**Genetic Factors**

Study finds that everyday chemicals trigger obesity.  
**Page 2**

**Classroom Renewal**

Don't forget the Teaching Renewal Conference today and tomorrow in the Reynolds Center. A schedule is online at [teachandlearn.missouri.edu](http://teachandlearn.missouri.edu).

**Feb. 22, 2007**

University of Missouri-Columbia

## Gas to go

**ALTERNATIVE FUEL**

Corncocks are key to technology breakthrough

**R**esearchers at MU and the Kansas City-based Midwest Research Institute are testing an alternative fuel technology that may revolutionize the use of cleaner-burning natural gas vehicles.

Those vehicles currently are equipped with bulky, high-pressure tanks that take up premium cargo space, such as the trunk of a car. This new technology, pioneered by MU physics professor Peter Pfeifer, stores the natural gas in a smaller, low-pressure tank that can be mounted under the floor of a car. The scientists found a way to "bake" corncocks into carbon briquettes that are remarkably efficient at storing natural gas, then they use the briquettes to store natural gas in a low-pressure tank.

The researchers are now

testing a prototype of this tank in a pickup truck owned and operated by the Kansas City Office of Environmental Quality. They hope this will lead to the design of low-pressure tanks that solve the cargo space problem posed by high-pressure tanks.

"This technology could make natural gas an attractive alternative fuel for smaller vehicles," Chancellor Brady Deaton says. "The research partnership here exemplifies how scientists from very different fields can work together to conduct truly fundamental research in new materials with the explicit goal of having the results of the research solve problems for people."

The walls of the nanoporous carbon adsorb methane molecules as a high-density fluid. The strong attractive force in the narrow pores lowers the energy of the molecules so that they can be packed much more closely.

The carbon briquettes can store 180 times their



**MU TIGER IN THE TANK** A research partnership between MU and the Midwest Research Institute led to a breakthrough in natural gas powered vehicles that uses corncock briquettes to store the fuel in low-pressure gas tanks like the one in this pickup truck owned by the Kansas City Office of Environmental Quality.

own volume of natural gas — the target rate set by the energy department — at 500 pounds per square inch (psi) compared to the conventional high-pressure natural gas tank, which operates at 3,600 psi.

This enables flexibility in tank design because high-pressure tanks require bulky, cylindrical walls, whereas the low-pressure tank can use thinner walls in a variety of shapes. The pressure of 500 psi equals the pressure

in natural gas pipelines, which eliminates costly compression of natural gas.

The test pickup has been on the road since mid-October and researchers are monitoring the technology's performance.

Midwest Research Institute photo

## Difficult Dialogues program takes aim at the culture wars

**TOUCHY TOPICS**

Program helps students explore controversial topics from different viewpoints

**S**ometimes it almost seems impossible to call a truce in the culture wars that dominate our national attention: stem cell research, abortion, homosexuality, evolution and intelligent design, religious intolerance.

Again this semester, more than a dozen MU faculty members are taking part in a program that helps them negotiate that tricky terrain in their classrooms. Called the Difficult Dialogues program, its goal is to promote pluralism and academic freedom.

Through a series of in-depth workshops, Difficult Dialogues aims to give faculty a better understanding of controversial issues. It also provides them the tools to engage their students in classroom conversations that explore those issues from

different points of view.

Mizzou is one of 27 colleges and universities that received \$100,000 grants from the Ford Foundation in 2006 to develop programs that address a specific need on their campus. MU's program, "From Divisiveness to Discourse: Bridging Rival Realities in Public Higher Education," is focused on promoting religious diversity and tolerance.

"I think we live in an age of culture wars where people's views of the world have become increasingly polarized. 'Bridging rival realities' really is the notion that we can help people come to understand each other's views of the world and maybe even help them come a little bit closer together," says Roger Worthington, associate professor of educational, school and counseling psychology and Difficult Dialogues' principal investigator.

In their application to the Ford Foundation,

program organizers at MU said that previous campus research suggested "that fear was a major source of difficulty for professors in handling discussions of controversial issues."

Fear of what? "I think fear of a lot of things," says Worthington, who also is interim chief diversity officer for the Chancellor's Diversity Initiative. "Fear of not being equipped to competently address all of the issues that might arise in talking about controversial issues that might have religious or political undercurrents. Fear of not being able to manage the conflict that that could develop in the classroom."

Universities aren't the only public arenas that have been invaded by contention and controversy, Worthington says. "Dialogue on college campuses has become more polarized, but that's true all across the country. College campuses

are essentially microcosms of the larger society. Students and professors alike can't help but be affected by the divisive rhetoric that they encounter in the larger society."

The program started last fall, when 14 faculty fellows were selected to attend a series of four six-hour workshops. Those Saturday sessions covered topics such as religious pluralism and literacy, academic and constitutional freedoms, conflict resolution and how to moderate classroom discussions.

This semester those faculty fellows are including a Difficult Dialogues module in one of the courses they teach. Sixteen new faculty fellows are beginning the main workshops again this semester, and the goal is have 45 faculty and graduate students complete the program by the time Ford Foundation funding ends in 2008. The program will begin taking applications next week for fall 2007 faculty fellows.

Information and applications are available online at [difficultdialogues.missouri.edu](http://difficultdialogues.missouri.edu).

Another major component of the Difficult Dialogues program is MU's Interactive Theatre Troupe, led by Suzanne Burgoyne and Clyde Ruffin, professors of theater, which performs for faculty, teaching assistants and classes. Troupe members perform short sketches that portray a class session in which members encounter diversity issues they don't know how to handle. Audience members are invited to take part in a reenactment of the sketch to try out different solutions.

"What we want to do is create a rigorous intellectual environment that promotes the opportunity for students to feel empowered to express themselves and their views in respectful ways," Worthington says.

For most people, the natural  
**SEE Dialogues on Page 4**

**Survey studies smoking policy**

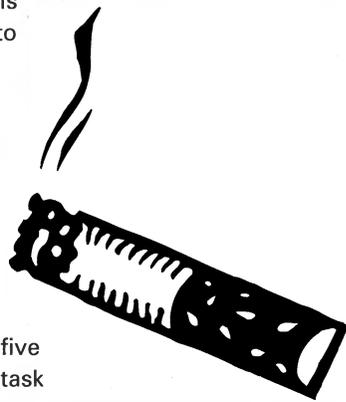
Earlier this week, MU's Smoking Policy Task Force asked faculty, staff and students to take part in an online survey about their smoking habits and their view of the campus smoking policy. "We want to get a sense of whether people smoke or not and what the community is looking for if there was a change in the policy," says Jim Levin, assistant professor of law and a task force co-chair.

The group was appointed by Jackie Jones, vice chancellor for administrative

services, to review the policy, which has not been changed in almost 20 years. The task force held open forums on campus last fall to gather input. The online survey "is another way to reach out to a lot of people and get a sense of whether there is a big push for changing the policy or if people are comfortable with the status quo," Levin says.

The survey consists of 15 questions that should take less than five minutes to complete. The task force is working to formulate its recommendations by the

end of this semester, Levin says. The survey is available online at [iatsapps.missouri.edu/SmokingPolicySurvey](http://iatsapps.missouri.edu/SmokingPolicySurvey)



**Start your engines**

With a long, cold winter coming to an end, homeowners can get ready for spring by having their lawn mowers or tillers cleaned and tuned at the annual service offered by students in the MU Agricultural Systems Management Club.

Customers can drop off their push-type machines at the east end of the Agricultural Engineering Building on Rollins Street from 7 to 9 a.m. or 4 to 6 p.m. on March 1 or March 2. Pickup times are 7 to 9 a.m. or 4 to 6 p.m. on March 5 or 6.

Students steam clean each mower, clean the air filter and put in a new spark plug, change the oil and sharpen the blade for \$30. An additional \$30 an hour will be charged for any other needed shop work. All machines must be in working order, and no riding mowers can be serviced. For more information, call 882-2731.

Students service about 200 mowers a year. "It has become a real production-line operation," says Leon Schumacher, the club's faculty adviser. The money supports club field trips and other activities.

**Study finds that everyday chemicals trigger obesity**

**GENETIC FACTORS**

Endocrine-disruptive chemicals alter the metabolic system

Obesity is generally discussed in terms of caloric intake — how much a person eats — and energy output — how much a person exercises. However, environmental chemicals found in everyday plastics and pesticides also may influence obesity, says Fred vom Saal, professor of biological sciences.

He has found that when fetuses are exposed to these chemicals, their gene function may be altered to make them

more prone to obesity and disease. That can be a serious problem because obesity puts people at risk for other problems, including cancer, diabetes, cardiovascular disease and hypertension.

"Certain environmental substances called endocrine-disrupting chemicals can change the functioning of a fetus' genes, altering a baby's metabolic system and predisposing him or her to obesity. This individual could eat the same thing and exercise the same amount as someone with a normal metabolic system, but he or she would become

obese, while the other person remained thin," vom Saal says.

Using lab mice, he studied the effects of endocrine-disrupting chemicals, including bisphenol-A, which recently made news when San Francisco sought to ban its use in children's products. Vom Saal will present his recent study at the 2007 annual meeting of the American Association for the Advancement of Science.

"Perinatal Programming of Obesity: Interaction of Nutrition and Environmental Exposures" is the title of vom Saal's presentation.

He found that endocrine-

disrupting chemicals cause mice to be born at very low birth weights and then quickly gain abnormally large amounts of weight, more than doubling their body weight in just seven days. Vom Saal followed the mice as they got older and found that these mice were obese throughout their lives. He said studies of low-birth-weight children have shown a similar overcompensation after birth, resulting in lifelong obesity.

"The babies are born with a low body weight and a metabolic system that's been programmed for starvation.

This is called a 'thrifty phenotype,' a system designed to maximize the use of all food taken into the body. The problem comes when the baby isn't born into a world of starvation, but into a world of fast food restaurants and fatty foods," vom Saal says.

More research must be done to determine which chemicals cause this effect. According to vom Saal, there are approximately 55,000 manmade chemicals in the world, and 1,000 of those might fall into the category of endocrine disrupting. These chemicals are found in common products, from plastic bottles and containers to pesticides.

"You inherit genes, but how those genes develop during your very early life also plays an important role in your propensity for obesity and disease. People who have abnormal metabolic systems have to live extremely different lifestyles in order to not be obese because their systems are malfunctioning," vom Saal says. "We need to figure out what we can do to understand and prevent this."



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Departments may purchase temporary permits for special events or to keep on hand for the use of their guests. The permits are \$2 per day or \$6 per week and are available for various lots/garages throughout campus. All permit orders should be made two weeks prior to event. Permits may be ordered through our office by phone at 882-4568 or through our Internet address at [parking.missouri.edu](http://parking.missouri.edu).

[parking.missouri.edu](http://parking.missouri.edu)



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**MizzouWeekly**

**Volume 28 No. 21**

A publication for the faculty and staff of the University of Missouri-Columbia, published every Thursday during the academic year and twice a month during the summer by Publications and Alumni Communication, a department of University Affairs, 407 Reynolds Alumni Center, 882-7357. News deadline is noon Thursday the week before publication. Annual subscriptions are available for \$30.

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**Advertising** Savannah Waszczuk, Scott Reeter  
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**Writer/designer** Sue Richardson

# calendar



## Concerts & Plays

### Friday, February 23

**UNIVERSITY CONCERT**  
**SERIES:** *Man of La Mancha*, the five-time Tony award-winning musical, will be presented at 7 p.m. in Jesse Auditorium. For ticket information, call 882-3781 or order online at [www.concertseries.org](http://www.concertseries.org).

**THEATER SERIES:** *Arms and the Man* will be presented at 8 p.m. today, Feb. 24 and March 1-3, and at 2 p.m. March 4 in Rhynsburger Theatre. For ticket information, call 882-PLAY.

### Saturday, February 24

**GUEST ARTIST RECITAL:** Evgeni Ratchev will perform on strings at 8 p.m. in Whitmore Recital Hall. Suggested donation: \$5.

### Sunday, February 25

**JAZZ SERIES:** Pianist Fred Hersch will give solo performances at 3:30 and 7 p.m. at Murry's, 3107 Green Meadows Way. For ticket information, call 449-3001.

### Monday, February 26

**FACULTY RECITAL:** The Esterhazy Quartet will perform at 8 p.m. in Whitmore Recital Hall. Suggested donation: \$5.

### Tuesday, February 27

**HISTORICAL SOCIETY PERFORMANCE:** The Missouri History in Performance Theatre will explore Missouri geography in "Missouri Places" as they read from documents and letters that relate to historical state maps on display in the State Historical Society. The performance begins at 5:30 p.m. in the society's headquarters on the east side of Ellis Library.

**UNIVERSITY CONCERT SERIES:** The Carl Rosa Opera will present *The Pirates of Penzance* at 7 p.m. in Jesse Auditorium. For ticket information, call 882-3781.

**FACULTY RECITAL:** Rodney Ackmann on bassoon and Natalia Bolshakova on piano will perform at 8 p.m. in the Whitmore Recital Hall. Suggested donation: \$5.

### Wednesday, February 28

**JAZZ SERIES:** Guitarist Bill Frisell will perform with violinist Jenny Scheinman and steel guitarist Greg Leis, at 6:30 p.m. at the Blue Note, 17 N. Ninth St. For ticket information, call 449-3001.

**UNIVERSITY CONCERT SERIES:** The Glenn Miller Orchestra will perform at 7 p.m. in Jesse Auditorium. For ticket information, call 882-3781.

### Friday, March 2

**VINTAGE MUSIC RECITAL:** Malcolm Bilson, internationally known expert on vintage instruments, will present a dedication recital on

MU's new replica of an 1802 fortepiano at 8 p.m. in Whitmore Recital Hall. Suggested donation: \$5.

## Conferences

### Monday, February 26

**WOMEN ENTREPRENEUR CONFERENCE:** "In Good Company," a conference for entrepreneurial women will be held today and tomorrow at the Reynolds Alumni Center. The keynote speaker will be Suzanne Joyce of St. Louis, founder of Internet security firm TechGuard Security. For cost and registration information, call 882-7096 or visit [www.missouri.business.net/ucie](http://www.missouri.business.net/ucie).

### Friday, March 2

**SOCIAL WORK FORUM:** The MU School of Social Work will present its annual social work forum from 1 p.m. to 5 p.m. in the Peach Tree Conference Center. Speakers include Lauren M. Neal, coordinator of patient and family supportive services at Ellis Fischel Cancer Center. Registration information is available online at [ssw.missouri.edu/swforum.shtml](http://ssw.missouri.edu/swforum.shtml).

## Courses & Workshops

### Monday, February 26

**MUSEUM KIDS' WORKSHOP:** "School's Out, Art's In! The Future of Freedom: Storytelling" will be held from 2-3:30 p.m. in Pickard Hall. The event is for children in grades one to 12 and for adults. Registration is required; call 882-3591.

## Exhibits

### MUSEUM OF ART & ARCHAEOLOGY:

- "The Forgotten Art of Engraving" is on display through July.
- "Final Farewell: The Culture of Death and the Afterlife," explores cross-cultural themes of the afterlife and their impact on art.

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.

### BINGHAM GALLERY:

Undergraduates from academic programs throughout campus showcase their creative work in the "2007 Undergraduate Juried Art Excellence Exhibit" on display through March 8. The gallery, located in the Fine Arts Building, is open from 8 a.m.-5 p.m. weekdays.

### BLACK HISTORY EXHIBITS:

- Works by Margarette Gillespie are on display at the Gaines/Oldham Black Culture Center through Feb. 28.
- "Songs of My People" is on display through Feb. 28 in Ellis Library.

## STATE HISTORICAL SOCIETY:

- "Light & Life in Missouri: Photos by Notley Hawkins" is on display through May 12 in the north-south corridor gallery.
- "The Stories They Tell: Understanding Missouri History Through Maps" is on display through June 30 in the main gallery.

## Lectures & Seminars

### Friday, February 23

**ART & ARCHAEOLOGY LECTURE:** Kay Read, professor of religious studies at DePaul University, will present "Sacrificial Shapeshifting: Death and Beyond in Ancient Mesoamerica" at 6 p.m. in 106 Pickard Hall.

### Saturday, February 24

**SATURDAY MORNING SCIENCE:** Kattesh Katti, professor of radiology, will present "Advances in Nano-Medicine: How Something Small Will Impact You" from 10:30-11:30 a.m. in the Life Sciences Center's Monsanto Auditorium.

### Tuesday, February 27

**AFFORDABLE MEDICATIONS SEMINAR:** Steve Lee, pharmacy manager at Columbia Regional Hospital, will discuss programs and

options available to low-income and uninsured individuals to deal with the rising cost of prescription drugs at 10 a.m. in 234 Brady Commons.

**PEACE CORPS SEMINAR:** Former Peace Corps volunteers will discuss post-Soviet Armenia at noon in S203 Memorial Union.

**BLACK HISTORY PANEL:** Columbia community leaders Wynna Faye Elbert, Beulah Ralph and Willie Strickland will discuss "The Educational Experience of African Americans in Columbia, Mo., 1900-2007" from 2-3:30 p.m. in the Gaines/Oldham Black Culture Center.

**BIOLOGICAL SCIENCES SEMINAR:** Dusti Becker with Earthwatch Ecuador will present "Timely Discoveries During a Long-Term Bird Monitoring Program at Loma Alta, Ecuador" at 3:30 p.m. in the Life Science Center's Monsanto Auditorium.

**ROMANCE LANGUAGES SEMINAR:** Mamadou Badiane, assistant professor of Spanish, will present "Afro-Cuban Religions: Syncretism or De-Africanization" at 4 p.m. in 113 Arts and Science.

### Wednesday, February 28

**BLACK HISTORY LECTURE:** Independent scholar Brother Addae Ahmed will present "Malcolm

X as a Pan-Africanist" at noon in 323 Gentry Hall.

### Thursday, March 1

**MU LIBRARIES LECTURE:** Carol Anderson, associate professor of history, will present "International Conscience, the Cold War and Apartheid: The NAACP's Alliance with the Rev. Michael Scott for Southwest Africa's Liberation, 1946-51" at 3 p.m. in the first-floor colonnade of Ellis Library.

**MUSIC LECTURE:** Malcolm Bilson, an expert on vintage instruments, will present "The Fortepiano and Classical Style" at 3 p.m. in Whitmore Recital Hall. Suggested donation: \$5.

### ANCIENT STUDIES

**LECTURE:** Judith Evans Grubbs, professor of classics at Washington University, will present "(Not) Bringing Up Baby: Infant Abandonment and Infanticide in Roman Imperial Law" at 6 p.m. in 106 Pickard Hall. A reception will be held at 5:30 p.m.

## Special Events

### Thursday, February 22

**ASIAN FILM SERIES:** The MU Asian Affairs Center will present *Water*, a film from India, at 7 p.m. in Memorial Union's Wrench Auditorium.

## Chancellor Brady J. Deaton and Dr. Anne Deaton

cordially invite  
members of the University  
and Columbia area communities  
to a farewell reception  
honoring

President Elson S. Floyd  
and Mrs. Carmento Floyd

Wednesday, March 7, 2007

3 to 5 p.m.

Stotler Lounge in Memorial Union

Parking is available in the University Avenue,  
Hiitt Street and Turner Avenue garages



University of Missouri-Columbia

**DIALOGUES from Page 1** inclination is to avoid talking about touchy topics, says Noor Azizan-Gardner, director of diversity programming and professional development in the chancellor's office. "When controversial issues come up in the classroom, many of our faculty probably have not been trained to engage in those kinds of difficult dialogues so that students can experience a positive outcome," says Azizan-Gardner, who is a co-investigator for the program.

Faculty who applied were asked to identify a course they already teach in which they think difficult dialogues occur. They also were asked to identify what tools or skills they needed to more effectively promote dialogue in that class. Faculty fellows represent academic disciplines from across the campus, and an abbreviated version of the workshop training has been provided to peer advisers who work with MU's Freshman Interest Groups.

Deanna Sharpe, associate professor of personal financial planning, was in the first group of faculty fellows last fall. One

of her courses, *Assessing the American Dream*, explores "values as a driver of choice," she says. Many of those choices are derived from moral beliefs — for instance, beliefs about the responsibility of caring for elderly relatives or issues of poverty and the minimum wage, and expectations about who pays for health care.

Sharpe wants to help her students talk about such topics in class. "I want them to be able to look at these issues without being divisive or pejorative,"

she says. "I love pushing my students into situations where they are forced to think more deeply about subjects. I tell them, 'My goal is not to change your mind; my goal is for you to come to know your mind.' To do that, you have to learn how to listen carefully and respectfully to others."

Jon Hess, associate professor of communication, also was in the first group of faculty fellows last fall and has used the techniques he learned there to increase dialogue

in his class, *Controversies in Communication*. For instance, students in that class discussed the debate between abstinence-based and comprehensive- or health-based sex education classes. Hess also wants his students to look at the religious roots in the origins of current conservative and liberal agendas.

"If you really care about teaching, you're always looking for ways to help your students see the deeper questions and discuss them at more than a

surface level," Hess says. The Difficult Dialogues training helped him better frame those questions for his students.

Sharpe still remembers a class session when her training helped her guide a class discussion about poverty. Her students talked at length about the economic and social structures that trigger poverty and the appropriate role of the government in alleviating it.

"It was one of those times when you wish the class could go on forever," she says.

## classifieds

### FOR RENT

Ashley Ridge Condos at MU Campus. Luxury 1 & 2 bedroom apartments for faculty, staff, graduate and professional students. Quiet, spacious, energy efficient, cable TV, w/d hookups, carports. \$500-\$545. Call (573) 445-1892. [www.denice.com](http://www.denice.com).

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The classified advertising section is open to faculty and staff members and retirees.

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No campus numbers will be printed.

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No refunds for cancelled ads.

**Mizzou Weekly Classifieds:** Make check payable to University of Missouri and send to Classifieds, Mizzou Weekly, 407 Reynolds Alumni Center, Columbia, Mo. 65211.



Left to right: Leigh Nutter, volunteer coordinator, City of Columbia; Pamela Ingram, founder and director, Granny's House; Karen Miller, associate commissioner, Boone County Commission; Libby Gill, community volunteer; and Teresa Snow, news anchor, KRCCG

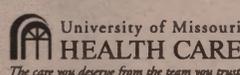
# Heart Disease Doesn't Care What You Wear

These Columbia community leaders know The Heart Truth. One in five women has some form of cardiovascular disease, which mostly is preventable. And every woman can take steps to lower her risk and know the symptoms of a heart attack.

The Red Dress campaign is a red alert to take heart disease seriously. The heart-care specialists at University of Missouri Health Care urge you to talk

to your doctor and get answers that may save your life. Visit [www.muhealth.org](http://www.muhealth.org) and click on "heart truth" to learn about heart disease in women and find heart healthy recipes.

In honor of National Heart Month, The Strand Professional Hair Design salon is offering a 20 percent discount on all hair-care products during February.



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## Digitization Information Page

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### Source information

Format	Newspaper
Content type	Text with images
Source ID	Issues in Volume 28 borrowed from University Archives.
Notes	Issues no.26, 27, 28 are not present in this volume. Issues numbering jumps from 25 to 29.

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