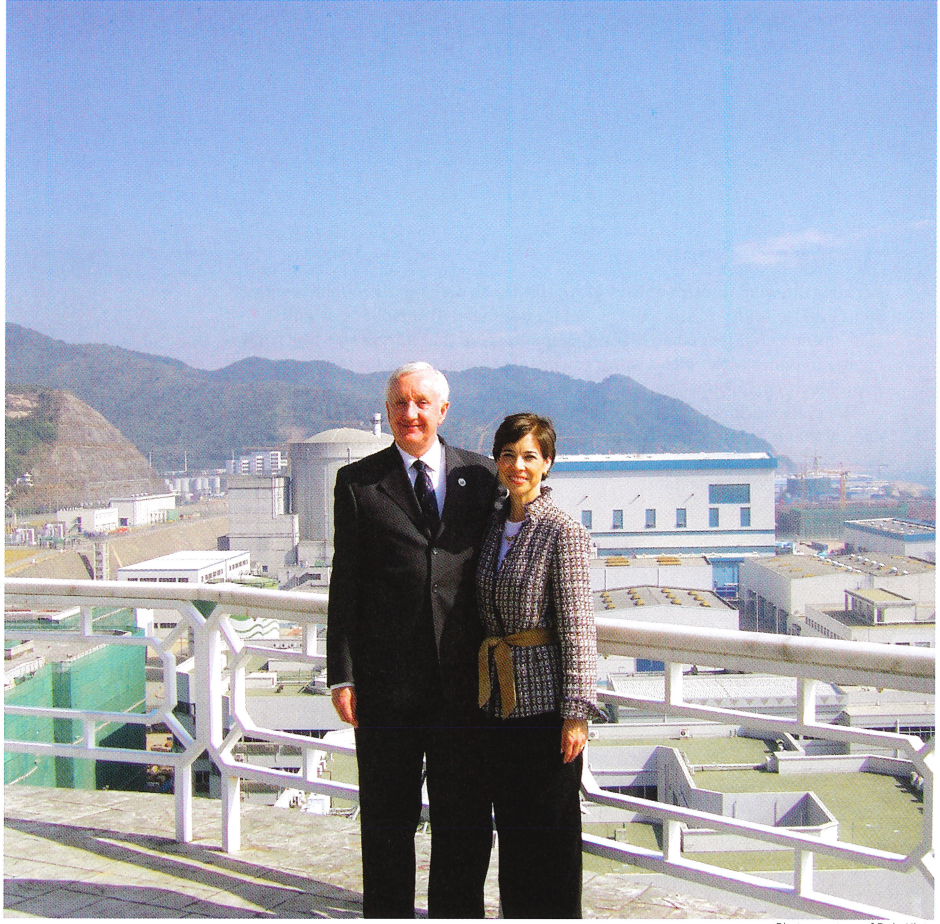


Photo courtesy of Dale Klein

Dale Klein, one of the world's foremost experts in nuclear power, recently visited a nuclear power plant in China with his wife, Becky.

"Things nuclear are viewed differently," Klein says. "People have said that if electricity had been brought into the public awareness by way of the electric chair, we wouldn't have light bulbs."

So on March 11, 2011, when an earthquake and tsunami devastated Japan, the world held its breath as the nuclear power plant in Fukushima faced a historic crisis.

When the magnitude 9.0 quake hit, it shut down the facility's off-site electricity. The plant's seismic triggers automatically turned off the reactors and activated the backup diesel engines to keep the cooling pumps running. About an hour later, the tsunami wave flooded the engines and batteries, making it impossible for workers to open valves or move switches. The result was a nuclear meltdown.

"If you shut down a reactor, it's not like a gas stove where the heat goes away," says Klein, who visited plant owner Tokyo Electric Power Company (TEPCO) in July to learn from the disaster. "It's more like an electric stove, and you have to remove [residual] heat."

The Fukushima disaster has prompted much of the nuclear industry to focus on similar scenarios in which a plant loses off-site power and its backup engines. Klein's example is the Palo Verde Nuclear Generating Station in Wintersburg, Ariz., which has analyzed a plan to run only critical equipment during a blackout, extending its battery life from eight to 72 hours.

In the U.S., only coastal plants face the potential threat of an earthquake and tsunami, but there are other situations that could occur such as a dam failure.

"There are some reactors where you could have a sea surge," says Klein, who also chairs the nuclear safety review board of the United Arab Emirates. "U.S. nuclear power plants are looking at beyond-design events and what

MIZZOU SUSTAINABILITY BY THE NUMBERS

100: percentage of recycled newsprint used to produce Mizzou's campus phone directory

can be done to protect the public and the environment under those extreme conditions."

Then there's the issue of waste disposal. For complex political and financial reasons, the U.S. is the only major nuclear nation that doesn't recycle spent fuel rods. Some opponents believe recycling will lead to the proliferation of nuclear weapons because the process produces plutonium as a byproduct, but Klein believes recycling is the best long-term solution.

"The plutonium that you get out of recycled nuclear spent fuel is not the kind of material you would use for a tactical or strategic nuclear weapon," Klein says.

The industry has produced about 65,200 metric tons of used nuclear fuel in the past 40 years, according to the Nuclear Energy Institute. The NEI website provides the example that if the receptacles were to be stacked end-to-end and side-by-side, they would cover a football field about seven yards deep.

"All commerical nuclear countries expect that geological disposal — in a formation that has been stable for millions of years and likely will be stable for a million years in the future — will be the ultimate solution," Klein says. "From a storage standpoint, it's not a safety issue but a perception and a political issue."

Klein believes the nuclear industry, academia and the government are equally obligated to educate the public and alter this perception. For any successful and sustainable plan to succeed into an unpredictable future, Klein says it's important for the U.S. not to put all of its eggs in one "energy basket."

"I grew up on a farm in Clarksburg, Mo., so I'm very familiar with the need to protect the environment," Klein says. "I think nuclear is an environmentally sound way of generating electricity. It's not perfect. If there were a perfect source, we wouldn't be having energy debates. But it should be one of the energy sources in our tool box."

— Marcus Wilkins

COAL, WIND, PETROLEUM AND WOOD

During a career at engineering firm Black & Veatch, Ron Wood grappled with energy problems and solutions.

IN THE 42 YEARS he spent at Black & Veatch Corp., Ron Wood often contemplated the American energy-consumption conundrum. How will the United States continue to satiate its ever-increasing appetite for energy?

It's a dynamic problem constantly complicated by new technologies, fuel sources, economic trends and numerous hypothetical outcomes. That might be why Wood, BS EE '64, appreciates starting with a simple, philosophical approach.

"The most effective sustainability solution is the wise use of the energy that we already have," says Wood, former president and CEO of the billion dollar energy division of Black & Veatch. "If we could teach two generations of primary school kids to turn the lights out, it would be a significant move forward for this nation."

In the case of electricity, the U.S. Energy Information Agency predicts a 28 percent increase in demand from 2010 to 2035. According to Wood, if that were to be met using exclusively 500 megawatt coal-fired plants, it would require an alarming construction rate of a new facility every 4.4 weeks during the next 24 years at a cost of $395 billion. If the demand were to be satisfied using just wind power — available only about 40 percent of the time — it would require 27 new 1.5 megawatt wind turbines every day until 2035 with a whopping $790 billion price tag.

In the U.S., 40 percent of the total energy consumed is in the form of electricity (about half of which is derived from coal). Another 40 percent is consumed for mobility (derived mostly from foreign oil). The remaining 20 percent goes for everything else, from space heating to industrial use.

For Wood, the most important components of sustainability pertain to education and efficiency. That's why he likes the opportunity Mizzou students have to help businesses address these issues. An applied engineering course, for example, teaches industrial and commercial energy audits, waste assessments, water audits, full-cost accounting and greenhouse gas calculations.

Photo by Nicholas Benner

Ron Wood wants people to understand that *sustainable* means *responsible* energy decisions.

The benefits of energy savings go beyond corporations. MU Extension works with state and federal agencies to provide farmers affordable assessments of their energy use and recommendations to increase efficiency. Those might include new lighting and better heating systems for livestock barns or solar panels to provide renewable electricity for their homes. If the Extension staff finds that improvements could reduce energy use by 15 percent or more, the program will offer grants, rebates or low-interest loans to help fund the upgrades.

"The least expensive unit of electric power generation that we can create is the one that we avoid using," Wood says.

—Marcus Wilkins

MIZZOU SUSTAINABILITY BY THE NUMBERS

$86,000: income from recycling sales in 2011

THE MYSTERY OF RED LAKE

NEAR COLUMBIA LIES A BODY OF WATER WHOSE ACID-LOVING BACTERIA MAY EVENTUALLY MAKE BIOFUEL CHEAPER FOR US ALL. STORY BY DALE SMITH PHOTO BY ROB HILL

AT FIRST BLUSH, the idea of turning biomass into ethanol and other fuels might sound like a clever alternative to the financial and environmental costs of petroleum. Some of biofuel's manufacturing steps, such as harvest and fermentation, sound as happy as hops at a brewery. But intervening steps that prepare biomass for fermentation create extreme acid conditions, and every step increases the final product's cost. Researcher Gary Stacey, professor of plant sciences at MU, and Melanie Mormile, professor of biological sciences at Missouri University of Science and Technology, are doing some extreme science in hopes of keeping costs down.

In the current process, manufacturers begin by treating biomass with acids to break down its cellulose for fermentation. But then they must treat the biomass with more chemicals to neutralize the acids before adding enzymes that ferment the material into fuel.

If researchers could find enzymes that work in the acid conditions, manufacturers could skip the neutralization step and pass on the savings to consumers. But where does one find acid-loving enzymes?

Enter Mormile, who studies organisms that thrive in extreme conditions and has collected microbes from lakes as far away as Australia. But it turns out that a promising site informally known as Red Lake lies just north of Columbia at the former Peabody Coal mine. Red Lake is a low area where water collects after rain and groundwater travel through coal seams. Along the way, the water picks up not only metals including iron (the red in Red Lake) but also sulphur. When sulphur dissolves in water, the result

MIZZOU SUSTAINABILITY BY THE NUMBERS

160: outdoor recycling containers across campus

Photo by Rob Hill

Red Lake, located in Rocky Fork Lakes Conservation Area north of Columbia, is a source of acid-loving bacterial enzymes that might speed the biofuel fermentation process and make energy cheaper for everyone.

is sulphuric acid. Key word: acid. The lake's pH is as low as 3.6, compared to a neutral pH of about 7 in humans.

Despite the acid conditions, the old mine's lake supports life, and Mormile went prospecting for these special bacteria and their enzymes. "A lot of biomass, such as leaves and stems, falls into the lake," Mormile says. "It goes away over time, so we know Red Lake has microbes breaking it down and that they are operating under high-acid conditions."

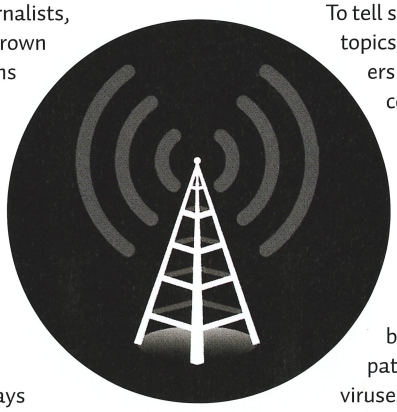
Finding the particular organisms is far easier now than a mere 20 years ago, Stacey says. "We used to isolate single bacterium and then a single gene from that bacterium, which limited what we could get from the environment." But using new metagenomics technology, scientists can sample, say, Red Lake sediment and extract DNA from all the microorganisms in the mud. "After we sequence the DNA, we can identify enzymes. If we find something interesting, we can go back to that DNA and clone it out. This method gives us a much better sense of the diversity of the organisms in that environment."

The Red Lake samples will be sequenced soon, so stay tuned. Ninety percent of microorganisms are still unknown to science. Mormile and Stacey might find a new bacterium whose enzymes makes biofuel cheaper for everyone.

FIELD REPORTING

As public debate about global warming, pollution, water shortages and the organic movement intensifies, issues about food are often at the center of the controversy. For journalists, explaining how food is grown and why it matters means first understanding the science, then making it relevant.

"Being able to relate the information in a way the reader or listener can understand is the most significant barrier" to reporting on environmental issues, says Eric Durban, BJ '09.



Durban, based out of High Plains Public Radio in western Kansas, is one of six multimedia reporters for Harvest Public Media, a news organization covering agricultural issues, including how farming relates to sustainability.

Harvest is a collaboration among public radio stations in Kansas, Iowa, Nebraska and Missouri, including Mizzou's National Public Radio (NPR) station, KBIA-FM. It was launched with a grant from the Corporation for Public Broadcasting as one of seven local journalism centers nationwide. Each center focuses on one topic, and Harvest's location in the nation's breadbasket makes agriculture a natural choice.

The question of how farming affects the environment (and vice versa) can be polarizing, says Donna Vestal, BJ '84, of KCUR, an NPR station in Kansas City, and the editor of Harvest.

"It deals with sustainability, feeding the world and the economics of survival for many people in this country," she says. With so much at stake, tensions between farmers, consumers and environmental activists can run high.

To tell stories about these topics, Harvest reporters cover the often-complicated science of sustainability. Recent stories include how a fungus killing Missouri bats could lead to farmers needing more pesticides to control bug infestations, plant pathologists' war against viruses that attack wheat in Kansas and how the unique properties of cellulose in corn make the quest for successful biofuel production a difficult endeavor.

The stories appear on Harvest's website, harvestpublicmedia.org, and may be aired on any member station or picked up by local or national media, including NPR.

Janet Saidi, an assistant professor in the journalism school and the news director of KBIA, says that the station's membership in Harvest also provides valuable experience for journalism students because they can contribute to the pool of stories that Harvest collects and distributes to local and national media.

"There was certainly a learning curve," says Durban, who didn't have much science journalism experience before starting at Harvest. "I'm learning something new every day."

— Tara Ballenger

MIZZOU SUSTAINABILITY BY THE NUMBERS

500: hours a month campus WeCar members pay $9 an hour to rent one of four cars

THE FUEL OF CIVILIZATION

A PRESIDENTIAL APPOINTMENT HELPS MU CHANCELLOR BRADY J. DEATON FURTHER HIS LIFELONG GOAL OF FEEDING THE HUNGRY. STORY BY DALE SMITH. PHOTO BY ROB HILL.

HUNGER IS A THREAD running through Brady Deaton's life. He grew up in a poor area of eastern Kentucky where he saw neighbors struggle to feed their families. As a young faculty member in Knoxville, Tenn., he carried food to people in need. And as a volunteer in South America, he says, "I met families that had had seven children but only one was still alive, and that child had a protruding stomach, totally malnourished. It's a heartrending thing to witness. I know that I saw many children who are not alive today, children who starved."

Deaton, now MU's chancellor, spent two summers in the mid-1960s in Colombia and Ecuador helping communities provide for themselves. "If you are starving, you don't do anything else, you don't think of anything greater than getting food. But when you improve people's lives so they need not spend every moment just trying to survive, you build the potential of human beings to interact at a higher level."

Deaton has performed at ever higher levels himself, earning a doctorate in agricultural economics in 1972 and working on food aid programs for the Carter administration (Deaton still has a policy memo marked by the President's hand). Now, Deaton has been appointed by President Barack Obama to lead the Board for International Food and Agricultural Development (BIFAD), a group of seven distinguished food experts that advises the U.S. Agency for International Development (USAID) on how best to use university research to feed hungry people around the world. Using members' experience and connections to MU and other universities like it, the group marshals evidence and analyzes issues such as developing the most efficient foods for humans and their animals, the hardiest and most nutritious crops for each region, the safest transportation methods, the best economic systems, and so on.

Chancellor Brady J. Deaton, chair of the Board for International Food and Agricultural Development, sees hunger from a global perspective.

> "IF WE CAN SOLVE THESE PROBLEMS OF FOOD, MAYBE PEOPLE CAN GET ALONG BETTER. MAYBE WE'LL STOP KILLING EACH OTHER OVER OIL. AND IF WE CAN DO THAT, THEN EVENTUALLY MAYBE WE'LL STOP KILLING EACH OTHER OVER RELIGION."

Through BIFAD, universities extend their reach. For instance, if the group needs to know which pest-resistant soybeans grow best in a particular part of the world, Deaton can call upon MU's researchers to contribute their expertise. He also could work with the board to compile and analyze research and draw on the experience of business, governmental and non-governmental organizations. BIFAD also helps set priorities regarding which food problems to tackle and how to do so. To continue the example of soybeans, BIFAD could recommend more funding for research on pest-resistant beans, and USAID could then set in motion public research funding and private support to come up with the better bean or identify the best alternative among existing varieties.

"We're part of a whole-government approach to achieving policy objectives," Deaton says. It's fundamental to democracy, he says, when the government asks citizens for ideas on how to get things done. As chair of BIFAD, Deaton works with USAID's top administrator, Raj Shah, who confers directly with the President and Hillary Rodham Clinton, secretary of state.

Governments get involved in feeding the hungry for various reasons, Deaton says. On a geopolitical level, well-fed people are less likely to fight and more likely to trade. "So we're concerned from the standpoints not only of political peace and stability but also of better trade relations, which in turn improve business. Data clearly show that boosting economies in other parts of the world helps the United Sates and our quality of living." Also, he says, the more countries do business internationally, the lower the likelihood of trade disruptions and the starvation that sometimes ensues.

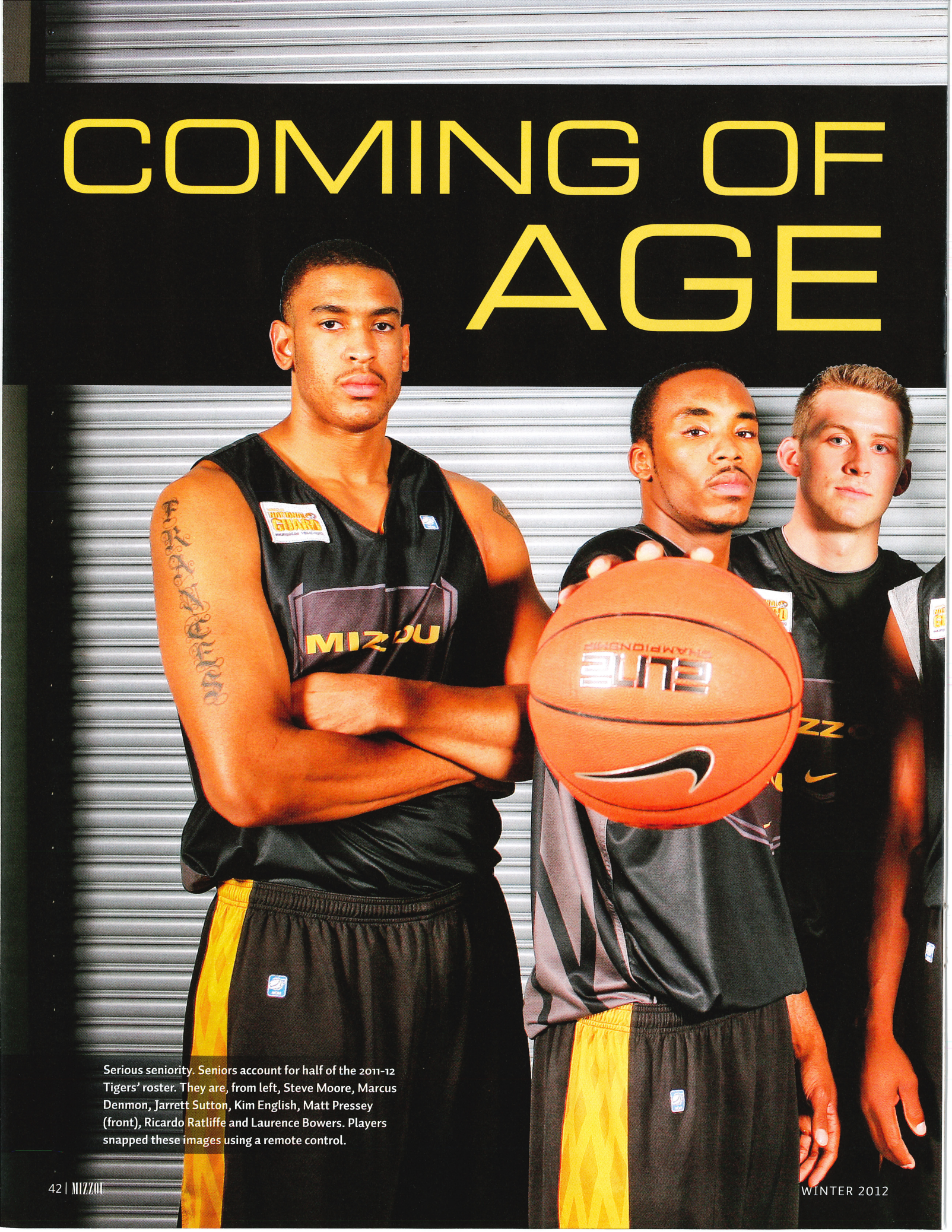
Beyond the importance Deaton places on geopolitics are his humanitarian concerns. "Our nation's people always have wanted to help those in need learn to provide for themselves — we address issues of starvation and poverty that plague us as a human condition." About one in seven of the world's 7 billion people is hungry or starving, according to the United Nations World Food Programme.

"If we can solve these problems of food, maybe people can get along better. Maybe we'll stop killing each other over oil. And if we can do that, then eventually maybe we'll stop killing each other over religion," Deaton says. He imagines a world in which a poor child could, as he has done, earn a university degree, travel and perhaps someday sit, comfortable and well fed, in a Moscow theater to watch a performance of the Bolshoi Ballet. "That would be a great world to live in. That's the dream."

MIZZOU SUSTAINABILITY BY THE NUMBERS

399: Number of MU students who have accounts with the online Rideshare system

COMING OF AGE

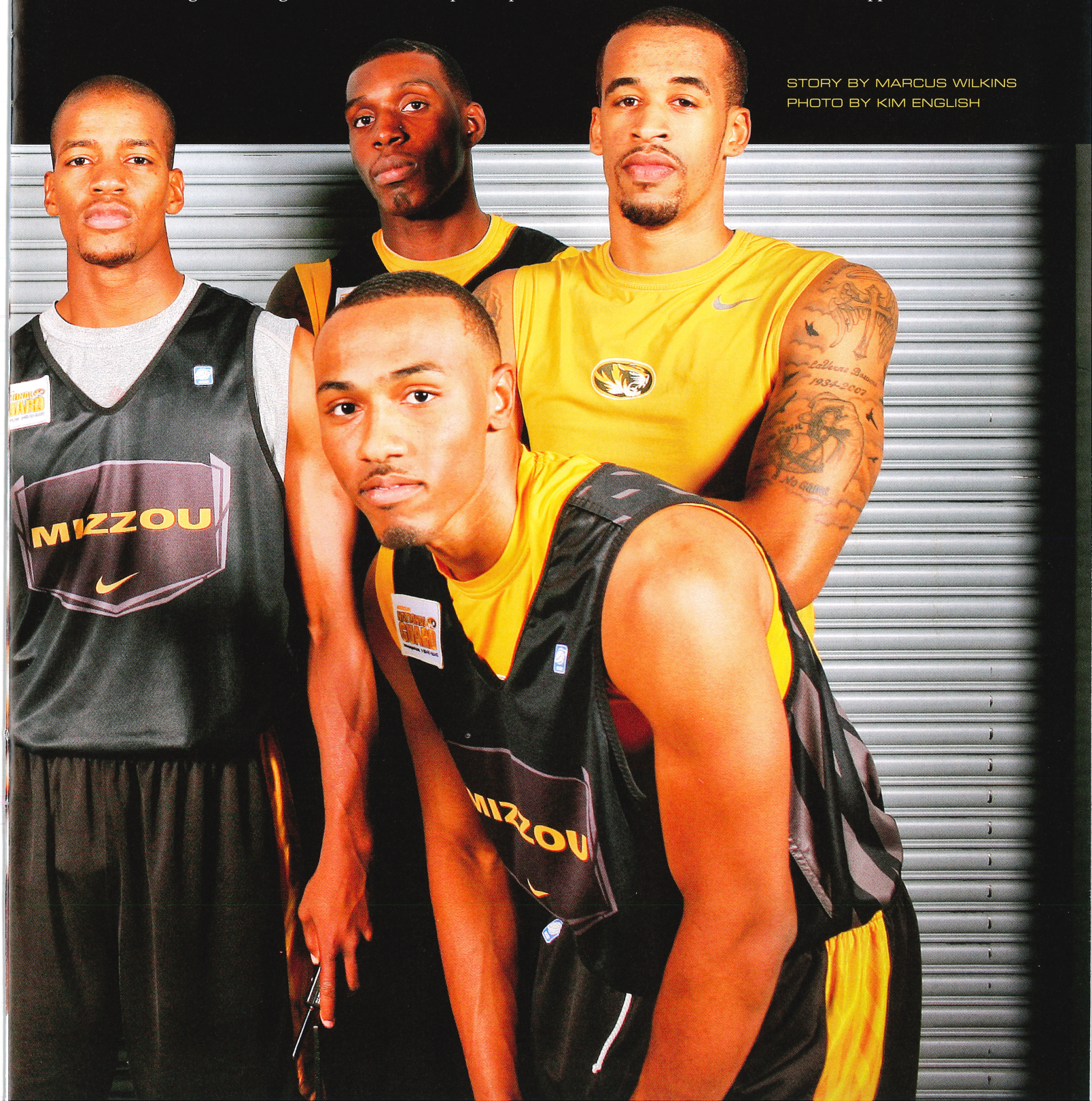


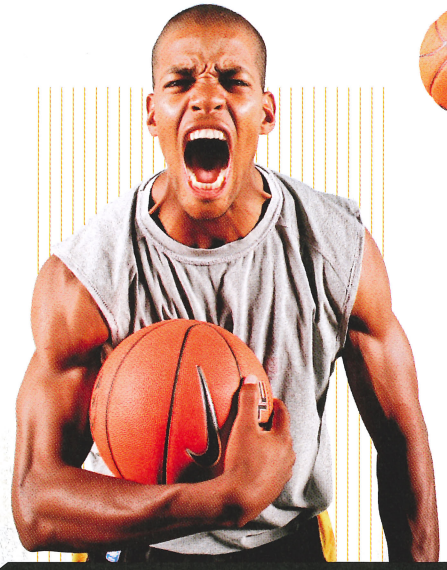
Serious seniority. Seniors account for half of the 2011-12 Tigers' roster. They are, from left, Steve Moore, Marcus Denmon, Jarrett Sutton, Kim English, Matt Pressey (front), Ricardo Ratliffe and Laurence Bowers. Players snapped these images using a remote control.

Imagine the future: It is Feb. 29, 2012, senior day at Mizzou Arena. Fans are honoring the efforts of seven student-athletes, five of whom have attended MU during four years of unprecedented basketball success and transformation. ¶ From the growing pains of learning a former coach's up-tempo system, to the triumph of an Elite Eight and a Big 12 Tournament championship, to the uncertainty of coaching changes and conference speculation, it has been a wild, but winning, ride. Now led by Coach Frank Haith, who has spent the last seven seasons at the University of Miami (Fla.), the fourth-year Tigers are just 24 victories from breaking the school record for career wins at 100.

These seven seniors have earned our applause.

STORY BY MARCUS WILKINS
PHOTO BY KIM ENGLISH





KIM ENGLISH

guard, Baltimore, general studies

PHOTO BY KIM ENGLISH

By his own admission, **Kim English** talks too much. That might be why his usually grinning mouth is a constant target for incoming microphones and voice recorders at press events and postgame proceedings.

Ever since viewing a memorably boring televised conversation with the stars of his favorite NFL team, the Baltimore Ravens, English has been purposefully colorful.

"The interview was over and I was still staring at the TV like, what was that?" English says. "It was the worst interview I had ever seen in my life. I never want to leave the fans feeling the way I felt that day."

English has generated some unforgettable quotes in four years. As a freshman, he guaranteed an eventual national championship. Earlier this year, when asked about how the team would reconcile the departure of Coach Mike Anderson, he confidently proclaimed, "We'll reconcile by winning."

It has been well documented how the extroverted English overcame a stuttering impediment during his younger years and embraced his gift of gab. But pay special attention to his eyes — they tell the real story.

"Before the game and at halftime, I look into all of my teammates' eyes," English says. "I take a second and stare at every person so I can see if they're ready, nervous, focused. There's an unspoken bond between us."

MARCUS DENMON

guard, Kansas City, Mo., general studies

PHOTO BY NICHOLAS BENNER

When cousin Marion Denmon died after he was shot on Dec. 7, 2010, **Marcus Denmon** struggled through the intense process of mourning. The once-inseparable relatives were best friends, raised by grandmother Bertha Denmon along with nine other cousins and siblings on 12th Street in Kansas City, Mo.

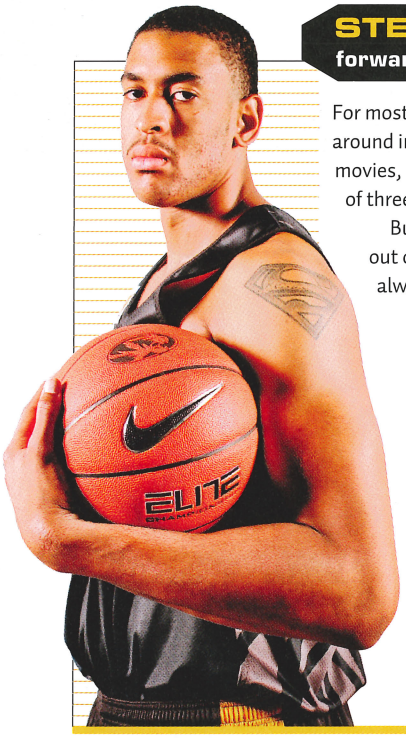
So although the word "family" is often used to describe a team's bond, it has a special meaning for Denmon.

"My teammates really took on that role and helped me when I needed them most," says the All-Big 12 guard and the Tigers' leading scorer. "They're like my brothers, and I know the ins and outs of their characters."

Denmon spent the offseason bonding with another team — Team USA. The international squad finished 7-1, and the preseason All-American led the team in steals with 15.

That level of success breeds confidence, but in Denmon's case, his swagger is usually all in good fun. Take his video game skills, for example. He talks the talk when it comes to his favorite, "Call of Duty."

"I doubt anyone reading this could handle me," says Denmon, who even thinks he could beat professional gaming wiz and Mizzou alumnus, Greg Miller (see story on Page 55). "I bet he is good, but I bet he'd have his lunch pail if he played me."



STEVE MOORE

forward, Kansas City, Mo., hospitality management

PHOTO BY STEVE MOORE

For most of the day, **Steve Moore** is a gentle giant. He's always joking around in the locker room, and he's even a bit of a romantic, enjoying movies, local restaurants and home-cooked meals with his girlfriend of three years.

But when fans yell "Steeeve," it brings the inner-beast out of the 6-foot-9, 267-pounder. Offensively, he wasn't always that beastly.

"I didn't start playing basketball until the 7th grade," Moore says. "I had height but absolutely no skill."

The story of his personal transformation goes back even farther. Both Moore's grandmother and mother died before he was 18, and he was adopted by a man named Kent (Reed). It might be one of the reasons why he's such a fan of the Man of Steel.

"I really love Superman — I mean, I *am* Superman," says Moore, who had the hero's symbol tattooed on his left shoulder in 2009. "My (biological) dad had a Superman necklace, and when my mother died, he came to the funeral from Chicago and it was on his neck. Right before he left, he took it off and put it on me. That really touched me and kind of turned things around for me."

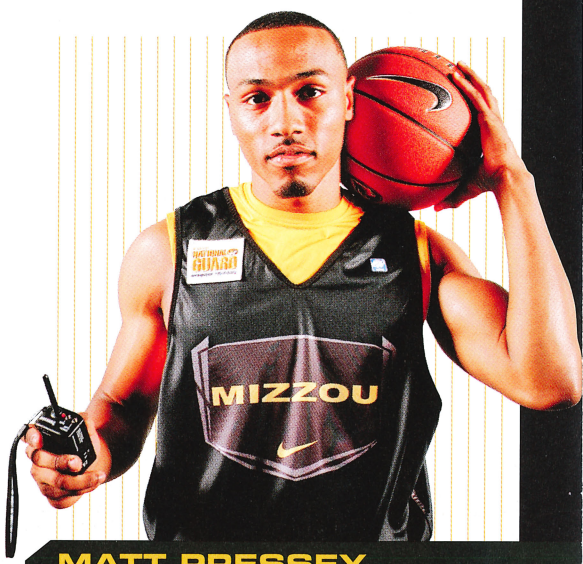
LAURENCE BOWERS
forward, Memphis, Tenn., sociology

PHOTO BY LAURENCE BOWERS

L-Bo's season ended before it began on Oct. 3, 2011, when the high-flying senior forward suffered a torn ACL during a pickup game. The team's resident renaissance man, **Laurence Bowers,** had surgery on Oct. 18, and he will be eligible to return for the 2012–13 campaign after taking a medical redshirt. He'll have to keep himself busy with his myriad other interests, however, which include sketching and singing.

He and his vocal group Suite 1050 (named for his residential hall address) opened for former Mizzou star and singer Kareem Rush at the Blue Note in May 2011, and Bowers can play the piano, too.

"I'm still kind of in shock right now, but I know this will give me some time to tune up on those outside-of-basketball skills," Bowers says. "I'm just trying to find some kind of pros and not all cons in a situation like this."



MATT PRESSEY
guard, Dallas, general studies

PHOTO BY MATT PRESSEY

JARRETT SUTTON
guard, Kansas City, Mo., business

PHOTO BY JARRETT SUTTON

RICARDO RATLIFFE
forward, Ocala, Fla., agriculture

PHOTO BY RICARDO RATLIFFE

The remaining seniors have spent less time in the spotlight, but are crucial to the Tigers' title potential. **Jarrett Sutton,** a walk-on guard from Kansas City, Mo., earned his bachelor's degree in business administration in May 2011. He returns as a graduate student, a fan favorite and one of the team's more subtle leaders.

"When freshmen first come here, sometimes they have a little bit of a swagger to them," Sutton says. "I've seen that smack them right in the face because you get humbled quickly at this level. So you're highly recruited. That's great, but we're here to win a championship."

Ricardo Ratliffe is another forward who began his basketball development later in life. Growing up in Hampton, Va., his first love was track, which explains his uncanny endurance for a man of his stature (6-foot-9, 240 pounds).

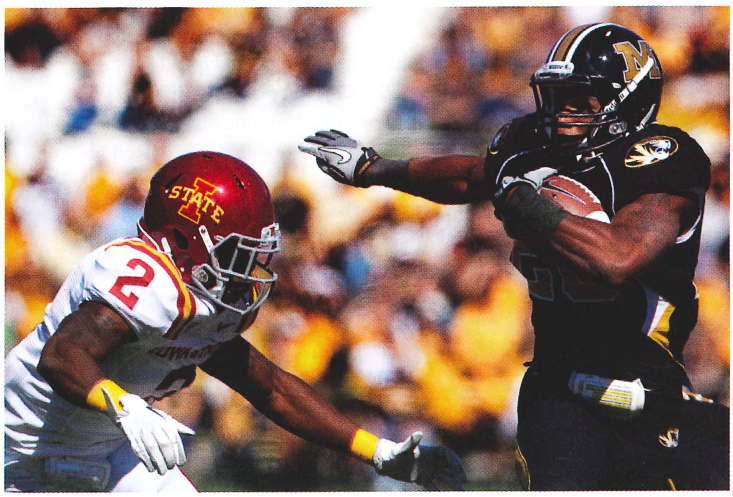
"My neighbor challenged me at basketball in the 7th grade because he played and I always beat him on the track," says Ratliffe, who transferred to Mizzou in 2010 from Central Florida Community College in Ocala, Fla. "I ended up beating him the first time I ever played, then I started playing every day."

Senior guard **Matt Pressey** can't remember not having a basketball in his hands. His father Paul Pressey is a former coach, NBA player and lifelong friend of Anderson. A transient upbringing toughened Matt and his younger brother, sophomore guard Phil, as they bounced from San Antonio to Boston to Florida to Milwaukee to Dallas and now Columbia.

"A lot of guys on this team were heartbroken because they had been under Coach A for longer than I had," Pressey says. "But coaches leaving is the nature of the business."

Coaches arriving is also the nature of the business. As the Tigers fast-forward into a highly anticipated 2011–12 campaign with a new staff to guide them, the senior leadership will ultimately determine this team's legacy. M

100th Homecoming
100th Homecoming
100th Homecoming
100th Homecoming
2011-2012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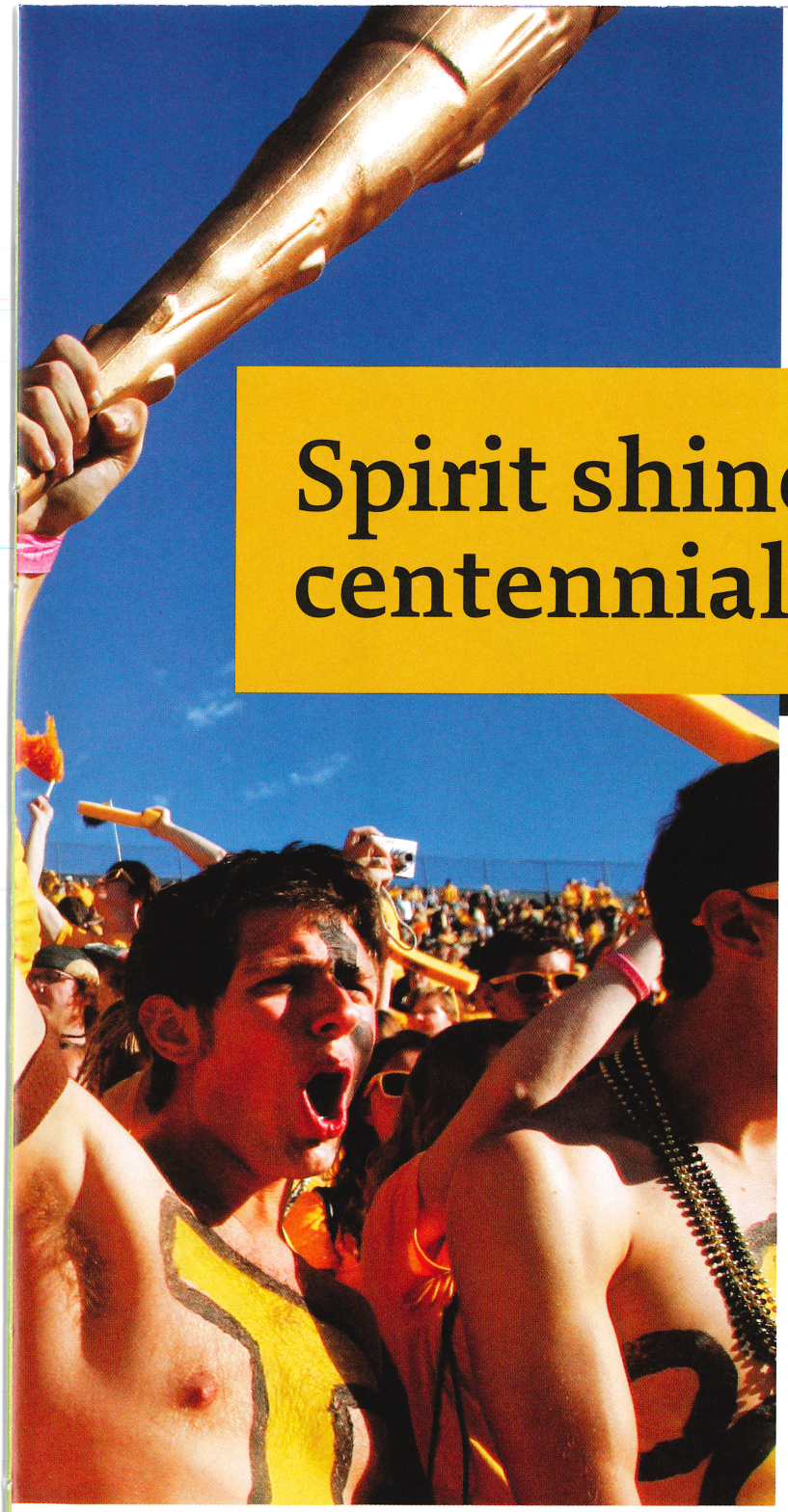


Spirit shines during centennial Homecoming

On Oct. 15, 2011, Mizzou went all-out to celebrate its centennial Homecoming. The event stretches throughout several weeks that include a blood drive, talent show, parade, pep rally, football game and campus decorations.

Still hungry for Homecoming? Download the free iPad app "Mizzou Homecoming: 100 Years of Photographs" by MIZZOU and *Vox* magazines.

Counter-clockwise from top:
Rooters in the Mizzou Lair cheer on the Tigers to a 52–17 win over Iowa State at the Homecoming centennial game. Photo by Rachel Coward

Tailback Henry Josey carries the ball 19 times for 129 yards in front of 71,004 fans. Photo by Nicholas Benner

Chancellor Brady J. Deaton and wife Anne wave to Homecoming parade goers from an antique car, and Marching Mizzou keeps a tight formation. Crowds line the route through campus and downtown for the two-hour event featuring 166 floats. Photos by Rachel Coward

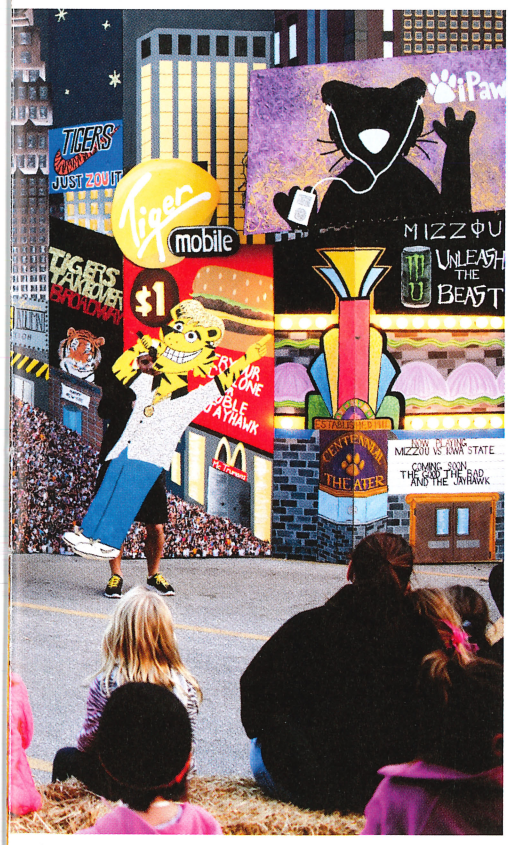
Clockwise from top left:
Students from Chi Omega, Farmhouse and Kappa Sigma perform *When Voo–Do Takes Over Mizzou*. During the Homecoming Talent Competition Oct. 10–12, 2011, students participate in skits and songs, which are streamed live. Photo by Rachel Coward

Zach Parolin of Parkville, Mo., and Kam Phillips of Alvarado, Texas, are named king and queen for 2011 during halftime of the Homecoming football game. Homecoming royalty participate in service events, including the Homecoming Blood Drive, which netted a record-breaking 5,264 units of blood, and the food drive, which brought in 63,000 pounds of food. The Red Cross calls the blood drive the largest multiday drive in the nation. Photo by Mary Fama

With "Celebrations" as the theme of this year's Greek campus decorations competition, Zeta Tau Alpha, Sigma Pi and Delta Sigma Phi put on a New Year's-themed show. Photo by Nicholas Benner

About 3,145 alumni and fans gather on Carnahan Quadrangle to enjoy food and festivities at Romp, Chomp and Stomp after the Homecoming parade.
Photo by Nicholas Benner

For a list of Homecoming competition winners, visit mizzou.com.



The tradition continues

If there were a Mizzou holiday, surely it would be Homecoming. As the sponsor of Homecoming, the Mizzou Alumni Association revels in the centennial celebration that is chronicled in these pages. The Mizzou family embraces it like no other school, and the 2011 centennial was both traditional and special. The activities, school spirit and Tiger football win marked yet another successful celebration.

While traditional events attracted the usual throng of alumni, fans and students, this year we introduced the Mizzou Day of Service. More than 300 students volunteered to spiff up the campus while 18 alumni chapters nationwide volunteered locally for service projects.

Traditions such as Mizzou Homecoming should be preserved, and the association's governing board may launch a fundraising campaign to support it in the future. Endowments benefit thousands of programs at MU, and after 100 years, perhaps Mizzou Homecoming deserves the same.

I thank our energetic student organizations for their time and talent. These groups, particularly the Greek organizations, are the backbone of "the show" that alumni come home to enjoy. Although they compete for bragging rights through these activities, in the end the Mizzou family is always a winner.

If you haven't been back to a Homecoming celebration lately, I invite you home for 2012.

Todd McCubbin

Todd McCubbin, M Ed '95
mccubbint@missouri.edu
Executive director
Mizzou Alumni Association

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Flashlights for the universe

When Gerald Fishman began his astronomy career in 1974, little was known about gamma-ray bursts. Now a leading expert in gamma-ray astronomy, Fishman won the 2011 Shaw Prize in Astronomy for his decades of research on the topic. The $1 million prize will be shared equally with Italian astronomer Enrico Costa.

Gamma-ray bursts are the brightest, most explosive events in the known universe. They illuminate the furthest corners of space, and about 300 appear randomly in the sky each year.

"I liked the idea of delving into a new branch of astronomy," says Fishman, BS '65. "There was an opportunity to make new discoveries."

During his now 37-year tenure at NASA's Marshall Space Flight Center (the largest NASA facility) in Huntsville, Ala., Fishman was the principal investigator for a gamma-ray burst experiment that flew aboard the Compton Gamma Ray Observatory, which was launched by space shuttle *Atlantis* in 1991. He is currently a co-investigator of a monitor that flies aboard the Fermi Gamma-Ray Space Telescope, launched in 2008.

Astronomers have never observed a gamma-ray burst in the Milky Way galaxy, though Fishman says it's only a matter of time before one occurs in our galactic backyard. The bursts that astronomers have seen come from millions of light years away.

"In a way, that means these bursts are a look back in time — into the history of the universe," Fishman says.

Most astrophysicists believe that gamma-ray bursts signal the death of massive stars and mark the birth of black holes.

Fishman's new prize is considered by many to be the "Nobel of the East." Unlike Nobel awards, the Shaw Prize contains an award category specifically for astronomy. — *David Earl*

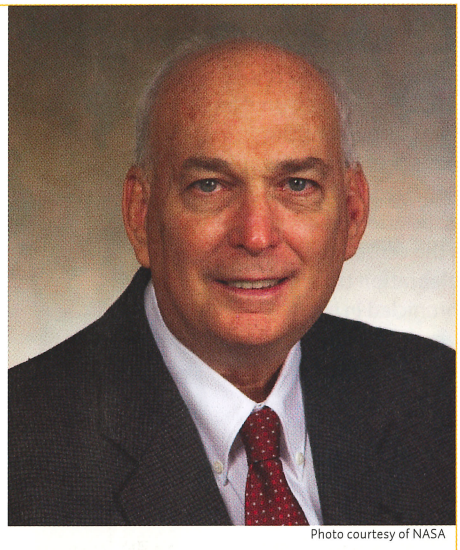

Photo courtesy of NASA

Gerald Fishman, BS '65, a NASA researcher, received the 2011 Shaw Prize in astronomy for his leadership in investigating gamma ray bursts.

The Forties

☆**Juanita Baker Price,** BJ '44, of Astoria, Ore., was cited among "100 Women Who Helped Make Astoria Unique" during Astoria's bicentennial celebration.

☆**Janice Lyon Yates,** BS Ed '47, of Columbia wrote *Squabbit* (Dorrance Publishing, 2011).

☆**Ernest Baker,** BJ '48, of Lake Orion, Mich., was inducted into the Adcraft Club of Detroit's Hall of Fame June 22, 2011. After 52 years in the advertising business, he retired in 2000 and is commander of VFW Post 334.

☆**Robert Ellis,** BJ '49, of Long Beach, Calif., received the Distinguished Alumni Award for the College of Education from the California State University, Long Beach Alumni Association.

The Fifties

Jerry Vineyard, BA '58, MA '63, of Ozark, Mo., wrote *Gargoyle Country: The Inspiring Geology of Springfield and Greene County* (Watershed Press, 2011).

☆**John Fox Arnold,** BA '59, JD '61, of University City, Mo., chairman of law firm Lashly & Baer, received the John H. Poelker Levee Stone Award from the Partnership for Downtown St. Louis.

The Sixties

☆**Ward Degler,** BJ '62, of Zionsville, Ind., wrote *The Dark Ages of My Youth ... and Times More Recent* (iUniverse, 2011).

Bill Sahno, BA '62, of Payson, Ariz., was inducted into the Arizona Veterans Hall of Fame.

☆**Bob Priddy,** BJ '63, of Jefferson City, Mo., and **Jeffrey Ball,** MA '97, of Biddeford, Maine, wrote *The Art of the Missouri Capitol: History in Canvas, Bronze and Stone* (University of Missouri Press, 2011).

Walter Birdwell, BA '64, of Osceola, Mo., had a sculpture piece shown at the Art Against the Wall Exhibition in Brownsville, Texas, in May 2011.

☆**Pamela Harris Biddle,** BS Ed '67, MA '73, of Reynoldsburg, Ohio, retired from Bloom-Carroll High School in Carroll, Ohio, after a 43-year career as a library media specialist.

H. Roger Grant, MA '67, PhD '70, of Central, S.C., co-edited *A Young Dutchman Views Post-Civil War America: Diary of Claude August Crommelin* (Indiana University Press, 2011).

☆**Bill Tammeus,** BJ '67, of Kansas City, Mo., former faith columnist for *The Kansas City Star*, received the 2011 Peace Award from the Crescent Peace Society of Kansas City, an Islamic peace advocacy group. In April, Tammeus, who continues to write columns for *The Presbyterian Outlook* and the *National Catholic Reporter*, will lead a Christian-Jewish study trip to Israel.

☆**Harvey Kaplan,** JD '68, of Mission Hills, Kan., has been named *Who's Who Legal's* Global Product Liability Lawyer of the Year for the fourth consecutive year. He is the chairman of Shook, Hardy & Bacon's pharmaceutical and medical device litigation division.

Ann Mesle, BA '68, of Kansas City, Mo., judge for the Circuit Court of Jackson County (Mo.), is a member of the board of trustees at Park University in Parkville, Mo.

Marcia Andriano Harding, BA '69, MA '70, of Little Rock, Ark., retired after a 41-year

career as a speech-language pathologist and special education administrator. For the past 10 years, she was association director of special education for the Arkansas Department of Education.

The Seventies

Cathy Stembridge, BJ '71, of Evanston, Ill., is the associate vice president of alumni engagement and participation at Northwestern University.

Randy Covitz, BJ '72, of Lenexa, Kan., *Kansas City Star* sports writer, received the 2011 Joe McGuff Sports Journalist of the Year Award from the Kansas City Sports Commission and Foundation.

Terence Tazioli, MA '72, of Seattle was inducted into the Communication Alumni Hall of Fame at the University of Washington. Tazioli is a principal in Little Man Productions, a storytelling service, and the host of *Author's House* on TVW in Washington.

Brian Finucane, BS BA '73, JD '77, of Kansas City, Mo., was selected for inclusion in *The Best Lawyers in America* 2012 in the field of labor and employment law.

William F. "Bill" Hirschman, BJ '73, of Plantation, Fla., founded a theater news and reviews site, floridatheateronstage.com, serving south Florida.

Bernadette Dryden, BJ '74, of Columbia wrote *Cooking Wild in Missouri* (Missouri Department of Conservation, 2011).

☆☆**Nathan Belt Walker,** BS Ag '74, MS '75, of Kirksville, Mo., is a realtor-associate for Heritage House Realty Inc.

Stan Kreitler, BS RPA '75, of Florissant, Mo., is director of parks and recreation for the City of Ferguson, Mo.

Lonna Mayhugh Smittle, BS HE '75, of Independence, Mo., served a two-year term as sustainer president of the Junior Service League of Independence.

☆**Wayne Huckshold,** BS Ed '76, M Ed '77, of Chesterfield, Mo., retired after teaching in Camdenton and Francis Howell school districts for 31 years. He is a swim coach at Life Time Fitness in St. Louis.

Producing aplenty

Mary McClure might have one of the smallest backyards in her Kansas City, Mo., neighborhood, but she optimizes every inch. Not much grass grows on her plot, which instead is overtaken by blackberry vines and rows of tomatoes, okra, eggplant, lettuce and kale. McClure's neighbors and friends have long reaped the benefits of her vegetable garden, but her latest endeavor expands food sharing beyond her social circle.

As chair of the board of directors for Harvesters food bank, McClure manages the Harvesters Demonstration Garden, where people learn how to cheaply and easily grow their own fruits and vegetables. The garden donates its crops to the food bank and encourages participation in the campaign Plant A Row for the Hungry, in which gardeners donate their extra produce to Harvesters. The food bank serves 26 counties and feeds as many as 66,000 people each week. Feeding America, the nation's food bank network, named Harvesters the 2011 Food Bank of the Year.

"Our goal is to have a pot on every porch, a plot on every block," McClure, BS HE '76, says. "It's a great way to expose people to gardening. Five or 10 years ago, it was common not to know anyone with a garden. Now, the interest in local food has exploded, and everyone is doing a little something."

McClure, who volunteers as a Missouri Master Gardener, says schoolyard gardens are increasing, and she helps Country Club Christian Church plant edible landscaping rather than annual flowers.

Photo by Rob Hill

After 20 years with Hallmark Cards, Mary McClure, BS HE '76, now manages the Harvesters Demonstration Garden in Kansas City, Mo., where she leads the board of directors for Harvesters food bank.

McClure grew up on a farm outside Sedalia, Mo., and spent much of her career growing company profits, not crops. After earning a master's degree from Harvard Business School, she embarked on a 20-year career with Hallmark Cards, where she served as a vice president and general manager. In 2005, she founded McClure Management Consulting. Although she still spends a significant chunk of time in meetings, McClure says consulting has given her the opportunity to help nonprofit organizations, the extra time to plant several vegetable varieties and the delight of working in the fresh air and sunshine.

— Stephanie Detillier

Sheryl Tyrrell Miller, BJ '76, and Gene Miller of Sunrise Beach, Mo., celebrated their 25th wedding anniversary Oct. 18, 2011.

Tony Oseguera, PhD '76, of Anderson, S.C., wrote *Frogs and Toads Forever: The War At Sea* (RoseDog Books, 2011).

Kristin Volk Funk, M Ed '77, of St. Paul, Minn., a clinical hypnotherapist, wrote *As Thin As You Think — Discover the Keys to Unlocking Your Weight Loss Power* (Beaver's Pond Press, 2011).

G. Stuart Smith, MA '77, of Freeport, N.Y., associate professor at Hofstra University, wrote *Going Solo: Doing Videojournalism in the 21st Century* (University of Missouri Press, 2011).

☆**Mark A. Miller,** BS RPA '78, MS '82, of Columbia is president of the board of direc-

tors at Resource Development Institute.
Patrick McMahon, BS IE '79, of San Diego wrote *Becoming Patrick: A Memoir* (Deep Root Press, 2011).
Amy Williamsen, BA '79, of Oak Ridge, N.C., retired from the University of Arizona as professor emerita of Spanish in May 2011. She is head of the Department of Languages, Literatures and Cultures at the University of North Carolina at Greensboro.

The Eighties

Mike Brennan, MA '80, of Sparta, Mich., co-wrote *Cyber Styletto* (Cyber Styletto LLC, 2011).
Amy Hancock, BA '81, of Bethesda, Md., is deputy general counsel of the American Beverage Association.
☆☆**Annie Mullis Presley,** BA '81, MPA '95, of Kansas City, Mo., is a senior policy adviser for the international law firm Bryan Cave LLP.
Charles Key, JD '84, of Cordova, Tenn., is chairman of the Tennessee Bar Foundation. He is an attorney with Wyatt, Tarrant & Combs' health care practice.
Cheryl Raasch Reinhardt, BS BA, BS BA '84, of Overland Park, Kan., has formed the law partnership Beal & Reinhardt LLC.
Don Schulte, BS Ed '84, of Maryland Heights, Mo., a social studies teacher at Pattonville High School, represents Missouri educators on the Resolutions Committee of the National Education Association.
Teresa Allen, MSW '85, of Bernalillo, N.M., wrote *The Tale of The Teeny, Tiny Black Ant: Helping Children Learn Persistence* (New Horizon Press, 2011).
Jess Sherwood, MS '85, of Stilwell, Kan., received a doctoral degree July 29, 2011, from the University of Missouri–Kansas City, where he is an instructor of electrical engineering.
☆**Joseph Spalding,** BES '85, of Monroe City, Mo., is medical director for Hannibal Regional Medical Group's Outpatient Mental Health.
Anne Hartung Spenner, BJ '86, of Overland Park, Kan., is the vice chancellor of marketing and communications for the University of Missouri–Kansas City.
John Doering, BS CoE, BS EE '87, of St. Louis is vice president of information systems for Brown Shoe Co.

The Nineties

Mark Woods, MA '90, of Jacksonville, Fla., a columnist for *The Florida Times-Union*, received the Eugene C. Pulliam Fellowship for Editorial Writing. He will use the $75,000 award to report on the challenges facing national parks.
☆☆**Artemus Armas,** BJ '91, BSN '98, of Belleville, Ill., was named the U.S. Air Force Flight Nurse of the Year and the Air Force Nurse of the Year for 2010.
☆☆**David Robert Hunter,** MD '91, of Fulton, Mo., was named a Distinguished Fellow of the American Psychiatric Association at the organization's convention May 16, 2011. Hunter practices forensic psychiatry in Fulton.
☆**Jeffrey Ricker,** BJ '91, of St. Louis wrote *DETOURS* (Bold Strokes Books, 2011).

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There are so many ways to say it, show it and share it, yet the feeling is the same – GRATEFUL. The Jefferson Club Board of Trustees thanks you for your generosity to MU throughout the past year and wishes you all the joys of the holiday season. For more information about the Jefferson Club, please visit **giving.missouri.edu**

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A children's champion

When Joe Knittig, CEO of the Global Orphan Project Inc., explains the mission of the international ministry based in Kansas City, Mo., his compassion and faith resonate from every word. Also known as the GO Project, the organization mobilizes churches in some of the world's poorest nations to care for vulnerable children. GO is active in 15 countries helping to establish housing, schools, health care, businesses and agricultural projects.

Knittig, JD '96, established a law firm in 2003, and his career was cruising along. But when he visited Haiti in 2005, a new path became clear.

"I was cold-cocked by the conditions in which the children were living and the sheer enormity of the problem of children who have no day-to-day champions in life," Knittig says.

He started with GO as a funding participant and joined the board of directors in 2005. In 2007, he was spending one day a week running the everyday functions of the project. One day became two, and by November 2008, he decided to join the nondenominational ministry full time.

"Everybody in the leadership of this organization is Christian, and we all share the belief that many within the faith have lost their way and are not representative of the Bible's Jesus Christ," Knittig says.

Photo courtesy of Joe Knittig

Joe Knittig, JD '96, visits Haiti and other poor nations as CEO of the international humanitarian organization Global Orphan Project Inc.

"We believe that we should live Christ by our actions the best we can, not brow beat people with mere words."

He describes the program as having a "here" side and a "there" side. The "here" side runs like a "Mary Kay for orphans," Knittig says, with a decentralized, word-of-mouth style of fundraising. All people are welcome to participate in the GO Project, though the Christian message of the ministry is central.

As an example of the "there" side, Knittig uses GO's operation in Uganda, where civil war and AIDS have orphaned millions. Project workers select church partners in African villages who help determine needs, create budgets and begin to solve problems such as providing clean drinking water and finding mothers to staff the orphanages. Once the infrastructure is established and the orphans move in, the children are unaware of GO because Ugandans are running everything — an important point to Knittig.

"Unless you're empowering people to take ownership of their own social problems, then the project is, by definition, not sustainable," Knittig says. "We exist to equip people to solve their own social problems." — *Marcus Wilkins*

Michael Barnett, BS BA, BS BA '92, of Oxford, England, is a professor of strategy at the Said Business School at the University of Oxford.

Robert Villa, BS, BA '92, of Fort Lauderdale, Fla., associate professor of biology, directs the honors program at Lynn University in Boca Raton, Fla.

Angie Pannell Wojak, MFA '92, of New York, director of career services at Columbia University's School of the Arts, co-wrote *Starting Your Career as an Artist: A Guide for Painters, Sculptors, Photographers and Other Visual Artists* (Allworth Press, 2011).

☆**Paula Hicks Schaefer,** BA '93, JD '96, of Knoxville, Tenn., is an associate professor of law at the University of Tennessee.

Debora Basler Wisneski, BS Ed '93, M Ed '98, of Racine, Wis., an associate professor of early childhood education at the University of Wisconsin–Milwaukee, is president of the Association for Childhood Education International.

☆☆**Todd McCubbin,** M Ed '95, of Columbia, executive director of the Mizzou Alumni Association, will serve a three-year term as a member of the Council for Advancement and Support of Education's Commission on Alumni Relations.

☆**Jay Mehrhoff,** M Ed '96, of Fenton, Mo., was named the 2010–11 Under Armour Athletic Director of the Year for the Central Region's Junior/Community Colleges by the National Association of Collegiate Directors

Straight-line career

Many people wander a bit as they discover themselves and stake out careers, but Olga Bolden-Tiller, PhD '02, was not one of them. "Olga is a well balanced person who always knew just what her interests were," says Michael Roberts, Curators Professor of Animal Science and Biochemistry. Roberts served on her doctoral committee at MU, where she studied reproduction in cattle and sheep.

As far back as high school in the tiny town of Homerville, Ga., Bolden-Tiller was interested in the science of reproduction. "I knew a lot of women were having problems becoming pregnant. I was very curious as to why that was," she says.

Bolden-Tiller's direction came into sharper focus during her undergraduate days at Fort Valley State University in Georgia, where she majored in animal sciences and studied livestock reproduction. "I worked with reproductive physiologists who used goats in their research. I learned about the relevance of studying livestock for the benefit of both animals and humans. So, I meshed the two."

At Fort Valley, she also added a layer to her life plan. Fort Valley is both a historically black university and a land-grant institution. She relished the close contact she had with faculty and the school's mission to serve the state by producing and sharing scientific knowledge and to serve black students by offering high-quality education. She decided that teaching and performing research at a historically black university would be her career as well. "Once I identified the job I wanted to have, I knew I would get a doctorate," she says. And she was off to Mizzou.

"As a doctoral student here, Olga was so approachable and open and easy to deal with," says Roberts, a National Academy of Sciences member who helped recruit Bolden-Tiller. "She was good at minutiae of research, but she was also someone with a broad interest in education. So it made sense for her to go the route of working at a historically black university where she could perform research and really have an impact on students as well."

Photo by Chris Renegar/Tuskegee University,

Olga Bolden-Tiller, PhD '02, knew university academia was for her because she loves research and teaching.

Sure enough, Bolden-Tiller landed at Tuskegee University in Alabama, where she is an assistant professor of agricultural, environmental and natural sciences. She continues her research on the reproductive system, looking at how environmental and nutritional factors affect sperm development in goats, rats and mice. In addition to serving as a mentor to students, Bolden-Tiller coordinates an animal science program of nearly 300 students, organizes a National Science Foundation student internship program and teaches several classes.

Roberts has enjoyed watching Bolden-Tiller's career blossom. "I used to say she'd be a dean within 10 years, and I'm pleased she has done so well and that my predictions probably will be fulfilled. Now I'm just wondering when she'll be a college president." — *Dale Smith*

of Athletics. He is an associate professor and athletic director at East Central College in Union, Mo.

Lawrence Potter, MA '96, PhD '99, of Meadville, Penn., was featured in the July 7, 2011, cover story of *Diverse: Issues in Higher Education* magazine. The story, "Raising the Bar on Diversity," spotlighted the diversity efforts at Allegheny College, where Potter is chief diversity officer.

Brian Katcher, BS Ed '97, MA '04, of Moberly, Mo., received the Stonewall Children's and Young Adult Literature Award for *Almost Perfect* (Delacorte, 2009). He also won the 2010–11 North Carolina Young Adult Book Award for *Playing with Matches* (Delacorte, 2008).

Scott Lackey, BS Ed '97, of St. Louis, instructional technology coordinator at Ladue Middle School, received the Ladue School District Teacher of the Year award in May 2011.

☆**Sheridan Wigginton,** MA '97, PhD '01, of St. Louis is an associate professor and chair of languages and cultures at California Lutheran University in Thousand Oaks, Calif.

Loretta Colvin, BSN '98, of St. Louis directs The Knowledge Center for the Clayton Sleep Institute.

Kris Bartman, BM '99, and **Jennifer Cole Bartman,** BA '99, of Black Mountain, N.C., announce the birth of daughter Story Ellison July 24, 2011.

B. Scott Eidson, BA, BS '99, MHA, MBA '02, of University City, Mo., is an associate practicing intellectual property litigation for Armstrong Teasdale in St. Louis.

☆**John Faries,** BS Acc, M Acc '99, of Elizabeth, Colo., is senior vice president of finance and chief financial officer for Aventa Credit Union.

☆**Will Larson,** BS BA '99, and Kendra Larson of St. Louis announce the birth of Collin William July 8, 2011.

Lisa Molix, BA, BA '99, MA '02, PhD '07, of New Orleans is an assistant professor of psychology at Tulane University.

The 2000s

Courtney McCall, BJ '00, of St. Louis is assistant vice president of communications,

Console searching

For the fanatical video-gaming set, few jobs are more coveted than Greg Miller's. That's because it is hard to find a paying gig to park in front of an HD screen and vanquish dragons, detonate tanks and burn rubber across the Autobahn.

Miller, BJ '05, is an executive editor at IGN, an online media and services company in San Francisco, and he spends most of his days reviewing games for the Sony PlayStation platform. Although he might occasionally hit pause to sip a frosty beverage, it's a perpetual quest to survey the strategies, simulations and secrets of a virtual universe.

A self-described "Roger Ebert for games," Miller takes the occupation seriously.

"For movies, it's not so much of an investment," he says. "Two hours, 10 bucks, and if it's no good — whatever. I'm out 10 bucks. You could see every movie that someone recommends, but it's hard to buy every game if you're a regular consumer. Especially when games demand 20 to 40 hours apiece."

When he came to Mizzou from Glen Ellyn, Ill., in 2001, students looking to specialize in video game criticism were rare. He quickly developed a reputation at the J-School as the go-to guy for video game content. After graduation, he talked the *Columbia Daily Tribune* staff into giving him the weekly column and daily blog "Game Over" in addition to his general assignment duties.

Now the former Antler hosts two weekly podcasts, narrates review videos, writes online content for IGN and boldly claims the title of "the Internet's biggest Mizzou fan."

"When I moved out here, I knew I needed a new dream," Miller says with a laugh. "The new dream is to one day be the grand marshal of Mizzou Homecoming." — *Marcus Wilkins*

Photo by Scott Lowe

The "Internet's biggest Mizzou fan" Greg Miller, BJ '07, has made a career out of reviewing video games and writing about them.

marketing, alumni affairs and development for Harris-Stowe State University.

Ebony Reed, BJ '00, MA '04, of Quincy, Mass., is assistant chief of bureau for the Associated Press in Boston.

Marcia Chatelain, BA, BJ '01, of Oklahoma City, Okla., is an assistant professor of history at Georgetown University in Washington, D.C.

☆**Bill Medley,** BJ '01, of Prairie Village, Kan., is the media and public information director for the Federal Reserve Bank of Kansas City.

Jennifer Kintz Beaudean, BS BA '03, and ☆**Joseph Beaudean,** BS Acc, M Acc '04, of Kirkwood, Mo., announce the birth of Ella Grace July 14, 2011.

Jarrett Medlin, BJ '03, MA '05, of St. Louis is executive editor of *St. Louis Magazine*.

Paul Raccuglia, BS BA '03, of Prairie Village, Kan., is vice president and portfolio manager for Tower Wealth Managers, a subsidiary of Country Club Trust Co.

☆**Maggie Brown Reim,** MBA '03, of Arnold, Mo., is the assistant director of human resources for Scottrade.

Jean Braithwaite, PhD '04, of Edinburg, Texas, wrote *FAT: The Story of My Life with My Body* (Snake Nation Press, 2011).

☆**Kate Cerve,** BJ '08, of Kansas City, Mo., joined Teach for America's 2011 teaching corps. She teaches English as a second language at a public charter school in Kansas City.

Anne Mullis Christian, BJ '09, of Brooklyn, N.Y., joined Teach for America's 2011 teaching corps. She teaches early elementary classes at Harlem Prep Charter School.

Jeffrey Schwartz, M Ed '09, of Santa Monica, Calif., wrote *The Rock and Roll Alphabet* (Mojo Hand LLC, 2011).

The 2010s

Amanda Sturm, BSW '10, of Purdin, Mo., is a case worker for the Missouri Department of Social Services.

☆**Tiffany Wheeler,** BS CiE '10, of Independence, Mo., is a civil engineer for Kansas City Power & Light.

Kelsey Whipple, BJ '10, of Denver is a staff writer for *Denver Westword*, a Village Voice Media alternative weekly.

Amanda Woytus, BJ '10, of New York is the copy chief for *The Village Voice*.

Chad Parmenter, PhD '11, of Columbia is a visiting professor in the English department at Luther College in Decorah, Iowa.

Faculty Deaths

Virgil Fergason, BS Ag '57, MS '60, PhD '64, of Decatur, Ill., Aug. 24, 2011, at age 79. A U.S. Air Force Korean War veteran, he was an assistant professor of field crops at MU. He later worked at Bear Hybrid Corn Co. and National Starch and Chemical Co.

Bruce Florea, BS Ag '48, MS '64, PhD '67, of Columbia July 22, 2011, at age 88. A World War II veteran, he was a professor in the extension service at MU, Washington State University and Truman State University.

Milton Glick, of Reno, Nev., April 16, 2011, at age 73. Former dean of the MU College of Arts and Science, he was provost and interim president at Iowa State University, executive vice president and provost of Arizona State University, and president of the University of Nevada, Reno.

William "Mac" Jones, A&S '72, of Columbia Aug. 18, 2011, at age 83. He was an English professor for 30 years.

Elmer Lower, BJ '33, of Vero Beach, Fla., July 26, 2011, at age 98. The former School of Journalism dean worked for the U.S. Office of War Information during World War II. He was head of the Washington, D.C., CBS news bureau, a pioneer for CBS' football coverage and the president of ABC News for 11 years.

Gregory Scott, JD '88, of Columbia Aug. 22, 2011, at age 54. He was a professor of legal research and writing.

Deaths

George Beard, BS EE '31, of Omaha, Neb., June 29, 2011, at age 102. He was executive vice president of Layne Western Co.

John Bennett, BS BA '36, of Berthoud, Colo., Aug. 4, 2011, at age 100. He was a U.S. Army Reserve World War II veteran and Alpha Tau Omega member.

Carl Corbin, BJ '36, of Mandeville, La., Aug. 19, 2011, at age 96.

Helen McLatchey Yarnevich, BS BA '37, of Westwood, Kan., July 27, 2011, at age 95.

Jonelle Baker Brown, BS Ed '38, of Kennett, Mo., April 9, 2011, at age 93. A Gamma Phi Beta member, she was a community health clinic coordinator and director.

Smiley Herrin, BS Ed '39, of Springfield, Mo., Aug. 16, 2011, at age 94. A U.S. Army World War II veteran, he was the Columbia regional postmaster.

Mary Trapp McRoberts, BJ '39, of Columbia May 26, 2011, at age 92. She was an Alpha Chi Omega member.

Eleanor Kincaid Hardy, BA '40, of Prairie Village, Kan., July 29, 2011, at age 92. She was a Kappa Kappa Gamma member.

Harry Gentry, BS BA '46, of Wilsonville, Ore., Aug. 1, 2011, at age 91. A U.S. Army veteran, he was a real estate broker in Columbia.

Herluf Lund, BS Med '47, of St. Louis Aug. 30, 2011, at age 94. A U.S. Army Medical Corps veteran, he worked for St. Louis-area

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hospitals, including St. Anthony's and Lutheran medical centers.

Harriet Winton McGee, MA '47, of Atlanta July 8, 2011, at age 89.

Merrill Rainey, BS BA '47, of St. Joseph, Mo., Aug. 20, 2011, at age 86. A U.S. Navy Korean War veteran, he owned Rainey Shoe Co.

Anna Mallinckrodt Sanderson, BS Ed '47, of Hartsburg, Mo., Aug. 24, 2011, at age 91.

Charlene Walker Brazell, BJ '48, of Wichita, Kan., July 12, 2011, at age 84.

Dale Cockerill, BJ '48, of Los Gatos, Calif., Aug. 12, 2011, at age 86. A U.S. Air Force World War II veteran, he worked for the *San Jose Mercury*.

Donald Conway, BS EE '48, of Olathe, Kan., July 24, 2011, at age 87. He was a U.S. Army veteran.

Ralph Edward Jones, BS Ag '48, of American Fork, Utah, Aug. 15, 2011, at age 88. A U.S. Army Air Corps World War II veteran, he played basketball at MU and minor-league baseball and later worked for the U.S. Department of State's Agency for International Development.

Lester Kesterson, M Ed '48, of Jefferson City, Mo., May 28, 2011, at age 94. A U.S. Army World War II veteran, he was a principal, math and science teacher, and basketball coach in Naylor, Mo.; Eminence, Mo.; and Poplar Bluff, Mo.

Carl Newman, BS BA '48, of Charleston, S.C., July 10, 2011, at age 87. A U.S. Navy veteran, he was a retired comptroller of the U.S. Naval Air Station in Rota, Spain.

Margaret Marshall Smith, BA '48, of Haverford, Penn., Aug. 2, 2011, at age 85. She was an administrator at Mountainside Hospital in Montclair, N.J.

Juanita Waters Sprinkle, BS Ed '48, of Columbia Aug. 15, 2011, at age 90. She was a teacher and co-founder of Memorial Funeral Home.

James Bartley, BS ME '49, of Louisburg, N.C., July 12, 2011, at age 85. A World War II veteran, he was a mechanical engineer at Wright Patterson Air Force Base in Ohio.

Al Christman, BA, BJ '49, of Ridgecrest, Calif., Aug. 14, 2011, at age 88. A U.S. Army World War II veteran, he served 24 years in the Air Force Reserve.

Robert Evans, BS BA '49, of Kansas City, Mo., Aug. 22, 2011, at age 83. A Sigma Chi member and Korean War veteran, he was a mortgage banker.

Waldorf Eyman, BS BA '49, of Newton, Ill., Aug. 7, 2011, at age 91. A U.S. Army Air Corps World War II veteran, he was a certified public accountant in Washington, D.C., and Chicago; a comptroller in Dowagiac, Mich.; and the city clerk for Bradenton, Fla.

John Sandy, BS Ed '49, MA '51, of San Diego Aug. 1, 2011, at age 85. A U.S. Navy World War II veteran, he worked at the U.S. Navy lab in Pasadena, Calif.

Marion Heintze Turner, BA '49, of St. Charles, Mo., Jan. 2, 2010, at age 81. She was a Kappa Alpha Theta member.

Montgomery Wilson, BS Ag '49, JD '52, of

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– MU Chancellor Brady J. Deaton

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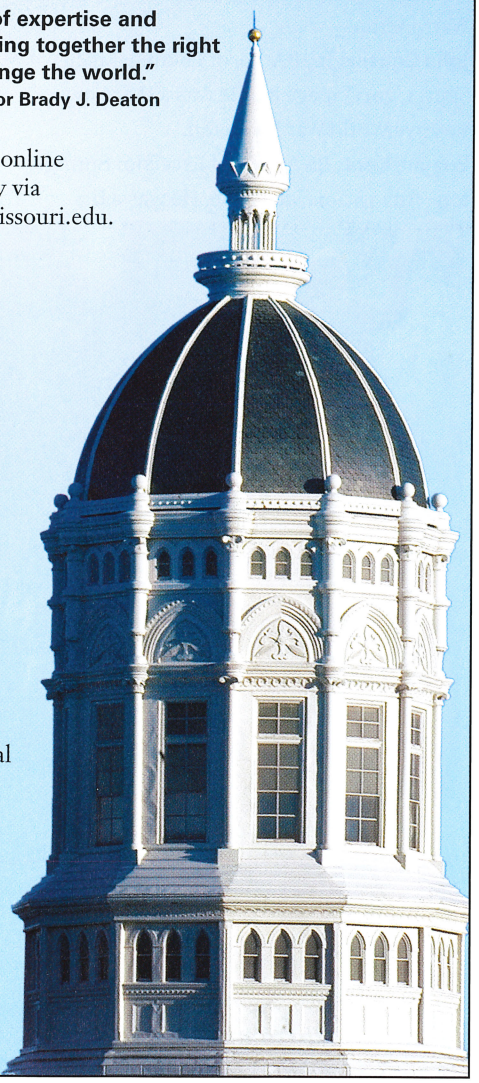

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Maryville, Mo., June 12, 2011, at age 86. A U.S. Army Air Corps World War II veteran and Delta Tau Delta member, he was a probate magistrate judge and associate circuit judge.

Henry Anderson, MS '50, of Kansas City, Mo., June 13, 2011, at age 84. A U.S. Navy Korean War veteran, he played baseball at MU, was drafted by the New York Yankees and later worked for Burns & McDonnell.

Richard Britton, BS Ag '50, of Cincinnati July 19, 2011, at age 85. A U.S. Army Air Corps World War II veteran, he worked for Sears, Roebuck & Co.

Raymond Buehler, BS BA '50, of Kirkwood, Mo., July 17, 2011, at age 90.

Winfard Carter, BS Ed '50, of Naples, Fla., July 7, 2011, at age 82. He was a U.S. Army Korean War veteran.

John Cousins Jr., BA '50, of Livonia, Mich., Sept. 1, 2011, at age 83. He was a U.S. Navy Reserve World War II veteran.

Eugene Kent, BS Ag '50, of Excelsior Springs, Mo., July 17, 2011, at age 86. He was a U.S. Navy World War II veteran.

Fred Kleppsattel, BS BA '50, MA '51, of Orlando, Fla., Aug. 16, 2011, at age 88. A U.S. Marine Corps World War II veteran, he retired in 1974 after a 31-year career with the Marines.

J.L. Moody, BS Ed '50, of Montgomery City, Mo., Aug. 8, 2011, at age 81.

Clara Littleton Myracle, BS HE '50, of Portageville, Mo., July 30, 2011, at age 83. She was a kindergarten and substitute teacher.

Orvid Myracle, BS BA '50, of Portageville, Mo., July 30, 2011, at age 82. He owned and operated Pemsicot Packing.

Harold Pilcher, BS Ag, DVM '50, of Kansas City, Mo., July 25, 2011, at age 88. A U.S. Army World War II veteran, he founded Pilcher Animal Hospital.

Frederick Bergman, BA '51, of Kansas City, Mo., Aug. 28, 2011, at age 82.

Robert Bohon, BJ '51, of Englewood, Fla., May 18, 2011, at age 82. He was a sports reporter at the *Washington Post* and in several other cities, and he wrote and edited public relations material.

John Crist, PhD '51, of Gwynedd, Pa., Aug. 10, 2011, at age 93. He was a professor at Lewis and Clark College in Portland, Ore.

Robert Gilbane, BA '51, of St. Louis July 26, 2011, at age 87.

Jack Jennings, BS Ag '51, of Warrensburg, Mo., Aug. 4, 2011, at age 82.

Walter Zackula, BS Ed '51, of Wichita, Kan., July 7, 2011, at age 85. A U.S. Navy World War II veteran, he was an administrator and teacher at Kansas City, Mo., public schools.

Parry Barnes, BS ME '52, of Shawnee, Kan., July 12, 2011, at age 82. He was a U.S. Army veteran.

Beryl Bergschneider, BS ME '52, of Buckner, Mo., Aug. 20, 2011, at age 84. He worked at IBM.

Diane Allen Broderick, BA '52, of Manchester, Mo., July 7, 2011, at age 83.

John Crawford, BA '52, of Florence, Ky., June 16, 2011, at age 87. A U.S. Army World War II veteran, he was a chemist at American Smelting and Refining Co.

Karl Hurst, BS BA '52, of Lenexa, Kan., Aug. 1, 2011, at age 80. A U.S. Army Korean War veteran, he owned Baldwin Tire in Waldo, Kan., and worked in the insurance business.

Paul Revare, BS Med '52, of Kansas City, Mo., Aug. 24, 2011, at age 82. A U.S. Army veteran, he ran a family practice and was the director of the emergency room at Spelman Hospital in Smithville, Mo.

Charles Wagaman, BS ME '52, of Peoria, Ill., June 14, 2011, at age 83. A U.S. Air Force Korean War veteran, he was a supervising engineer at Caterpillar Inc.

Ida Huffman Adams, BS Ed '53, of Columbia, S.C., July 1, 2011, at age 101. She was an elementary school teacher for 55 years.

John Burke, BS BA '53, of Naples, Fla., Aug. 24, 2011, at age 81. A U.S. Navy veteran, he was president of McMullen Printing Co. in St. Louis.

Nicholas Gyles, PhD '53, of Fayetteville, Ark., July 22, 2011, at age 89. He was a professor of poultry genetics at the University of Arkansas.

Gerald Strub, BS Ed '53, M Ed '58, of O'Fallon, Mo., Aug. 12, 2011, at age 83.

Hugh Kessinger, BS EE '54, of Cocoa, Fla.,

May 24, 2011, at age 84. A U.S. Army World War II veteran, he was a NASA project engineer.

Virginia Billings McGill, BS Ed '54, of Troy, Mo., May 18, 2011, at age 81.

Jack Parker, BS Ag '54, of Maryville, Mo., Aug. 18, 2011, at age 82. A U.S. Army World War II veteran, he practiced veterinary medicine in Grant City, Mo.

Margaret Via Wade, BS Ed '54, of Columbia Aug. 2, 2011, at age 95. She taught at various rural schools and was principal at Rock Bridge Elementary School.

Ralph Williams, MS '54, PhD '60, of Little Rock, Ark., Aug. 17, 2011, at age 89. A U.S. Army World War II veteran, he held teaching and research positions at MU; Southern State College, Magnolia (now Southern Arkansas University); Ouachita Baptist College; and University of Arkansas Cooperative Extension Service.

George E. Chambers, BS EE '55, of Denver July 18, 2011, at age 78.

Clyde Chandler, BS Ag, DVM '55, of Viera, Fla., June 28, 2011, at age 87. He was a U.S. Navy World War II veteran.

Colby Allan Child, BS BA '55, of Rocky Ridge, Md., Aug. 21, 2011, at age 81. A Kappa Alpha Order member and U.S. Army Korean War veteran, he was a marine zoology research scientist and studied crustacea at the Smithsonian Institution Department of Invertebrate Zoology for 37 years.

Richard Cummins, BS Ag '55, of Stanberry, Mo., Aug. 6, 2011, at age 77. A U.S. Army veteran, he was a farmer, pilot, realtor and Shelter Insurance farm agent.

Griffith Humphrey, BS BA '55, of San Francisco Aug. 1, 2011, at age 77. He was a U.S. Navy veteran and a lawyer.

Charles Hyde, MA '55, of Grovespring, Mo., July 22, 2011, at age 81.

James McLarney, BS Ag '55, JD '62, of Kansas City, Mo., July 8, 2011, at age 77. A U.S. Air Force veteran, he was a managing partner at Swanson Midgley.

Phillip Reeter, BS Ag '55, of Prairie City, Iowa, Aug. 6, 2011, at age 77. A U.S. Army and National Guard veteran, he was a city councilman, past president of the Iowa Feed and Grain Association, and owner of Reeter Supply.

Betty Butts, BS Ed '56, M Ed '61, of Kirkwood, Mo., July 31, 2011, at age 77. A Delta Delta Delta member, she taught high school English.

Janette Bohlken Crumpacker, BA '56, of Nashville, Tenn., Aug. 13, 2011, at age 77.

James Ellis, BS BA '56, of Dallas Aug. 20, 2011, at age 77. A Beta Theta Pi member, he was general manager for Mutual Life Insurance Co. of New York in Dallas.

William Henry, M Ed '56, of Chillicothe, Mo., Aug. 31, 2011, at age 81. A U.S. Army Korean War veteran, he was a math teacher at Niles Township High School in Skokie, Ill.

James Chatham, BS EE '57, of Laurel, Mo., July 17, 2011, at age 76. He worked for the U.S. Department of Defense.

Lowell McCuskey, BS BA '57, JD '59, of Linn, Mo., July 7, 2011, at age 80. He was a U.S. Army Korean War veteran.

Thomas Todd, BA '57, of Fort Lauderdale, Fla., March 15, 2011, at age 75.

William Schattgen, BS BA '58, of St. Louis Aug. 1, 2011, at age 79.

Cas Welch, BS EE '58, of Mount Lebanon, Penn., June 3, 2011, at age 78. A U.S. Navy Korean War veteran, he worked for Westinghouse for 30 years, retiring as a total quality manager.

Johnny Campbell, BA '59, of Germantown, Tenn., July 12, 2011, at age 76.

Jess Goodman, BA '59, of Joplin, Mo., Aug. 16, 2011, at age 75. A Pi Kappa Alpha member and a U.S. Navy Vietnam War veteran, he worked with the Naval Junior ROTC program at Carl Junction High School, Eagle-Picher Industries and La Barge Electronics.

June Brandt Hill, BS Ed '59, of St. Louis Aug. 3, 2011, at age 74.

Donald Ketner, BS ChE '59, of Clarksville, Tenn., July 5, 2011, at age 77. A U.S. Army veteran, he was a chemical engineer for AT&T.

Henry Meenen, PhD '59, of Fayetteville, Ark., Aug. 20, 2011, at age 92. A U.S. Army Air Corps World War II veteran, he was a teacher, researcher and administrator at the University of Arkansas agriculture economics department.

Daniel Strunk, BS Ed '59, M Ed '60, of Mystic, Conn., June 7, 2011, at age 79. A U.S. Air Force veteran, he taught biology at Fitch Senior High School.

Harold Voepel, BS ME '59, of St. George, Utah, May 30, 2011, at age 78. A U.S. Army veteran, he was assistant manager at the Navajo Generating Station in Page, Utah.

William Ward, BA '59, of Webster Groves, Mo., July 29, 2011, at age 73. A Sigma Nu member, he was president and CEO of Presbyterian Manors of Mid-America.

Morton Golder, BS BA '60, JD '63, of St. Louis Aug. 23, 2011, at age 72.

Kay Foreman Husson, BS Ed '60, of Pacifica, Calif., July 10, 2011, at age 73. She was an Alpha Delta Pi member.

Mike McCourt, BA '60, of Sherwood, Mo., June 10, 2011, at age 74. A U.S. Army veteran, he retired from Southern Tool and Dye in Popular Bluff, Mo.

Jean Pittenger, BS IE '60, MS '62, of Phoenix July 4, 2011, at age 76.

Paul Spangler, PhD '60, of Warsaw, Mo., July 5, 2011, at age 86. He was a U.S. Navy World War II veteran.

Ronald Toman, BS Ed '60, M Ed '63, of Phoenix June 2, 2011, at age 76. He was a football coach for 35 years at Truman State, Tulane, Notre Dame, University of Texas and the Indianapolis Colts.

Linda Wyman, MA '60, of Jefferson City, Mo., Aug. 29, 2011, at age 74. She was a teacher and chair of the Department of English, Foreign Languages and Philosophy at Lincoln University.

Wayne Farr, BS BA '61, MA '63, of Marshall, Mo., Aug. 6, 2011, at age 73.

Larry Hampton, BS BA '61, of Jefferson City, Mo., Aug. 3, 2011, at age 74. He was a U.S. Navy veteran.

Patrick Waring, BS BA '61, of Denton, Texas, Aug. 21, 2010, at age 71. He was a U.S. Navy Vietnam War veteran.

John Mason, PhD '62, of Brentwood, Tenn., Aug. 13, 2011, at age 81. A U.S Army Reserve Korean War veteran, he was a professor and head of the Department of Agricultural Engineering at Virginia Tech University.

David Thomas, JD '62, of Carrollton, Mo., Aug. 19, 2011, at age 78. A U.S. Navy veteran, he was associate circuit judge for Carroll and Ray counties.

Alice Padova Anderson, MS '63, M Ed '64, MS '67, MSW '92, of Columbia July 19, 2011, at age 75.

Patricia Houk Brown, BS BA '63, of Rio Rancho, N.M., June 21, 2011, at age 70. She was an accountant and business manager.

Ellen McCandish Henry, BA '63, of North Las Vegas, Nev., May 13, 2011, at age 70.

Hans Mangold, BS BA '63, of Bramsche, Germany, July 13, 2011, at age 74.

Leon Rook, M Ed '63, of Lee's Summit, Mo., May 22, 2011, at age 75.

Herbert Rubin, MD '63, of Prairie Village, Kan., June 7, 2011, at age 74. His private practice specialized in children with attention deficit disorder.

Fred Schueler, BS HE '63, of The Villages, Fla., June 24, 2011, at age 71.

Maureen Benson Collins, BS Ed '64, M Ed '72, of Webster Groves, Mo., June 25, 2011, at age 68. She was an elementary teacher in Colorado and in the St. Louis Parkway School District.

Marshall Gilula, MD '65, of Coconut Grove, Fla., July 15, 2011, at age 72.

Ralph Moellenhoff, MS '65, of Columbus, Miss., Jan. 31, 2011, at age 69.

Richard Slakoff, BJ '65, of Walnut Creek, Calif., June 7, 2011, at age 69.

Lowell Cooke, MS '66, of Monterey, Calif., Aug. 8, 2011, at age 79. A U.S. Air Force Vietnam War veteran, he worked at CTB/McGraw-Hill.

Earnest Frazier, M Ed '66, PhD '78, of Bainbridge, Ga., Jan. 18, 2011, at age 76.

Judith Albers Garrett, BS Ed '66, of St. Louis July 26, 2011, at age 68.

James Wesley, BS BA '66, JD '70, of Springfield, Mo., Aug. 22, 2011, at age 69. He was the chief administrative law judge of the Missouri Division of Workers' Compensation.

Harold Briscoe, BJ '67, of Richardson, Texas, Aug. 20, 2011, at age 73. A U.S. Army veteran, he was an advertising executive for General Electric and other firms.

Richard Runge, BS BA '67, of Ballwin, Mo., June 5, 2011, at age 70. He was a State Farm agent.

Mary Crowe-Crawford, BA, BS Ed '68, of St. Louis April 15, 2011, at age 64.

K. Preston Dean II, BA '68, JD '71, of Kansas City, Mo., Aug. 27, 2011, at age 64. A Pi Kappa Alpha member, he was a judge to the Circuit Court of Jackson County, Mo.

Jonathan Jacobs, BS AgE '68, of Columbia July 25, 2011, at age 65. He was a U.S. Army Vietnam War veteran.

Janet Jones Kirsch, BA '68, M Ed '74, of Kimberling City, Mo., June 18, 2011, at age 65. She was a teacher and counselor at Reeds Spring High School.

Nancy Neill, M Ed '68, of Racine, Wis., June 10, 2011, at age 69. She was an elementary teacher and the Racine Unified School District director of reading and language arts for K–6.

Sidney Porter, BS Ag '68, of Nixa, Mo., June 12, 2011, at age 71. A U.S. Army National Guard veteran, he was a manufacturing labor relations representative who worked with Zenith, Ford, Chrysler, Macon Beef Packers and Western Auto.

Albert Wyss, MD '68, of Aubrey, Texas, Aug. 3, 2011, at age 72. A U.S. Army veteran, he practiced medicine for 30 years at Kelsey-Seybold Clinic in Houston.

James Coen, M Ed '69, EdSp '73, of Blue Springs, Mo., Aug. 6, 2011, at age 66. He was a history teacher in Mound City, Mo., and at Fort Osage High School in Independence, Mo.

Terry Dally, BS Ag '69, MBA '75, of Columbia July 9, 2011, at age 65. A U.S. Air Force Vietnam War veteran, he worked for the Missouri Department of Conservation.

Margaret Stradler Hillyer, BS Ed '69, of Dixon, Ill., June 19, 2011, at age 78.

Leo Carney, BS BA '70, of Independence, Mo., July 13, 2011, at age 63. A U.S. Army National Guard veteran, he was a certified public accountant with Western Auto Supply Co.

David Fortney, MA '70, of Kirksville, Mo., June 20, 2011, at age 69. A U.S. Army Vietnam War veteran, he worked for the *Kirksville Daily Express*, *Washington Post*, *Chicago Tribune*, Radio Free Europe and Truman State University, where he advised *The Index* and started *Detours* magazine.

Karen Giebel, BS HE '70, of St. Louis Aug. 25, 2011, at age 63.

Rose Penn Moss, M Ed '70, of Jefferson City, Mo., July 7, 2011, at age 96.

Clifton Britton, PhD '71, of Warrensburg, Mo., June 5, 2011, at age 83.

John Brumett, MS '71, of Canton, Mo., June 27, 2011, at age 65. He worked for MU Extension in Lewis County.

Gertrude Greathouse, M Ed '71, of Baltimore, Ohio, June 16, 2011, at age 84. A Benedictine Sister of Mount St. Scholastica in Atchison, Kan., she taught music in Iowa, Kansas, Missouri and Nebraska.

Phil Hart, BJ '71, of Grants Pass, Ore., June 17, 2011, at age 66.

Michael McHardy, BS BA '71, of St. Louis July 4, 2011, at age 63. He was the general manager of Bott Radio Networks.

Benjamin Entine, BA '72, of Lynn, Mo., July 30, 2011, at age 59. He was a professor at Salem (Mass.) State University.

Timothy Wolf, BS BA '72, JD '75, of St. Louis July 30, 2011, at age 61.

Linda Foister, MA '73, of Kansas City, Mo., July 29, 2011, at age 64. She was editor at the *Washington Post* and *The Kansas City Star.*

Wayne Grossman, MS, MS '73, of Bemus Point, N.Y., July 31, 2011, at age 64. A U.S. Army veteran, he was executive director of Cornell University Cooperative Extension.

Rachel Meyer Holtman, BS Ed '73, of Leawood, Kan., July 31, 2011, at age 59. She taught music in the Shawnee Mission School District.

Frank Diskin, M Ed '74, of Lee's Summit, Mo., June 23, 2011, at age 69.

Edward Hinderberger, MA '74, of Columbia Aug. 18, 2011, at age 66. He worked at the MU Sinclair Research Farm, owned a laboratory and ran Vandiver Putt-Putt miniature golf course.

James Schwartz, BS FW '74, of Columbia Aug. 15, 2011, at age 60. He was a Missouri Department of Conservation game warden.

Christy Sullivan Welliver, BA '74, of Columbia Aug 8, 2011, at age 59. She was an advocate for people with disabilities.

Kristi Zbranek, BS RPA '74, of Boulder, Colo., Dec. 29, 2008, at age 56. She was a baker at Colby-Sawyer Women's College in New London, N.H., and was later an activities director and caregiver for more than 30 years.

Richard Lodes, BSF '75, of Lincoln, Neb., Sept. 2, 2011, at age 58. He was a forester at the University Nebraska–Lincoln.

John Weithop, BS BA '75, of Fenton, Mo., July 14, 2011, at age 58.

Richard Crawford, EdD '76, of Ballwin, Mo., Aug. 27, 2011, at age 83. A Sigma Nu member and a U.S. Navy veteran, he worked in the Parkway school district.

Thomas Rice, BS BA '76, BS EE '83, of Wichita, Kan., Aug. 18, 2011, at age 57.

Mark Shapiro, MA '76, of St. Louis Aug. 30,

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2011, at age 60.

Gary Golson, BA '77, of Mansfield, Texas, July 7, 2011, at age 56.

Thomas Houf, M Ed '77, of Boonville, Mo., Aug. 25, 2011, at age 64. A U.S. Army Vietnam War veteran, he was a teacher at Boonville Correctional Center.

Jane Wedekind Morrill, BSN '77, of Kansas City, Kan., Aug. 5, 2011, at age 56.

M. Ibibo Oduye, BES '78, M Ed '84, EdSp '85, EdD '88, of Columbia Aug. 11, 2011, at age 78.

Bernard O'Rourke, PhD '78, of West Roxbury, Mass., Aug. 22, 2007, at age 64.

Kenneth Shunk, JD '78, of Springfield, Mo., July 16, 2011, at age 57. He practiced law in Poplar Bluff, Mo.

Mary Schneider Steiner, BS BA '79, of St. Charles, Mo., July 8, 2011, at age 54. She worked at Kroger for 32 years.

John Hawken, BS Ed '80, of Lake Waukomis, Mo., July 1, 2011, at age 55. A U.S. Army Vietnam War veteran, he owned the Palmyra Veterinary Clinic.

Carol Conley, BA '82, BHS '84, of Columbia June 27, 2011, at age 51. She worked at University Hospital and Clinics.

Ruth Ann Jones, MA '82, PhD '89, of Columbia Aug. 18, 2011, at age 82. She taught at Columbia and Westminster colleges.

Michael Mizerny, BS IE '83, MBA, MS '87, of Wentzville, Mo., Aug. 20, 2011, at age 49. He worked at Boeing.

Neil Waight, BS Ag '83, of Pleasant Hill, Mo., June 25, 2011, at age 51.

Donald Witte, MS '83, of Lee's Summit, Mo., March 27, 2011, at age 60. He worked for Bendix/AlliedSignal/Honeywell.

Travis Barnes, BS Ag '84, of Pierce City, Mo., July 12, 2011, at age 50. He worked at Tyson Foods Inc. in Monett, Mo.

Roger Henry, M Ed '84, of Columbia Aug. 3, 2011, at age 60. He taught at North High School in Kansas City, Mo., and several other schools.

Mary Thomas Janku, MA '84, of Bridgeton, Mo., July 19, 2011, at age 85. She was a librarian at the St. Louis County Library.

Victor W. Lomax Jr., PhD '84, of Rolla, Mo., June 30, 2011, at age 83. A Sigma Nu member and U.S. Navy veteran, he helped run the Pecan Joe candy and souvenir store chain and owned Kenmark Sporting Goods in Rolla. He was also a professor at several universities and dean of the business school at Savannah State University in Georgia.

Suzanne Aurand Kirk, BS Ag '85, of Greenwood, Mo., June 6, 2011, at age 47. She taught at New Trails Early Learning Center in Raytown.

Norman Dierking, MSW '86, of Freedom, Mo., July 7, 2011, at age 63. He was a Lutheran Church–Missouri Synod pastor.

Bradley Hall, BA '87, of Jefferson City, Mo., Aug. 11, 2011, at age 46. He was the Missouri Department of Health's administrator of health promotion and chronic disease prevention.

John Struchtemeyer, EdSp '87, of Kansas City, Kan., Aug. 13, 2011, at age 64. He was a teacher at Kemper Military School in Boonville, Mo., and principal at Leaton (Mo.) High School and St. Joseph Catholic Grade School in Shawnee, Kan.

Nathaniel Durfee, BS HE '88, of St. Louis July 31, 2011, at age 47.

Patricia Brandenburg Kraff, M Ed, M Ed '88, of Columbia July 3, 2011, at age 72. She was a home health nurse, part-time school nurse and health educator in a substance abuse center.

Kathryn Ragsdale, MSW '90, of Springfield, Mo., Aug. 14, 2011, at age 65.

Linda Godbey Currier, M Ed '91, of Columbia June 25, 2011, at age 59. She was a teacher at the Columbia Montessori School.

Terry Irons, PhD '91, of Morehead, Ky., Aug. 3, 2011, at age 54. He was an English professor at Morehead State University.

Sara Ferguson Hock, BFA '93, M Ed '93, of Ballwin, Mo., Sept. 12, 2011, at age 51.

Steven Scatcherd, BS '95, of Oahu, Hawaii, July 16, 2011, at age 38. He was a U.S. Army veteran.

Thomas Warner, MHA '95, of Poplar Bluff, Mo., July 10, 2011, at age 65. He was a U.S. Air Force veteran.

George Bready, JD '96, of Dallas May 25, 2011, at age 53. A U.S. Army veteran, he was a college instructor and a lawyer.

Benjamin Baker, BS '99, of Saint Peters, Mo., June 16, 2011, at age 34. He was a computer engineer.

Lynetta Korff, MA '01, of Fulton, Mo., July 18, 2011, at age 48. She was a librarian at Callaway County Public Library.

Jennifer Wilson, PhD '04, of Columbia, S.C., Aug. 28, 2011, at age 36.

Donald Krechel, BGS '07, of St. Louis Aug. 10, 2011, at age 87. A Phi Kappa Psi member and U.S. Army World War II and Korean War veteran, he worked for Cummins Diesel Corp. for more than 20 years, retiring as a

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Issue Date	Space Reservation	Materials Due	Publication Date
Spring '12	Jan. 6	Jan. 18	March 2
Summer '12	April 6	April 16	June 4
Fall '12	June 26	July 9	Aug. 24
Winter '13	Sept. 14	Sept. 24	Nov. 23

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sales manager. He also owned and operated Monarch Shows, a traveling outdoor carnival.

Weddings

Chris Long, BJ '96, and Sarina Buonannata of Minneapolis Aug. 13, 2011. Chris is a sports anchor for KSTP-TV in Minneapolis.

Garry Garrison, BS BA '01, and **Elma Hadziselimovic,** BS BA '03, of St. Louis Oct. 7, 2011.

☆☆**Ryan Lindsay,** BA '01, and ☆☆**Sean Murphy,** BS BA '02, of St. Louis June 10, 2011.

Christine Mayer, BJ '02, and **Rob Coons,** BJ '03, of Evanston, Ill., July 23, 2011.

Nigel Morton, BS BA '03, and **Erin Hamill,** BS BA '05, of St. Louis July 30, 2011.

☆**Allison Bybee,** BJ '05, and Tim Mirabito of Knoxville, Tenn., Aug. 6, 2011.

☆**Tony Roberts,** BS BA '05, and ☆**Ashley Delcambre,** BJ '06, of St. Louis June 11, 2011.

Lacy Cole, BA '07, and **Eric Rakestraw,** BS ChE '07, of St. Louis Oct. 29, 2011.

Colin Brown, BGS '08, and **Amy Griffith,** BA '09, of Independence, Mo., March 5, 2011. Colin is an offensive lineman for the Buffalo Bills, and Amy is enrolled at St. Luke's School of Nursing.

Sarah Christopher, BSN '08, and **Nathan Leming,** JD '08, of St. Louis May 21, 2011.

☆☆**Jeff Griffith,** BS BA, BS BA '08, MBA '10, and Taylore Grafton, of Blue Springs, Mo., Jan. 8, 2011. Griffith is a business analyst for Sporting Kansas City.

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City limitless

Photo by Rob Hill

Adam Saunders, board president of the Columbia Center for Urban Agriculture, welcomes guests to the organization's second annual Harvest Hootenanny Oct. 1, 2011. The event raises money for the city farm.

When Adam Saunders and his cohorts at the Columbia Center for Urban Agriculture (CCUA) envision a Thanksgiving cornucopia, they might not necessarily picture corresponding hayrides or row crops in rural Boone County. That's because they have created their own horn of plenty betwixt the asphalt and chain link of Business Loop 70 East and College Avenue.

The 1.3-acre farm is nestled in a neighborhood southwest of the intersection, where a group of enthusiastic agronomists have nourished, tilled and transformed the gravelly soil. About 100 volunteers grow seasonal vegetables that are sold at farmers markets, to visiting patrons and local businesses and restaurants such as Clover's, Sycamore and the University Club. They also raise chickens, and if you're not squeamish, you can attend the Yard to Skillet workshop.

"Everybody gets a chicken and a knife, and we walk you through step-by-step what you need to do to process your own chicken," says Saunders, BS, BSF '08, MS '10, who is CCUA board president.

The group also markets its landscaping services. For an hourly fee, CCUA will build retaining walls and fences, weed your garden or plant edible landscaping (its specialty). The civic-minded entrepreneurs have even installed raised beds of rot-resistant white oak in Columbia public housing locations.

Most important, these fun-loving farmers hope to cultivate a connection between community and agriculture. Just witness their weekly Friday potlucks or annual Harvest Hootenanny featuring live music, barbecue, games and a silent auction.

"We're making a business and creating jobs and economic activity, but we have a broader mission of demonstrating the viability of urban food production," Saunders says. "When people come to the farm, it's an *experience*." — *Marcus Wilkins*

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Greg and Tara got the idea to make a gift of life insurance after reading an advertisement in MIZZOU magazine. Greg, BS Ed '91, added, "If we can help someone after we are gone and leave a legacy, that's a good thing."

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Learn more about the Boehnes' story at our website: insurancegift.missouri.edu

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