

# Mizzou Weekly



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University of Missouri

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## Spirit of Discovery

### NEW FRONTIERS

Lecture series is a shared campus activity

**A.** Mark Smith, Curators' Professor of History, will be this year's speaker for the 21st Century Corps of Discovery lecture Sept. 23, at 3:30 p.m. in the Geology Building's Keller Auditorium.

Smith's lecture will draw on his recent work on medieval optics to show how the invention of the printing press played a fundamental role in the transition from medieval to modern optics at the turn of the seventeenth century.

Smith, whose general areas of interest are in medieval history and the history of science and who specializes in pre-modern visual theory and optics, will discuss how the shift from manuscript to print changed the way texts were read and assimilated in radical, even revolutionary ways.

In order to illustrate this point, he will compare the manuscript version and the first printed edition of Alhacen's *De aspectibus*. Originally composed in Arabic under the title *Kitab al-Manazir*, this work was translated

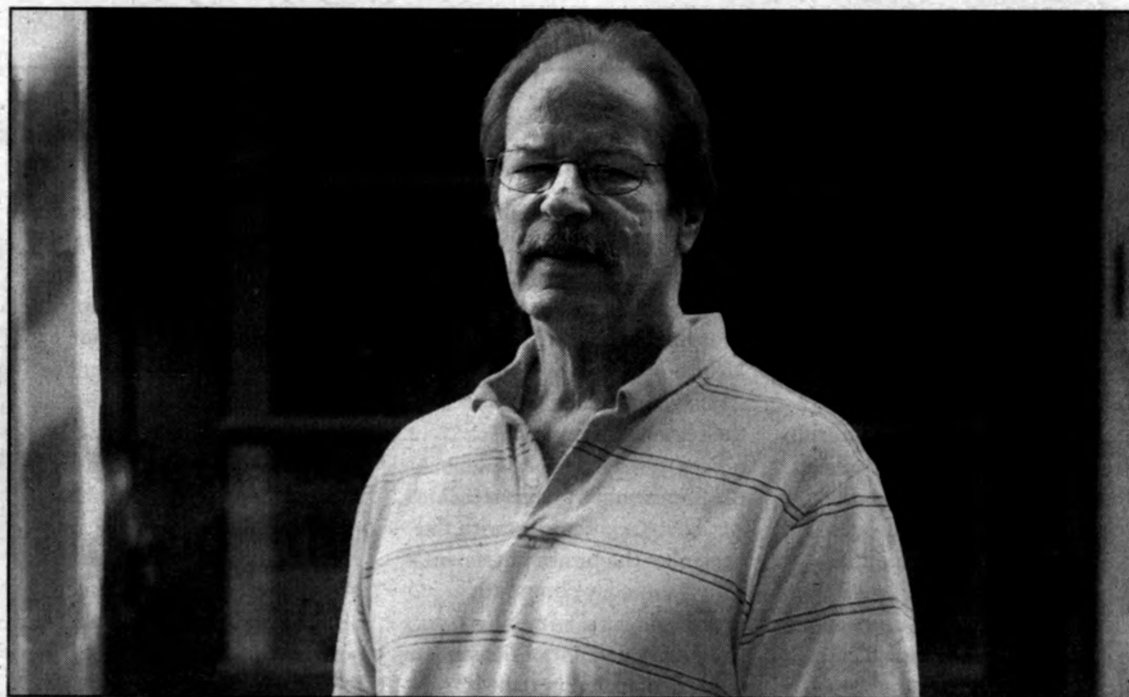
into Latin around 1200 and served as the authoritative source in Europe for the analysis of sight and light until the end of the 16th century.

Smith has published Latin editions, with English translations and commentaries, of six of the seven books comprising the *De Aspectibus*, and the seventh will be published soon.

In comparing the manuscripts to the printed version, he will show how differences between the two affect both reading and interpretation. "There's been an evolution of how we read, from a close, contemplative assimilation of texts during the Middle Ages to a quicker, more superficial approach slanted toward information-gathering," Smith says, "and this change in reading styles is rooted in the Early Modern print revolution.

The 21st Century Corps of Discovery lecture is presented every year to emphasize one of MU's focal values, discovery. The lecture is given by one professor whose work embodies the spirit of discovery, like that of the explorers Lewis and Clark.

Their westward expedition, sometimes called the "Corps of Discovery" produced thorough



Nicholas Benner photo

### INTELLECTUAL EVOLUTION

Mark Smith, the speaker for this year's Corps of Discovery Lecture at MU, will discuss how the invention of the printing press not only democratized reading, but also transformed the way texts were read and assimilated in fundamental ways.

maps of the uncharted West as well as documentation of more than 300 plant and animal species. As the first public university west of the Mississippi, the University of Missouri innately shares in this attitude of discovery. Similarly, the lecture is intended to encompass the entire community with a "shared campus activity focused on scholarship and creative endeavors," according to an online statement from the office of the deputy provost. According

to the chancellor's office, other MU "inventors" have presented a plethora of research from pain minimization of osteoporosis, to the positive effects of grapes on brain-damaged stroke victims. This award is ever more fitting as the Corps of Discovery series is intended to "keep alive Thomas Jefferson's dream of education as a cornerstone of American democracy," and Smith's work on the effects of the printing press include its inherent consequences for the spread of knowledge, thus

enforcing the development of a sustainable democracy.

Smith earned his joint doctorate in history and the history of science in 1976 from the University of Wisconsin, Madison. In 2007, he was awarded a Guggenheim Fellowship for his work in the humanities.

The lecture will take place in Keller Auditorium in the Geology building. A reception will follow.

By Claire Hanan

## University has precautions, guidelines in place to handle a potential flu outbreak

### SHOOT THE FLU

Flexibility is key to handling impact of a flu outbreak

**T**he conventional wisdom has always been that an ounce of prevention is worth a pound of cure. MU is taking steps to prove that old adage true. Responding to concerns of a global flu pandemic, campus leaders have been planning for nearly a year to handle a widespread flu outbreak.

Guidelines have gone out to faculty, staff and students that convey the basic message that they should stay home if they are ill to avoid spreading the flu virus. The MUA alert Web site at [mualert.missouri.edu](http://mualert.missouri.edu) has extensive information

about flu symptoms and hygiene precautions people can take to reduce their chances of becoming infected. Hand sanitizers have been installed around campus.

MU Health Care and the Student Health Center have geared up to handle a higher number of people who come in or call in with flu symptoms. "Last week, by phone contacts and clinic evaluation, we identified fewer cases than the prior week," says Susan Even, director of the Student Health Center. "We are watching to see if this trend continues."

At some higher education institutions, officials have set up remote locations where sick students can recuperate

in relative isolation and not spread the flu virus further. MU briefly considered that move, but decided it would not be an appropriate step.

"Since the virus can be spread up to 24 hours before any symptoms develop, it seems a bit late for effective isolation," Even says. "That underscores why individuals should use hand washing and hand sanitizers along with avoiding touching their face and eyes to minimize exposure."

In addition, "Our sense is that students are probably most comfortable staying where their belongings are," says Frankie Minor, director of Residential Life. He and his staff have been working with

the Student Health Center to develop plans for dealing with a flu outbreak in residence halls.

For instance, more than a year ago, at the request of students, hand sanitizers were placed in residence halls and in residence hall computing facilities. Residential Life has not instituted any formal "flu-buddy" program, Minor says, but it has been encouraging students to think about who the people are that they could look to for help if they do become ill.

Minor says Residential Life staff also are encouraging students who have flu symptoms to have them checked out by the Student Health Center.

And, working with Campus

Dining Services, they have formalized a "get well soon" meal program in which someone can pick up meals for sick students at a dining facility. Minor says that fewer than 2 percent of students in the residence halls have requested the pick-up meal program.

In a message to MU faculty last month, Provost Brian Foster asked them to be prepared for the impact a flu outbreak might have on their classes, to plan ahead and to be flexible. In particular, Foster suggested that faculty develop class coverage plans if they or their TAs become ill, to be flexible in their attendance policies and to consider alternatives for

SEE Flu on Page 7



**Crawling with culture**

Members of the MU community know that their campus is crawling with art and culture. This evening, Sept. 17, from 4:30 to 8 p.m., faculty, staff, students and Columbia residents can do the crawling at the fifth annual MU Campus Gallery and Culture Crawl. They can experience exhibits and activities at the Museum of Art and Archaeology, the State Historical Society of Missouri, the George Caleb Bingham Gallery, the Museum of Anthropology, and the MSA/GPC Craft Studio.

Culture crawlers who visit all five locations and get their crawl postcard stamped are eligible to win prizes that include T-shirts, art posters, free do-it-yourself classes and more. Participants can pick up postcards at each participating location. They need not be present to win but must have all locations stamped and provide an e-mail address on the entry card.

**Lion of the West**

The first time this play was performed, Mizzou had not been founded yet. That wouldn't come until 1839, and the play — The Lion of the West — was first staged in St. Louis in 1832. Mid-Missouri residents will have another chance to see the hit play next Friday at Boonville's Thespian Hall.

Performers from the Missouri History in Performance Theatre, a reader's theater program of the State Historical Society of Missouri, will present a staged reading of the play at 7:30 p.m. Friday,

Sept. 25. The performance will begin with popular musicians Cathy Barton and Dave Para playing music from the period. Tickets are \$5 for adults and \$2.50 children under 12 and will be available at the door or by calling 660-82-7977.

**International inspiration**

Next Tuesday, Sept. 22, is International Day, a day for Mizzou to recognize and celebrate its global connections. The annual event celebrates and promotes international diversity and showcases the cultures

represented by the international community at MU. It also is a way to encourage students to seek out global opportunities.

The event starts with a flag ceremony at 10 a.m. at the Columns on Francis Quadrangle. Students from each country represented at Mizzou will showcase their nations' flags. From 11 a.m. to 2 p.m. the always popular International Bazaar will be held on Lowry Mall, with student groups offering food, drink, mementoes and information from their countries.

**Med school program provides students with rural community experiences****RURAL ROLE MODEL**

Program introduces future docs to career options

Jessica Johnson wasn't sure of what to expect of rural life or medicine in Kennett, Mo., but when she learned of the high rate of asthma among children in the Bootheel town, she wanted to help them learn more about the disease. Across the state near Joplin, Lincoln Sheets wanted rural Latino middle school students to consider careers in health care fields, so he began planning a bilingual job fair for the fall.

Both Johnson and Sheets are third-year medical students at MU's School of Medicine and participants in the school's rural track clerkship program, which pairs students with

community-based faculty from across the state for up to six months of clinical rotations.

The rural track program, coordinated by the MU Area Health Education Center (MU-AHEC) in partnership with the regional Missouri AHEC offices, gives medical students the opportunity to experience rural life and medicine with the hope that the future physicians would someday choose to practice in rural communities.

Twenty percent of the students who participated in the MU Rural Track Clerkship Program from 1997 to 2005 are now practicing in Missouri towns with a population of 18,000 or less. Research shows that the more involved students become in their communities, the more

likely they are to have a positive experience in a rural setting, said Jana Porter, coordinator of rural health education for the MU School of Medicine.

So starting in 2007, students like Johnson and Sheets have been given the option of completing a community integration project (CIP) — a customized experience beyond rural clinic walls where students attend local events, volunteer, and participate through service learning projects.

"Doing these types of projects helps show students the role that rural physicians play in their towns, beyond their medical practice," Porter says. "A lot of them serve as community leaders and involved citizens."

For Johnson, a native of

suburban St. Louis, working alongside rural physicians has been an eye-opening experience.

"Doing this as a student lets you see how much of an impact you can have as a rural physician," Johnson says. "But it also comes with great responsibility in that you can never take the white coat off, so to speak. Everyone always sees you as a physician."

When completing their community integration project, students choose their own level of involvement. While some participate in local festivals and events, others become more engaged by volunteering in an existing service program or by working with local organizations to develop a project that identifies and meets a community need.

Sheets' idea for a bilingual career fair hatched as he discussed his rural experience with Elizabeth Garrett, an MU professor of family and community medicine and a native of Monett. The October career fair is designed to attract middle school students and their families from the area, where many Latinos are employed in agriculture and poultry processing plants. Students

and health professionals will attend to answer questions, and Sheets hopes that future medical students in rural clerkships will use the bilingual materials he's developing to host future career fairs.

"If we're getting middle school students excited about using a stethoscope, and seeing how blood glucose is measured, then they can take the science classes in high school to set them up for success if the dream of working in the health care field catches on," Sheets says.

Johnson is working with quality improvement staff at Twin Rivers Regional Medical Center in Kennett to develop asthma education resources for children, which would be distributed at local schools, clinics and the hospital emergency department. Kennett, a town of 11,000, is an agricultural community with one of the densest asthma populations in the state.

"Doing projects like this gives you a better idea of where your patients are coming from," Johnson says. "I'm making a conscious effort to be as involved as possible."

**New, super-strong glass can protect against blasts****SHATTER-PROOF SCIENCE**

Study shows that research can be a blast

To protect from potential terrorist attacks, federal buildings and other critical infrastructure are made with special windows that contain blast-resistant glass. However, the glass is thick and expensive. University of Missouri researchers are developing and testing a new type of blast-resistant glass that will be thinner, lighter and less vulnerable to small-scale explosions.

"Currently, blast-resistant window glass is more than 1 inch thick, which is much thicker than standard window glass that is only one-fourth of an inch thick and hurricane-protected window glass that is one-half of an inch thick," says Sanjeev Khanna, associate professor of mechanical and aerospace engineering in the MU College of Engineering. "The glass we are developing

is less than one-half of an inch thick. Because the glass panel will be thinner, it will use less material and be cheaper than what is currently being used."

Conventional blast-resistant glass is made with laminated glass that has a plastic layer between two sheets of glass. MU researchers are now replacing the plastic layer with a transparent composite material made of glass fibers that are embedded in plastic.

The glass fibers add strength because, unlike plastic, they are only about 25 microns thick, which is about half the thickness of a typical human hair, and leave little room for defects in the glass that could lead to cracking.

The use of a transparent composite interlayer provides the flexibility to change the strength of the layer by changing the glass fiber quantity and its orientation, Khanna says.

In tests, researchers are

observing how the glass reacts to small-scale explosions caused by a grenade or hand-delivered bomb. They tested the glass by exploding a small bomb within close proximity of the window panel. After the blast, the glass panel was cracked but had no holes in the composite layer.

"The new multilayered transparent glass could have a wide range of potential uses if it can be made strong enough to resist small-scale explosions," Khanna says. "The super-strong glass also may protect residential windows from hurricane winds and debris or earthquakes. Most hurricane damage occurs when windows are punctured, which allows for high-speed wind and water to enter the structure."

The research is funded by a \$250,000 grant from the U.S. Department of Homeland Security. Future tests will be done on larger pieces of glass that are equivalent to standard window size, and researchers could potentially test the glass on large-scale explosions.

**Campus Facilities  
Fall 2009  
Building Coordinators Meeting**

9 a.m., Thursday, Sept. 24  
Columns CDE,  
Reynolds Alumni Center

- construction updates
- snow-removal policies
- an EH&S report
- . . . and more

 **CAMPUS FACILITIES**



**Campus coordinators**

The MU campus contains more than 13 million square feet of building space, and almost every square foot is under the watchful eyes of a cadre of unsung heroes: Mizzou's building coordinators. Lost your office key? Call your building coordinator. Is a light bulb burned out? Call your building coordinator. These individuals serve as the eyes and ears of campus in addition to performing their regular jobs.

Another responsibility they have is to communicate important information to

building residents. That makes it vital for them to be up to speed on campus happenings. Each semester, Campus Facilities hosts a gathering of building coordinators to update them on construction and maintenance projects and policies and to keep them abreast of important events.

This fall, the building coordinators meeting will be held at 9 a.m. Thursday, Sept. 24, in the Columns Room of the Reynolds Alumni Center.

**All atwitter at Mizzou**

Are you still wondering how to make Facebook and Twitter work for your school? Are your competitors racking up friends and tweeting up a storm? In today's ever-changing information society you can't afford to be left out of social media or, even worse, not know what it is.

MU's University Affairs office is offering a workshop with industry experts to explore the world of social media and what it means for education professionals. "Finding Your Audience: How To Market

Strategically With Social Media" will be present from 8:30 a.m.-12:30 p.m. Thursday, Oct. 15, in the Bond Life Sciences Center's Monsanto Auditorium. Space is limited to the first 200 people to register online at [muchanevent@missouri.edu](http://muchanevent@missouri.edu). Cost is \$20 in advance, \$25 at the door.

**Best choices for boomers**  
**LONG-TERM CARE**

New book explores eldercare options

**A**merica's 77 million aging baby boomers and their families soon will face decisions about their long-term care needs. A new book co-written by MU eldercare expert Marilyn Rantz explains how consumers can find the best care options in their communities.

"Making the right choice for long-term care often is a difficult and discouraging task for older adults and their families and friends," says Rantz, a professor of nursing. "Consumers often are perplexed by the maze of options and the difficulties with finding the right services. This guide will make choosing long-term care much easier."

The book, *How to Find the Best Eldercare*, includes: question-and-answer sections to determine the level of care needed, practical information about paying for eldercare, what to look for and questions to ask when visiting eldercare facilities, and a state-by-state listing of aging agencies and Web sites.

**Research will change plant-breeding methods****HYBRID VIGOR**

Scientists track role of genes in crop traits

**T**he work of two MU plant sciences faculty members has been showcased in Science. Published in the journal's August issue, the co-authors' two articles describe a massive genetic resource geneticists and breeders can use to unlock the basis of corn diversity.

The faculty members, Michael McMullen, adjunct professor, and Sherry Flint-Garcia, adjunct assistant professor, work as research geneticists with the Agricultural Research Service (ARS), the principal intramural scientific research agency of the U.S. Department of Agriculture.

The articles, "Genetic

Properties of the Maize Nested Association Mapping Population" and "The Genetic Architecture of Maize Flowering Time," describe how the scientists found that most natural genetic variation in corn is the product of numerous genes working together, each with a small effect that could be manipulated by breeders.

Developed by ARS scientists with major funding provided by the National Science Foundation, the researchers' project provides major insights into hybrid vigor, a key element of today's high-yielding crops. The scientists' findings will change the way breeders improve crops using high-efficiency molecular technologies.

Hybrid vigor is responsible for

the incredibly productive corn hybrids grown across the United States. The researchers found that hybrid vigor results in part from hybrids bringing together optimal gene combinations that are unlikely to occur in current breeding schemes. Novel breeding schemes designed to exploit this new knowledge of gene combinations will accelerate plant breeding worldwide.

These findings also may help researchers determine the role of genes in agronomic traits such as yield, fertilizer-use efficiency, drought tolerance

and ethanol potential.

In their research, the scientists developed and assessed more than 1 million corn plants, making their project the largest published genetic corn study to date. Corn, one of the world's most important food crops, is also genetically 15 times more diverse than the human genome. So it's important for scientists to learn about key gene variants in the maize genome and the role those variants play in corn traits.

**IS ARTHRITIS RUINING YOUR DAY?**

Chokkalingam Siva, MD, with the University of Missouri School of Medicine Department of Internal Medicine, Division of Immunology and Rheumatology, is conducting a clinical trial to test an investigational medication for patients with rheumatoid arthritis. A painful condition, rheumatoid arthritis can cause joint swelling, fatigue and stiffness. Its symptoms and severity can vary between individuals and seriously impact a person's ability to carry out everyday tasks.

**If you are:**

- At least 18 years old
- Have active signs and symptoms of rheumatoid arthritis
- Currently being treated with methotrexate

**You may be eligible to participate in this clinical trial and receive the following at no cost:**

- Study related exams
- Investigational medication or placebo
- Study related lab and clinical tests
- Financial compensation

If you or someone you know would like more information, call the **Office of Clinical Research** at (573) 882-4894.



School of Medicine  
University of Missouri Health System

**RETIREMENT PLANNING SEMINAR FOR FACULTY AND STAFF**

October 6, 13, 20, 27  
5-7 p.m.

This seminar is designed for faculty and staff no more than 10 years from retirement.

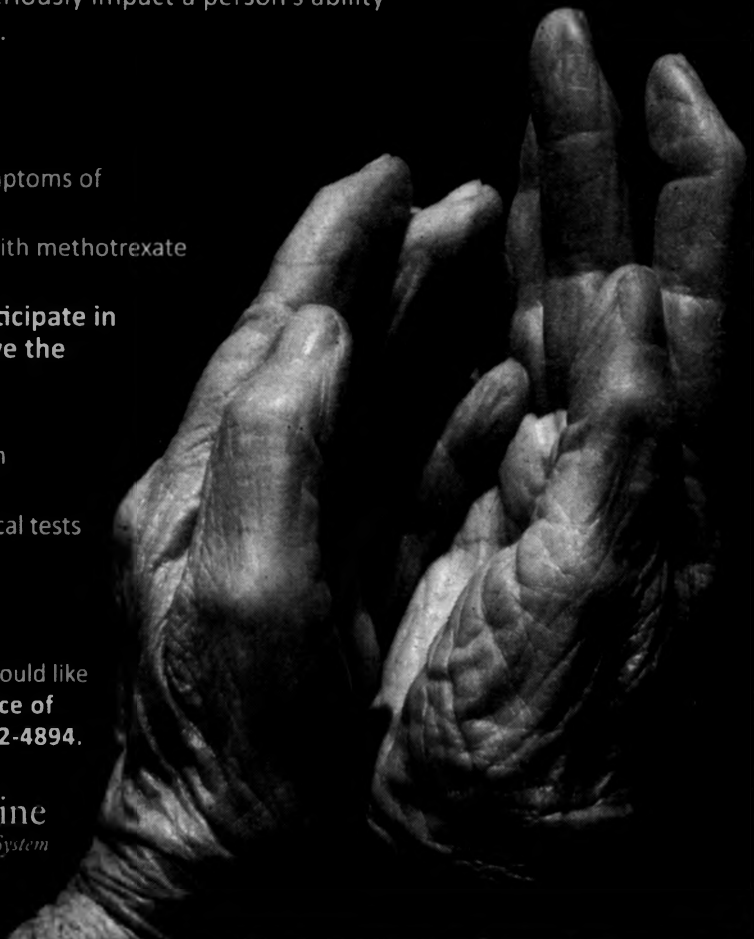
Session 1: ESTATE PLANNING  
Session 2: FINANCIAL PLANNING  
Session 3: SOCIAL SECURITY  
Session 4: UM RETIREMENT PLAN

To register, go online to:

<http://www.umsystem.edu/ums/departments/hr/benefits/seminars/>

Space is limited. No reservations by phone.  
Register online by October 1.

**Faculty and Staff Benefits**





# calendar



## Concerts & Plays

**Thursday, September 17**

**UNIVERSITY THEATER**  
**SERIES:** "Life and Literature in Performance," a free series of student-written and directed performances, will be presented at 8 p.m. today and Sept. 18 and 19, and at 2 p.m. Sept. 20 in the Corner Playhouse.

**Saturday, September 19**

**GUEST ARTIST RECITAL:**  
 Harpsichordist Trevor Stephenson will perform works by Bach at 8 p.m. today and 1:30 p.m. Sept. 20 in Whitmore Recital Hall. Suggested donation: \$5.

**Monday, September 21**

**FACULTY RECITAL:**  
 Dan Willert on oboe and

Natalia Bolshakova on piano will perform at 8 p.m. in Whitmore Recital Hall. Suggested donation: \$5.

**Thursday, September 24**

**JAZZ SERIES EVENT:** The "We Always Swing" Jazz Series will celebrate 15 years of great jazz in Columbia with its annual "Jazz, Wine & Beer" Pub Crawl at various downtown venues beginning at 6:30 p.m. with Lil' Ed & the Blues Imperials performing at 9:30 at the Blue Note. For tickets, call 449-3001 or Ticketmaster.

**Friday, September 25**

**HISTORY IN PERFORMANCE:**

The Missouri History in Performance workshop will present *Lion of the West*, a humorous play that was first performed in St. Louis in 1832 with "emendations" by playwright Mary Barile. The performance begins at 7:30 p.m. in Boonville's Thespian Hall with period music performed by Cathy Barton and Dave Para. Tickets are \$5 for adults, and will be available at the door.

## Conferences

**Thursday, September 24**

**BUILDING COORDINATORS MEETING:** Building Coordinators will meet to

discuss building plans and issues at 9 a.m. in the Columis Room of the Reynolds Alumni Center.

## Courses & Workshops

**Friday, September 18**

**ET@MO WORKSHOP:** "Teaching During a Pandemic Flu Season" will feature instructors discussing their experiences of teaching during natural disasters and will outline MU's plan for dealing with pandemic flu from noon-2 p.m. in Memorial Union's Stotler Lounge.

**Tuesday, September 22**

**ET@MO WORKSHOP:** "Exploring Teaching Tools Options: Electronic Reserves, Blackboard & Course Materials" will be offered from noon-1 p.m. in 159 Ellis Library.

**Wednesday, September 23**

**ET@MO WORKSHOP:** "ELI Webinar: Flattening the Classroom: Building Collaborative Learning Environments" will be offered from noon-5 p.m. in 572 Bond Life Sciences Center. Register online at [etatmo@missouri.edu](mailto:etatmo@missouri.edu).

**Friday, September 25**

**MUSEUM KIDS EVENT:** *School's Out! Art's In! Coins and Coinage* focuses on the museum's ancient coin collection as well as modern examples from 2-3:30 p.m. in Pickard Hall's Museum. Pre-registration is required; call 882-9498.

**GRADUATE SCHOOL EVENTS:** The National Science Foundation Graduate Research Fellowship Program campus visit allows MU administrators and faculty to meet with a program representative to learn how to help outstanding students compete for graduate fellowships from 10-11 a.m. in S-203 Memorial Union. RSVP online by September 14 at [gradschool.missouri.edu/NSF-GRFP](http://gradschool.missouri.edu/NSF-GRFP). An informational event will also be held from noon-1:30 p.m. in S304 Memorial Union.

# Save on your prescription costs



The friendly pharmacists at the University Physicians-Green Meadows Pharmacy can provide you with information about the 90-day prescription plan available through University of Missouri prescription insurance. Call or stop by one of your neighborhood University Pharmacies to learn how you can save time and money on your prescriptions.

From left to right: Pharmacists Cee Jaye Pecorak, Paige Harris and Janet Nuse fill prescriptions at University Physicians-Green Meadows Pharmacy.

To fill a prescription or for details about MU's 90-day prescription plan, please call or stop by a University pharmacy:

University Hospital Pharmacy  
 One Hospital Drive  
**(573) 882-8600**

University Physicians Medical Building Pharmacy  
 1101 Hospital Drive  
**(573) 882-8300**

Green Meadows Pharmacy  
 3217 S. Providence Road  
**(573) 882-3151**

Fairview Pharmacy  
 101 S. Fairview Road  
**(573) 884-1100**

Regional Medical Pharmacy (drive-through)  
 404 Keene St.  
**(573) 499-6022**

Smiley Lane Pharmacy (drive-through)  
 2325 Smiley Lane  
**(573) 817-3555**

Ellis Fischel Cancer Center Pharmacy  
 115 Business Loop 70, West  
**(573) 882-8890**



University of Missouri Health System

## Exhibits

**BINGHAM GALLERY:** "The Communal Nest" is a community art project produced by Susan Taylor Glasgow, other artists and non-artists from around the world and it runs through Oct. 1. The museum, located in A125 Fine Arts Building, is open from 8 a.m.-5 p.m. weekdays.

**MUSEUM OF ART & ARCHAEOLOGY**

- "The Fine Art of Living: Luxury Objects From the East and West"
- "The Faces of Warhol," featuring "working" photographs by artist Andy Warhol, is on display through summer 2010.
- "The Sacred Feminine: Prehistory to Post-Modernity" is on display through December 24.

The museum, located in Pickard Hall, is open from 9 a.m.-4 p.m. Tuesday-Friday and from noon-4 p.m. Saturday and Sunday.

**STATE HISTORICAL SOCIETY**

- "Wall Street and Main Street" features editorial cartoons by Robert Fitzpatrick on the

For hours and maps, please visit [www.muhealth.org/pharmacy](http://www.muhealth.org/pharmacy).

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# Peace Corps Fellows program helps 'internationalize' the Mizzou campus

## GLOBAL OUTLOOK

Former Peace Corps volunteers share their unique perspective

A handful of former Peace Corps volunteers are taking the community development skills they learned on assignments in faraway countries and putting them to work in mid-Missouri. They're also helping Mizzou students broaden their horizons and better understand global issues.

MU's Peace Corps Fellows program, which began in fall 2007, provides those former volunteers a fellowship to work toward a master's degree in one of six academic programs. In exchange, the fellows agree to spend at least 10 hours a week working in the community with local groups that address such basic needs as food and housing. They're also expected to share their international perspective by teaching classes and leading campus programs that focus on global issues.

MU is one of nearly 50 colleges and universities around the country that participate in the Peace Corps Fellow program, but it offers a wider variety of degree options than many of those schools. That's one reason Matt Rysavy chose the program at MU.

Rysavy took quite a detour between earning his bachelor's degree from St. Cloud State University in Minnesota in 2003 and starting a master's program at Mizzou's Truman School of Public Affairs in fall 2007.

He spent two years as a Peace Corps volunteer in a parched village in the West African nation of Niger. Temperatures there could soar to 120 degrees during the dry season. The nearest town was 25 miles away by gravel road, and he lived on a monotonous diet of pounded and boiled millet or sorghum grain.

As an environmental educator, Rysavy taught basic science principles to students in a small school that served his and nearby villages. During the dry season he worked with villagers to establish a large community garden. "That might sound counterintuitive," he says, "but during the rainy season the land is too valuable for crop production."

That's because over the past three or four decades the surrounding desert had crept into once-productive fields, stripping nutrients from the soil and leaving behind a cement-like crust that's impervious to

plows. Rysavy helped organize a tree-planting brigade that dug shallow depressions in the soil to trap what little rainfall there was, then they planted trees in them so the growing roots would stabilize the soil and reverse a cycle of desertification.

His work in Niger was difficult, but Rysavy says he learned a lot and recommends the experience to others. He has one caveat, though: "Some people join the Peace Corps thinking they're going to change the world. You realize pretty quickly that it's not really possible," he says. "If you have an open mind, and you're open to accomplishing small amounts of change, and if improving the lives of a few people is enough for you, I would recommend it."

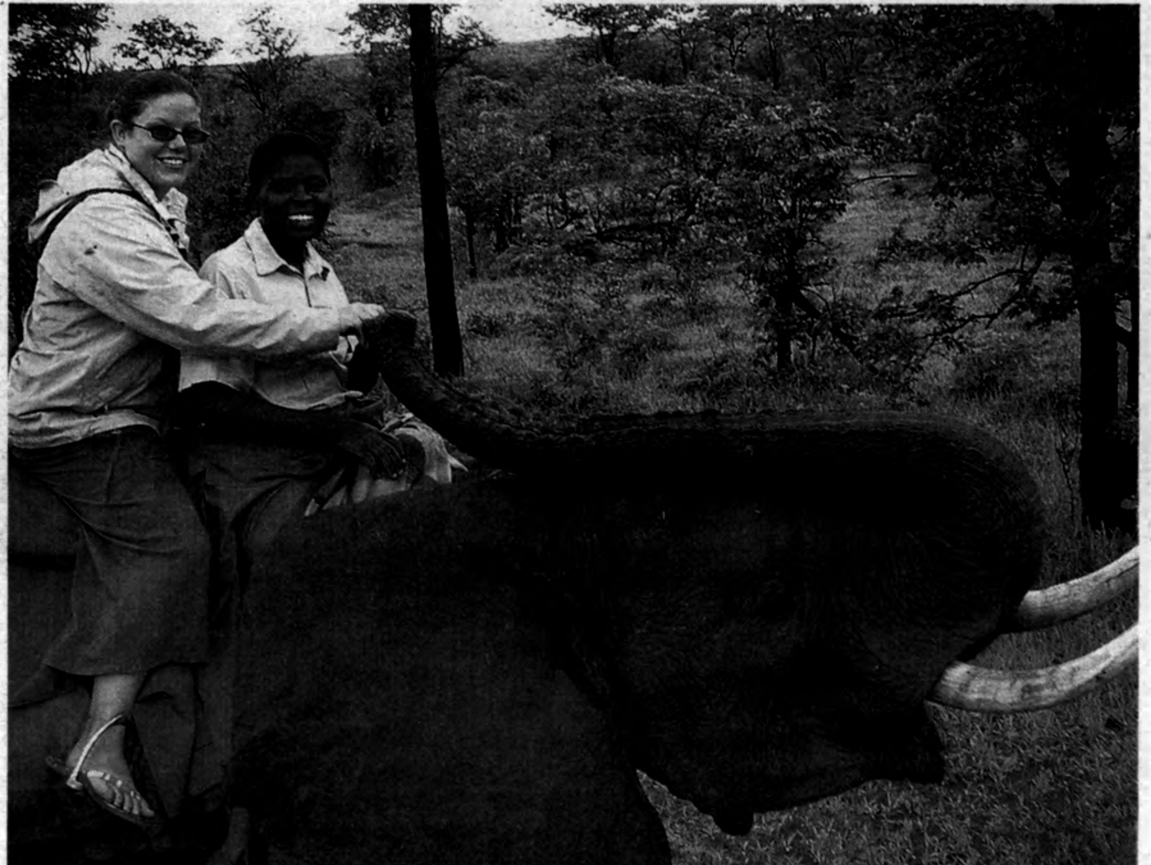
Rysavy learned another lesson while he was living and working thousands of miles from home. "I think I appreciate better now how similar people are, whether they live in a mud hut and work in a field or whether they have a car and a house and work in an office," says. "They have similar problems, just in different contexts."

Take issues of food and hunger, for example. In Niger, the land simply does not produce as much food as villagers need. In mid-Missouri, Rysavy and other Peace Corps fellows are working with local community groups to study the availability of healthy foods in Columbia and what barriers there might be for low-income families that want a more nutritious diet.

For example, is transportation a problem for central Columbia residents who don't have cars and live far from area supermarkets? Could more families benefit from food preparation and preservation classes at the Columbia Farmers Market? Would better access to community garden space mean more and higher quality fruit and vegetables on local dinner tables?

Craig Hutton, a Peace Corps fellow working on his master's in geography at MU, has plenty of experience with community gardens. As a volunteer in Ecuador from 1999 to 2001, he worked with residents of a tiny village on the eastern edge of the Andes Mountains to establish small organic gardens and dairy operations.

Some of the concerns he encountered there were similar to the food issues that mid-Missourians face. "There are some universal concerns: keeping your family healthy and putting



Amy Bowes, left, an MU Peace Corps fellow, took an elephant ride while she was on vacation in Zimbabwe during a Christmas 2007 break from her Peace Corps duties in the African nation of Lesotho.

Photo courtesy of Amy Bowes

food on the table," he says.

Hutton, who grew up on a dairy farm in upstate New York, counseled the villagers in Ecuador about farm management and record keeping. In the process, they all learned important lessons about working together and with community organizations, and when to reach out for help from government and from broader communities.

"It's important to be flexible,"

Hutton says. "You have to learn when to say yes, when to say no and when to let things bubble along on their own."

It's that blend of pragmatism and world experience that Peace Corps fellows bring to enrich the learning environment at MU, says Don Spiers, an associate professor of animal science who organized and directs Mizzou's fellows program. Spiers, a former Peace Corps volunteer

himself, spent two years in Venezuela in the mid-1970s.

"These are mature graduate students who have a world of experience and learning from different cultures," he says. "They bring to MU a better appreciation of what it's like to live and work in other cultures." The fellows share that experience with the campus by lecturing in the classroom,

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## University of Missouri Health Care's Lunch and Learn Series presents

### Childhood and Adult Allergies

Do you or your child suffer from allergies? Find out new ways University Physicians are diagnosing and treating allergy symptoms. Alvis Barrier, MD, otolaryngologist and head and neck surgeon with University Physicians, specializes in allergy immunology. Dr. Barrier will discuss:

- Different types of allergies and symptoms
- Benefits of new treatment methods such as sublingual therapy (allergy drops) versus shots

**Thursday, Sept. 17**

**Noon to 1 p.m.**

**Christopher S. Bond Life Sciences Center, Room 572**

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**PEACE CORPS from Page 5**

advising students on study abroad opportunities and by helping to recruit new Mizzou graduates to join the Peace Corps.

For example, Amy Bowes and the other four fellows who started the program in fall 2008 are developing new courses for

MU's service-learning program. All Mizzou undergraduates who enroll in those courses take part in an organized service project that benefits the community.

She and another Peace Corps fellow, Jennifer Keller, led MU student groups on an alternative

spring break experience this past March to the Gulf coast. Bowes and her group went to Shreveport, La., where they helped spruce up homes in low-income neighborhoods and worked in after-school programs. Bowes came to MU for

graduate work in political science after spending two years in Lesotho, a mountain nation surrounded by South Africa. As a Peace Corps volunteer, she taught English in a secondary school there and organized community education events about HIV/AIDS prevention and care.

Lesotho has one of the world's highest HIV infection rates. Bowes and her fellow volunteers brought mobile HIV testing units to remote mountain villages and worked with youth groups to reduce the stigma about the disease.

"I thought it was really weird to be in villages where everyone was either elderly or they were under 25," she says. Most of the people between those ages had either died or were sick with AIDS, and many of the healthy young men were away working in South African mines. "That whole age group, that whole generation, was missing," Bowes says.

She had some other unusual experiences as a Peace Corps volunteer in Lesotho. "I lived in a house on the side of a mountain, and every morning when I woke up I looked out the window and there was just sky as far as you could see. It was a much different experience than just being a tourist; you really got to know the people," she says. "And I learned an awesome thing: I could carry a 10-liter bucket of water on my head."

Vicky Riback Wilson, service-learning and fellowships coordinator, says the program gives academic departments a new tool to recruit the best graduate students. "Departments are able to reach out to a broader

variety of graduate students," says Wilson, M Ed '81, who was a Peace Corps volunteer in Uganda in the late 1960s. "We've been able to recruit graduate students who have told us they would not have considered MU if it weren't for the fellows program."

Bowes said she looked at three other universities before deciding on Mizzou's program. "MU just felt right when I came and visited," she says. The campus had the same big-school feel that she had enjoyed as an undergraduate at the University of Iowa, and it's close to her hometown of Waterloo, Iowa. "Since I had been away for so long, my mother had just one request," Bowes says. "She wanted to be able to drive to see me in one day."

Bowes might not stay put for long. After she earns her master's in political science, she plans to look for government job opportunities in New York or Washington, D.C. — or maybe farther afield. She's been brushing up on the U.S. Foreign Service exam.

Spiers says that her experience abroad will be a big bonus when Bowes enters the job market. "The current economic situation demonstrates all too well that we live and work in a global economy. Having some international experience shows potential employers that you can live in what sometimes are not the best circumstances and still get things done," he says.

"The Peace Corps Fellows program is one way we're trying to 'internationalize' MU so our students can have a global experience without leaving campus."

**Cindy Craig**  
 MU Sustainability Champion and  
 Fiscal Assistant, Internal Medicine

Cindy is Internal Medicine's self-proclaimed "recycling guru." She goes to great lengths to make sure co-workers are doing their part for the environment, collecting their cans and bottles, even checking trash receptacles and admonishing them when they "forget" to recycle. Craig then goes the extra mile by personally taking the containers away to be recycled.

Every little bit helps. Thanks for doing your part!

**FRY-WAGNER**  
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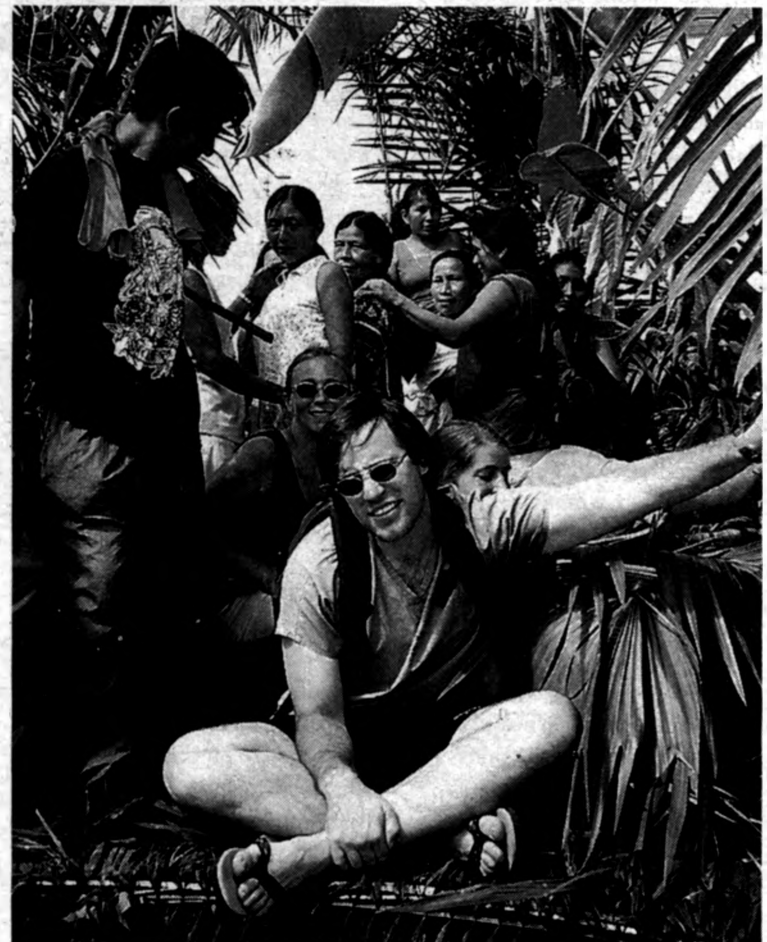


Photo courtesy of Craig Hutton  
 Craig Hutton, center, an MU geography graduate student, helped Ecuadorian villagers establish organic gardens as a Peace Corps volunteer.



**CALENDAR from Page 4**

*St. Louis Post-Dispatch.* The exhibit runs through Oct. 3.  
 • “Twentieth-Century Missouri Portraits: From Famous to Familiar” showcases portraits of and by Missourians in an exhibit that runs Sept. 19-March 2010. Gallery hours are 9 a.m.-4:30 p.m. Tuesday to Friday and 9 a.m.-3:15 p.m. Saturday.

**Lectures & Seminars**

**Thursday, September 17**

**GERMAN & RUSSIAN STUDIES LECTURE:**

Mark Hansen, professor of literature at Duke University will present “The Autonomy of the Peripheral” from 4-5:30 p.m. in 219 Cornell Hall.

**NUTRITION & EXERCISE SEMINAR:**

Heather Leidy from the University of Kansas Medical Center will present “The Impact of Increased Dietary Protein and Meal on Appetite Control and Body Weight Management” at 4 p.m. in Acuff Auditorium, MA217 Medical Sciences Building.

**Saturday, September 19**

**SATURDAY MORNING SCIENCE:**

Mark Milanick, professor of medical pharmacology and physiology, will present “Wanted — Red Blood Cells: Dead Or Alive” from 10:30-11:30 a.m. in the Life Sciences Center’s Monsanto Auditorium.

**Tuesday, September 22**

**BIOLOGICAL SCIENCES SEMINAR:**

Ramani Ramchandran from the Medical College of Wisconsin will present “Vasculogenesis Mechanism in Embryonic Development and Disease” at 3:30 p.m. in the Life Sciences Center’s Monsanto Auditorium.

**Wednesday, September 23**

**CORPS OF DISCOVERY LECTURE:**

Mark Smith, Curator’s professor of history, will present “More Than Meets the Eye: What Made the ‘Printing Revolution’ Revolutionary” at 3:30 p.m. in the Geology Building’s Keller Auditorium. A reception will follow.

**ECOLOGY & EVOLUTION SEMINAR:**

Pamela Steele, from UM-St. Louis will present “Systematics of Neotropical Psiguria (Cucurbita-ceae): Identifying Low-Copy Nuclear Markers, Molecular Phylogenetics and Taxonomic Revision” from 4-5 p.m. in 106 Lefevre Hall.

**Thursday, September 24**

**NUTRITION & EXERCISE SEMINAR:**

Zhiqiang Zheng, a doctoral candidate in nutrition, will present “Novel Roles of Copper Homeostasis in Alzheimer’s Disease and Regulation of Inducible Nitric Oxide Synthase” at 4 p.m. in Acuff Auditorium, MA217 Medical Sciences Building.

**CREATIVE WRITING LECTURE:**

Critic, essayist and memoirist Vivian Gornick, a faculty member at The New School, will present “An Evening with Vivian Gornick” at 7:30 p.m. in the Reynolds Alumni Center. A reception and book-signing will follow.

**Saturday, September 26**

**SATURDAY MORNING SCIENCE:**

George Stewart, professor of veterinary pathobiology, will present “Darwin’s Germ: The Life & Times of *E. coli*” from 10:30-11:30 a.m. in the Life Sciences Center’s Monsanto Auditorium.

**GRAD SCHOOL SEMINAR:**

Faculty presenters meet with graduate students to discuss aspects of writing their thesis or dissertation for “Writing Saturdays for Graduate Students” from 10:15 a.m.-3:15 p.m. in Ellis Library.

**FLU from Page 1**

assignments and deadlines.

Leona Rubin, chair of Faculty Council, says she thinks most faculty would agree that those suggestions are a reasonable accommodation to deal with student illness. “I think most of us agree that people should stay home when sick,” says Rubin, associate professor of veterinary biomedical sciences. “Faculty are doing their best to work with students that miss class. We are all thankful this is not happening during finals week, however.”

Rubin says that several of

her colleagues have noted that, on average, three to four students are out of their classes at any one time due to illness. “It is not always clear if this is H1N1 (flu), but the feeling was that this was an increase in the illness rate,” she says.

In fact, at a recent Faculty Council executive committee meeting, three out of eight committee members missed the meeting because of illness that sounded like the flu. “So I think we recognize it is here,” Rubin says.

**MizzouWeekly**

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From left to right: Courtney Barr, MD, Becky Lynn, MD, and Mira Aubuchon, MD

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# Hold your nose — research is in process

**'BIOREMEDIATION'**  
Bacteria could hold key  
to cleaning radioactive  
pollution

**T**he Lost Orphan Mine, in Coconino County, Ariz., sits just below the south rim of the Grand Canyon. While it hasn't produced uranium since the 1960s, its location between Maracopa Point and Powell Memorial makes it a natural tourist stop.

Radioactive tailings from the site still contaminate the area. Worse, the residue has leached into nearby Horn Creek. Signs warn people not to drink the water. Hikers traversing the canyon rim must detour around the abandoned structures and 1,500-foot-deep mineshaft.

Cleaning up such an area, like thousands of similar weapons-production and Cold War sites, usually involves digging up the polluted ground, washing it, and putting it back. The process is so expensive and troublesome that it is employed only in extreme cases.

Judy Wall, an MU professor of biochemistry, is working on an alternative way to clean up such sites. Her laboratory, in partnership with the Lawrence Berkeley National Laboratory in Berkeley, Calif., is looking at eventually using bacteria to reduce toxic metals to inert substances.

But don't get too close to the bacteria. They smell really bad.

"Have you ever come across a stagnant pool that smelled like rotten eggs when you disturbed it?" Wall asks. "Or have you wondered why iron pipes corrode in soil? Both the smell and the corrosion are caused by sulfate-reducing bacteria that derive energy not from oxygen but from sulfate, which is reduced to hydrogen sulfide, a particularly smelly and toxic gas."

Sulfate reducers are powerful bio-corrosives. When they come into contact with heavy metals, they cause an electron transfer reaction that changes the metals in a fundamental way.

The bacteria can take uranium and, through this electron transfer, reduce it to uraninite, a relatively insoluble mineral. Uraninite will sink to the bottom of a lake or stream, where it can do no harm. Wall's group is looking to better understand this water cleansing ability and to learn how long that modified material will remain inert.

It's just not radioactive metals. Heavy metal pollution from storage tanks and industrial waste — cobalt, strontium, cesium

and plutonium — also may be treatable with sulfate reducers.

This potential has made the microscopic tilde-shaped critters a macro deal in the bio-remediation world. These bugs, or their close relatives, are likely to be already present in the contaminated sites—more than 7,000 heavy-metal-contaminated sites.

"We just need to add their favorite foods, depending on the site, to encourage them to interact with the metals," Wall says. The Department of Energy estimates there are at least 5,700 contaminated water bodies that also could be helped.

But there are problems. The bacteria live in a narrow range of oxygen and temperature. In fact, oxygen can kill most of them, making them difficult to use at sites like the Lost Orphan Mine. The bacteria also prefer to live in microbial communities with diverse neighbors. "We have little knowledge of their subdivision covenants," Wall explains.

"Our research with them must be carried out in the absence of air," she says. "Obviously, none but the most committed and stubborn will work with them."

Wall and her team are investigating the basic genetics and metabolism of these bacteria. They are building on discoveries funded by the Department of Energy's Joint Genome Institute that has sequenced the genomes of about 14 strains and is working on a dozen more.

With a roadmap of the 3,570,858 base pairs of DNA from the bacterium — the focus of her efforts — Wall hopes eventually to determine what limits the growth and activity of the strain in its natural setting and how to avoid those limitations. Making sure that the interactions with heavy metals is sustainable and robust is another goal.

To answer these questions, the team needs to discover the basic ways that sulfate reducers work. "Are the electrons that change toxic metals actually intended for other essential functions in the bacterium? Can we alter the distribution and flow of electrons inside the cell?" Wall asks.

So far, Wall and her colleagues have identified a couple of genes that are critical to the remediation of uranium. A small step but an important milestone in understanding how the microbes work, she says.

The specific strain that Wall and her colleagues are working with is called *Desulfovibrio vulgaris*, a hairy bacterium that moves by a micro rotary motor.

*Desulfovibrio* strains have been found in an incredible variety of habitats, including soil, the intestines and feces of animals, and both saline and fresh water.

One of their favorite homes is in oil wells and petroleum processing plants, where these bacteria contribute to massive corrosion.

But even this cosmopolitan lifestyle creates another puzzle for Wall and her team. There is always something in these varied environments that limits the microorganism's growth. Even if an oxygen-tolerant strain were developed, it wouldn't likely remediate something like the Lost Orphan Mine site without careful attention.

"Knowledge of the communities of microbes is still in its infancy," Wall says. "We just don't know a lot about a number of individual microbes."



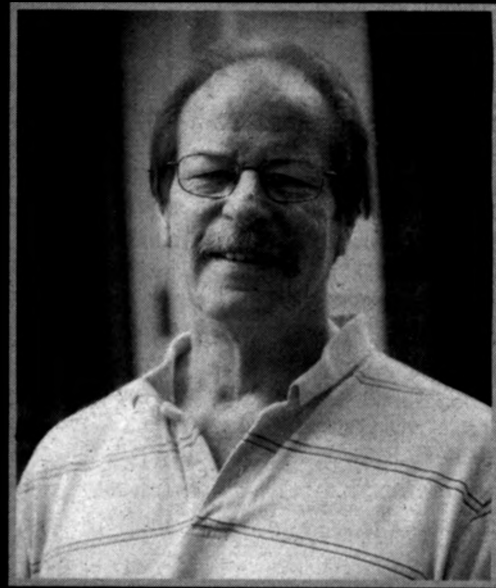
Nicholas Benner photo

Judy Wall, professor of biochemistry, is exploring the use of bacteria as an alternative method for cleaning up radioactive waste sites.

## More Than Meets the Eye: What Made the 'Printing Revolution' Revolutionary

21ST CENTURY CORPS OF DISCOVERY LECTURE

3:30 p.m.  
Wednesday  
September 23  
Keller Auditorium  
Geology Building  
*Reception to follow*



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