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The Joffrey Ballet lends a hand to Hancher and the School of Music

PHOTO BY KIRK MURRAY



Drums thundered and colors whirled April 11 in the Main Lounge of the Iowa Memorial Union as dancers and drum groups from across the Midwest performed and competed at the University of Iowa Powwow. The event, revived by the UI American Indian Student Association after a four-year hiatus, celebrated American Indian culture through dance, music, food, arts, and crafts. More than 1,300 attended the festival.

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Getting the Green Light *Sustainability moves forward at Iowa*

SUSTAINABILITY: The ability to meet our needs without compromising the ability of future generations to meet theirs.

A University power plant burns carbon-neutral oat hulls to generate steam.

Nearly one ton of food waste from campus residence halls is sent to a composting bin instead of the landfill every week.

UI researchers study pollutants in air over the Arctic and left behind by floodwaters back home in Iowa.

And starting in the fall of 2009, undergraduates from any discipline will be able to enroll in a new certificate program focusing on sustainability.

These are just a few of the many ways

that The University of Iowa is thinking green as it strengthens its focus on sustainability campus-wide. No area of the University is unaffected, from operations to research to academics.

Sustainable concepts aren't new to campus, but they became a formal part of its mission on Earth Day 2008, when UI president Sally Mason announced, "Sustainability must and will become a central priority of all aspects of our university enterprise."

Under her directive, the University established an Office of Sustainability to facilitate and promote sustainability efforts on campus. In December, Liz Christiansen, formerly the deputy director of the Iowa Department of Natural Resources, became its first director.

"The concept of 'sustainability' is a huge umbrella," she says. "A lot of issues fit under it, but what it really comes down to is livability: Livability now and generations from now. I think it is incredibly important that institutions of higher learning are leaders in sustainability issues. Universities are incubators of innovative thought, and society turns to universities to solve these critical issues."

That push begins by running the University in a sustainable way: conserving energy, reducing carbon emissions, managing waste, and using green products like recycled paper and hybrid cars.

It also extends to the classroom and the lab.

"We are asking questions like: Are we preparing students to be good, effective

citizens? Are we educating them about what sustainability is, and how and why we should achieve it?" says Jonathan Carlson, senior associate to the president of the University and chair of the UI Sustainability Steering Committee. "We also think it's important to keep up with the career fields that are emerging as society becomes more concerned about sustainability issues, such as wind energy and engineering."

So the University has created a Certificate in Sustainability, and is encouraging faculty from all disciplines to look at how sustainability issues tie in with their subject matter. It also plans to add five new tenure-track faculty lines dedicated to supporting interdisciplinary sustainability efforts.

University faculty explore sustainability issues in research labs, too. One example: In the College of Liberal Arts and Sciences, Johna Leddy, associate professor of chemistry, is developing more sustainable, longer-lasting batteries (see story on page 4). Elsewhere in the University, researchers study renewable energy, sustainable water systems, and more.

Students, faculty, and staff are taking sustainability off campus, too. Jerry Schnoor, for example, professor of civil and environmental engineering and occupational and environmental health, is chairing a state advisory council on climate change.

"We're not just doing research for its own sake, but for the sake of the country and the world," Carlson says. "Our faculty members don't spend all their time in the laboratory or library; they're working beyond the University, trying share their knowledge and insights with policy makers."

—ANNE KAPLER



Liz Christiansen, pictured here with her electric car, was hired in December 2008 as the University's director of the Office of Sustainability. The office was created under the directive of UI President Sally Mason to promote sustainability policies and practices across campus.

PHOTO BY KIRK MURRAY

For more on sustainability efforts at the University, see stories on pages 4–7.

For the Record

“You can’t understand the living without the extinct, and you can’t understand the extinct without the living.”

CHRISTOPHER BROCHU, ASSOCIATE PROFESSOR OF GEOSCIENCE IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES WHO STUDIES EVOLUTIONARY RELATIONSHIPS OF CROCODYLIANS, ON USING INNOVATIVE TECHNIQUES TO STUDY HOW DINOSAURS LIVED (*COLUMBUS DISPATCH*, FEB. 3).

“If it could scream, it would.”

JOHN KIRBY, ASSOCIATE PROFESSOR OF MICROBIOLOGY IN THE CARVER COLLEGE OF MEDICINE, TALKING ABOUT A COLONY OF E. COLI BACTERIA BEING EATEN BY MYXOCOCCUS XANTHUS, A PREDATORY BACTERIA THAT FORMS UNIQUE RIPPLING WAVES AS IT FEASTS ON ITS BACTERIAL PREY (*POPULAR SCIENCE*, FEB. 3).

“In general, restraint use has gone down dramatically. Now we need to be vigilant about the places where restraint use is much higher than average.”

MERCEDES BERN-KLUG, ASSISTANT PROFESSOR OF SOCIAL WORK IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES, ON THE USE OF RESTRAINTS IN NURSING HOMES (*USA TODAY*, FEB. 16).

“Part of progress might very well be more leisure, shorter hours, more time to live.”

BENJAMIN HUNICUTT, PROFESSOR OF LEISURE STUDIES IN THE COLLEGE OF LIBERAL ARTS AND SCIENCES, ON POST–WORLD WAR II SHIFTS THAT HAVE INCREASED THE NUMBER OF HOURS AMERICANS WORK (*NPR*, MARCH 7).

“We can’t reverse the disease, but we can make the quality of each day as good as it can be.”

KATE GFELLER, PROFESSOR OF MUSIC, NOTING THE RESULTS OF A STUDY DEMONSTRATING THAT ACTIVITIES LIKE MOVING TO MUSIC, PLAYING RHYTHM INSTRUMENTS, AND SINGING LEAD TO MORE GROUP INVOLVEMENT AND LESS WANDERING AND DISRUPTIVE BEHAVIOR AMONG PATIENTS WITH DEMENTIA IN NURSING FACILITIES (*NEW YORK TIMES*, APRIL 27, 2009).



Cancun, it’s not—Hundreds of homes in Cedar Rapids remain in poor condition after last summer’s floods. In March, more than 100 University of Iowa students, faculty, and staff members volunteered to help gut and rebuild some of them as part of an alternative spring break. They joined 14 other volunteer groups from colleges and organizations as far away as Ohio and Pennsylvania. The workers removed debris, cleaned walls and flooring, and installed drywall. Although completely rebuilding a house takes weeks, thanks to the volunteers’ efforts 17 homes in Cedar Rapids and 10 in Palo are on the road to recovery.

UI Children’s Hospital Ranks in the Nation’s Top 25

University of Iowa Children’s Hospital ranks among the best children’s hospitals in the United States according to a survey conducted by *Parents* magazine. The rankings appeared in the February issue.

Parents surveyed more than 100 children’s hospitals to determine where the more than 3 million American children hospitalized each year can get the best care possible. According to the survey, UI Children’s Hospital is the 20th ranked pediatric hospital in America. Also, the pediatric emergency care provided in the Emergency Treatment Center at UI Hospitals and Clinics is rated fifth in the nation.

A complete list of the best children’s hospitals by specialty can be found at www.parents.com/baby/care/pediatricians-medicine/best-children-s-hospitals.

Financial Times Ranks Tippie MBA Finance No. 1

In January, *Financial Times* ranked the MBA finance program at the Tippie College of Business as the top public graduate finance program in the world—an achievement that administrators say reflects the college’s emphasis on learning by doing.

The college will reinforce that focus in coming years as the Tippie MBA program puts in place a new curriculum that heavily emphasizes on-the-job learning.

Matt Billett, associate professor of finance, says the *Financial Times* results are especially rewarding because the newspaper ranks schools based in part on alumni surveys taken three years after the students have graduated.

“They’re asking someone who went through the program, and then went out and test drove what they learned if they thought their education was worthwhile,” he says. “Their answer is a resounding yes.”

Theater History Book Wows Critics

Strange Duets: Impresarios and Actresses in the American Theatre, 1865–1914, written by Kim Marra, professor of American studies and published by UI Press, has won the Joe A. Callaway Prize, one of the most prestigious American awards for theater scholarship.

The Callaway Prize is awarded biennially by the Department of English. Marra is the second consecutive UI Press author to win the prize. Aparna Bhargava Sharwadker’s *Theatres of Independence: Drama, Theory and Urban Performance in India since 1947* won the award in 2006.

Strange Duets explores three long-term theatrical partnerships, in which male directors who came from poor circumstances achieved fame and fortune by molding female stars: Augustin Daly and Ada Rehan, Charles Frohman and Maude Adams, and David Belasco and Leslie Carter.



Salt: ‘Nature’s Antidepressant’?

A UI researcher has discovered one potential reason we crave salt: it might put us in a better mood.

Kim Johnson, who holds appointments in psychology and integrative physiology in the College of Liberal Arts and Sciences and in pharmacology in the Carver College of Medicine, and colleagues found that when rats are deficient in sodium chloride—common table salt—they shy away from activities they normally enjoy, like drinking a sugary substance or pressing a bar that stimulates a pleasant sensation in their brains.

The UI researchers can’t say it is full-blown depression because several criteria factor into such a diagnosis, but a loss of pleasure in normally pleasing activities is one of the most important features of psychological depression. And, the idea that salt is a natural mood-elevating substance could help explain why we’re so tempted to over-ingest it, even though it’s known to contribute to high blood pressure, heart disease, and other health problems.

Although the body needs salt to function, scientists are finding evidence that it’s an addictive substance, almost like a drug.

One sign of addiction is using a substance known to be harmful. Many people told to reduce sodium for health reasons have trouble doing so. Another aspect of addiction is intense cravings when drugs are withheld. Experiments by Johnson and colleagues indicate similar changes in brain activity whether rats are exposed to drugs or salt deficiency, suggesting that salt cravings may be linked to the same brain pathways as those related to drug addiction.

We’d love to hear your comments and suggestions about *Spectator*. Let us know what you think by e-mailing Spectator@uiowa.edu. We can also be reached by phone at 319-384-0044 or by mail at *Spectator*, Office of University Relations, 300 PCO, Suite 370, Iowa City, IA 52242-2500.

PHOTO BY TIM SCHOON / ILLUSTRATION BY CLAUDIA MCGEEHE

Wrestlers’ Championship a True Team Effort

The University of Iowa wrestling team collected its second straight national team title at the 2009 NCAA Championships in March. The Hawkeyes scored 96.5 points, edging runner-up Ohio State by 4.5 points, to record the school’s 22nd NCAA team title. That is the closest margin of victory since Iowa won the 1999 team title by two points, and only the second time in school history that the Hawkeyes won the NCAA title without an individual champion. Iowa also accomplished that feat in 1978. It is also the first year since 2006 that the Hawkeyes have not crowned an individual champion. Iowa ends the 2009 season winning two straight NCAA and Big Ten titles. The Hawkeyes posted a perfect 24–0 dual meet record, going 8–0 in Big Ten duals.



Just a Dumb Animal? Think Again

While humans may be smarter than animals, research by Ed Wasserman, Stuit Professor of Experimental Psychology in the College of Liberal Arts and Sciences, demonstrates that the disparity in intelligence may not be as great as commonly imagined.

One cognitive capacity vital to human intelligence is the ability to determine whether two or more items are the same or different, a skill that American psychologist William James called the very “backbone” of our thinking. Wasserman’s research shows that baboons and pigeons can do that, too. A recent study by Wasserman and graduate student Dan Brooks found that both pigeons and people can learn same/different discriminations with visual stimuli that never repeat from trial to trial, proving that simple memorization cannot explain this cognitive feat.

In addition to increasing our knowledge of animal intelligence, the nonverbal methods used to study cognition may have practical applications for studying the cognitive performance of children with language impairments, Wasserman says.

PHOTO BY TIM SCHOON / ILLUSTRATION BY CLAUDIA MCGEEHE



More Than Meets the Eye

Flood clean-up goes underground

Flood recovery at the University was quite visible during the summer of 2008: ventilation tubes snaked out of buildings, and recovery workers tore away damaged drywall and warped flooring at a frenetic pace. All the while, a less visible yet no less important aspect of facilities recovery was happening underfoot.

Damage to the University’s steam tunnel network (shown above)—the backbone of the campus’s heating and cooling system—could have crippled efforts to reopen buildings and classrooms. But recovery efforts began in short order, rendering the system functional in time for the winter season. Mitigation efforts remain under way to ensure that complications stemming from the flooded tunnels won’t repeat themselves.

“We’ve completed the recovery and repair aspects, the work of getting things back into service,” says Ken Lloyd, UI associate utilities director. “For another year or so, we will tackle the waves of mitigation work. We must decide what level of protection we need to incorporate—not a trivial question by any means.”

Roughly 8,740 feet of tunnel—about a third of the entire tunnel system—was flooded on the University’s east and arts campuses. More than 24,000 feet of insulation was rendered useless by the floodwater, and piping suffered displacement due to sudden cooling—a result of the submerged UI Power Plant ceasing steam production.

Recovery work in the tunnels began as soon as the water receded. “We had crews in here roughly a week after the crest,” says Garry Creed, mechanical distribution manager in Facilities Management.

The recovery work had a sense of urgency for a couple of reasons. It was vital to have the Power Plant and the tunnels ready to heat buildings during the bitter Iowa winter, but steam also plays a key role in cooling buildings and powering steam-driven chillers.

University of Iowa Hospitals and Clinics only lost steam briefly, as many of its facilities were switched to a temporary

boiler when the flood hit. Temporary boilers were brought in to get other parts of campus back on track—albeit at a fraction of the output normally produced by the Power Plant.

Mitigation took center stage once recovery work was complete. The primary mitigation measure related to the tunnel system and the Power Plant involves implementation of a bulkhead system.

“Water coming through the Power Plant’s north stub tunnel overcame pumping capacity, causing the uncontrolled shutdown June 14,” Lloyd says. “Construction of a bulkhead at that location, as well as one in the tunnel that runs through the dam, will make a huge improvement.”

Lloyd says other bulkheads will be placed in the campus tunnel system, likely near Adler Journalism Building and Becker Communication Studies Building and near the new Campus Recreation and Wellness Center. Watertight connections between tunnels and buildings also factor into mitigation efforts—some buildings flooded because water was able to enter through the steam tunnels. “That way, even if we lose the tunnel, we won’t lose the buildings,” Lloyd says.

Creation of a new steam line, which would run east of the Power Plant and feed into an area around the new recreation center, will also protect the steam distribution’s east loop.

The University’s steam tunnel system is not unique among higher education institutions, which has prompted utility personnel from other schools to contact UI counterparts for peer input on mitigation.

“In the institutional environment, people want to share best practices,” Lloyd says. “I recently spoke with some folks from Michigan State University about bulkhead systems, tunnels, and our mitigation efforts going forward.

“Ours is not the situation you dream about, but it has put us in a position to help others.”

—CHRISTOPHER CLAIR

Above: Steve Kottenstette, manager, UI Power Plant



Embracing Our Environment



Wile it's become fashionable to think green, University of Iowa researchers have known for years that it's far more than chic: it's critical to our survival. And they've undertaken research efforts to make sustainability possible.

"Faculty and staff across the University, from English to civil and environmental engineering, are engaged in leading-edge research on topics related to sustainability," says Jordan Cohen, the University's interim vice president for research. "Several UI interdisciplinary research centers—including the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, and the Nanoscience and Nanotechnology Institute—conduct research that illuminates environmental problems, posits solutions to those problems, and promotes the betterment of our environment and public health."

Andrew Kusiak and Johna Leddy are two such UI researchers. Kusiak, professor of industrial engineering in the College of Engineering, uses data mining to maximize the capture of wind energy. Leddy, associate professor of chemistry in the College of Liberal Arts and Sciences, is exploring catalysts that could increase

battery life several fold. While the scale of their research components varies greatly, they share a similar goal: using renewable resources to help create energy self-sufficiency.

A mighty wind

Anyone who's driven through Iowa in the last few years has seen the proliferation of wind turbines dotting the rural landscape. In 2008, the American Wind Energy Association reported that Iowa is second in the U.S. in wind power generating capacity, behind Texas and ahead of California. And Iowa doesn't just produce wind power; it also creates the turbines used to collect it: according to Kusiak, there are 16 wind energy companies in the state, including the second and third largest turbine equipment manufacturers in the world.

All of this activity provides the perfect laboratory for Kusiak, an industrial engineer who for years has used data to improve outcomes in medical settings. A student's interest in analyzing and modeling data for efficiency in the UI Power Plant increased Kusiak's awareness of the energy industry. Kusiak and his students expanded their efforts to further research wind energy.

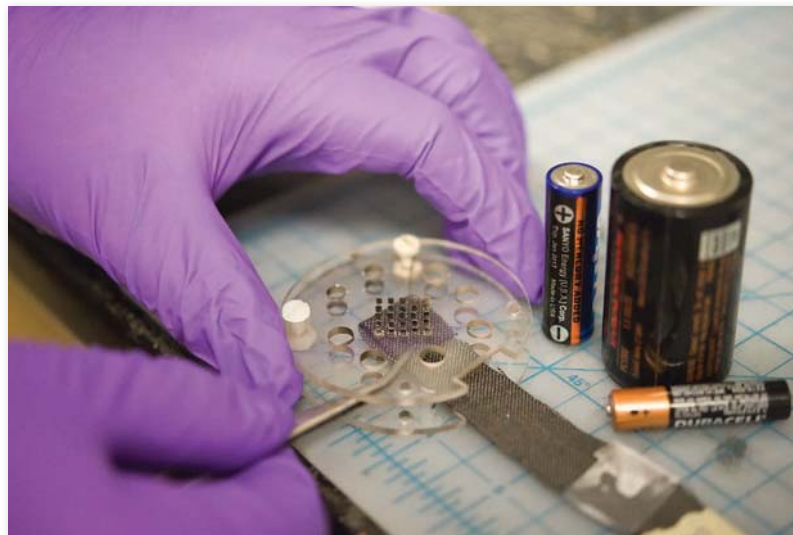
Today, Kusiak is a font of information on the enormous turbines and ways to increase the energy they produce. His research uses information on wind speed, turbine rotation, and other factors to "smooth out" the volatility of wind shifts and reduce vibrations so that turbines can react more efficiently and sustain less wear and tear during high speed winds, thus extending the lifetime of the turbine components.

Additional research combines wind farm data and weather data to predict the productivity of particular farms, enabling the power grid to know when and from where it could expect to receive power.

"This will change the perception of the industry, helping suppliers to plan for times to employ wind or other power sources," says Kusiak. "The data proves that wind has a natural, predictable rhythm and that wind energy cannot be ignored."

Tiny but mighty

While it rests at the other end of the size spectrum, Leddy and her group's work on magnetic catalysts for power sources is creating enormous results. Their research to improve the life of alkaline batteries came about as much research does: by chance.



Researchers explore earth-friendly innovations large and small

"We were working on a different project and discovered we were getting very big currents," says Leddy. "We decided to think about ways to exploit those currents."

Leddy, who's been engaged in this research since 1993, first increased power to fuel cells by adding microparticles of "coated rust." Ultimately, her group found that adding micromagnets to manganese dioxide, which is the major fuel source in alkaline batteries, increased battery capacity by 30 to 40 percent or more.

"We're introducing micromagnets into the electrode structure and creating higher currents," Leddy says. "In the very best case, we can double the capacity of an alkaline battery. And it's not complicated or expensive: it can be done for as little as a penny or two per battery."

In addition to being much less expensive than lithium ion and lead-based acid batteries, Leddy says that manganese dioxide is environmentally benign and domestically available.

"Fuel cells rely on platinum and ruthenium, which come from South Africa and Siberia," she says. "But manganese dioxide and our magnetic materials are easily mined in the United States."

Creating Solutions

Both Kusiak and Leddy are working with the UI Research Foundation on patents related to their research, which ultimately could benefit the University and the world beyond.

"I have a friend, Alanah Fitch at Loyola University in Chicago, who works in Africa, where there is virtually no power grid," says Leddy. "Alanah says it would markedly improve the lives of many people if they had a battery system to power a 40-watt bulb for one hour a day. If our work can change the energy distribution of the planet, can help the U.S. move from dependence on foreign oil to domestic, renewable energy sources, let's do it!"

—LINZEE KULL MCCRAY

Opposite top: Brad Martin (left), an employee of the wind turbine operations and maintenance firm Upwind Solutions, and Bob Hamel, a graduate student and teaching assistant in UI Professor Andrew Kusiak's Wind Power Management class, atop a turbine in Blairsburg, Iowa.

Opposite below: The climb to the top of this 60-meter (196.80 feet) wind turbine is strenuous. Wind turbine heights are expressed in meters because the industry's origins are European.



Left: Graduate student Perry Motsegood assembles a manganese dioxide test electrode inside a clear polycarbonate holder as part of his studies with Johna Leddy, associate professor of chemistry, on increasing the life of alkaline batteries by magnetic modification.

Below: Students in a Wind Power Management class visit a turbine for an opportunity to see in action the theories they've studied in class.



The University of Iowa found itself on the forefront of the sustainability movement when, in 2003, the UI Power Plant began burning oat hulls, a byproduct from the Quaker Oats cereal-making facility in Cedar Rapids, Iowa, to generate steam and electric power. Not only does the innovative project save money for the University, it reduces carbon dioxide emissions and displaces coal in the UI Power Plant.

The University doesn't just talk about sustainability, it practices it. And, says Jonathan Carlson, senior associate to President Sally Mason and chair of the UI Sustainability Steering Committee, it has been for years.

"We haven't been advertising all that we've been doing," he says. "Some of these energy-saving programs have been under way for decades, operating under the radar. We've been doing it because it's the right thing to do, and it's saving us some money."

The list of programs is long, but the "crown jewel" of the campus's energy

conservation efforts is the University's oat hull burning program. The program, which began in 2002, burns biomass from a nearby Quaker Oats plant to generate heat and energy for the campus. The oat hulls are cheaper than coal, saving the University about \$1 million per year, and are considered a renewable, or carbon-neutral, fuel. Currently, the University gets 14 percent of its purchased power from renewable sources, says Liz Christiansen, director of sustainability. She expects to see that number rise as the University continues investigating the use of alternative fuel sources, including wind, hydro-electrics, synthetic gas, and solar power.

Earthly Concerns

University's campus conservation efforts continue and expand

As a member of the Chicago Climate Exchange, The University of Iowa is committed to reducing its greenhouse gas emissions by 6 percent by 2010.

The University also has committed to building all new construction, including the six buildings currently under way, to at least a silver LEED (Leadership in Energy and Environmental Design) standard, Christiansen says. In the future, existing buildings may be retrofitted for "optimal energy conservation."

Recycling and composting have become central to University operations, too. About 30 percent (by weight) of waste is recycled. This includes nearly one ton of food scraps per week, which are composted as the result of a student-proposed residence halls project.

But it's Iowa's longstanding alternative transportation programs that earned the highest grade—an A—from the College Sustainability Report Card, an independent evaluation of campus operations and endowments published by the Sustainable Endowments Institute. The Cambus system provides 3.7 million rides annually, discounted community bus passes are available to the University

community, a 30-year-old employee van pool program saves hundreds of thousands of gallons of gasoline each year, and the University supports bicycling on campus by funding biking programs and providing bicycle parking spaces.

Because of the size of the University, policies like these can make a big impact, says Carlson.

"This is a huge institution," he says. "We have 24,000 employees, 30,000 students. It's like a small city."

And when the University implements sustainable policies, everyone becomes a part of the efforts.

"These are exciting times at The University of Iowa," says Don Guckert, associate vice president and director of Facilities Management. "Sustainability efforts are bringing together students, faculty, staff, alumni, and community partners to solve difficult challenges, explore new frontiers, and position The University of Iowa as a leader in sustainability."

—ANNE KAPLER



The University has identified ways to reduce its carbon footprint at Burge Market Place, a food court in Burge Hall that serves thousands of students and visitors on the east side of campus every day. Aluminum cans and plastic are recycled—the dining facility goes through 100 to 150 cans a day—and kitchen scraps are composted.



Mixed Greens

Courses campuswide connect students to sustainability

Most students who sign up for English Professor Doris Witt's Food Studies and Popular Culture class don't begin the semester with sustainability on their minds. Once they start analyzing books, essays, and videos that address topics like subsidies for corn farmers, 'slow food,' the restaurant industry, and Food Network programming, though, the topic is unavoidable.

"We start off talking about food, but move into sustainability issues in part because that's what the conversations are about out in society," Witt says.

"The goal is not to ensure that they come out with any particular attitude," she adds, "but to get it into their consciousness that sustainability is something they want to be thinking about, and help them think about how the debates play out in popular culture."

The 3-semester-hour class is just one of many at the University that weaves sustainability issues into topical discussions in areas like art, anthropology, engineering, and law.

While several disciplines at Iowa are well known for their work in sustainability, the University is working to make the

topic an integral part of the academic experience for everyone.

"We need to provide all students across the campus the opportunity to be involved in this issue, and learn about this issue, and do it in depth," says Jonathan Carlson, senior associate to the president of the University and chair of the UI Sustainability Steering Committee. "Sustainability is not just the issue of the day. We're going to be talking about it for the next 20 or 30 years."

At last count, the University offered more than 200 courses that touch on sustainability issues.

Many of those courses are in the sciences. The College of Engineering tackles sustainability issues in many of its civil and environmental engineering courses, and you'll hear plenty of sustainability discussions in the College of Liberal Arts and Sciences' biology, environmental sciences, geography, and geoscience departments.

But there are plenty of options in other disciplines, too. A few examples: The art department offers a course in sustainable architecture; in anthropology, students can study the link between

religion and environmental ethics; and there's an economics class that analyzes production, distribution, and consumption of exhaustible and renewable natural resources.

In Fall 2009, the University will pull together these diverse offerings under a new certificate program. Undergraduates who complete 24 semester hours of course work drawing from four broad categories—changing environments and human health; energy, climate, and the built environments; the power of culture and society; and ethics, economics, and public policy—will earn the Certificate in Sustainability.

The interdisciplinary aspect of the certificate is one of its biggest strengths, says interim associate provost for academic administration Barbara Eckstein.

"There's no single course that can fully communicate the connectivity that we want to teach the students," she says. "We think it's important for students to understand what technology innovations can provide as means to solutions for sustainability problems, as well as understand non-technological fixes for change, such as our social structure, our

In April, members of the UI Environmental Coalition student organization prepared the soil for a garden near Hawkeye Court. The on-campus, sustainable garden includes a hoop building to extend the growing season and a rainwater collection system. It will produce vegetable crops for the Iowa Memorial Union and provide hands-on learning opportunities for students working toward the new Certificate of Sustainability. Students' interest in sustainable practice and thought is in evidence both out of the classroom and in: more than 200 University courses in disciplines across campus touch on issues of sustainability.

—ANNE KAPLER



Billboards, coproduced and premiered by Hancher, was the 1993 international ballet event of the year, a smash hit that toured the world to critical and popular acclaim, was broadcast on PBS, and was released on video.

Staging a Comeback

When times are tough, you learn who our friends are. Soon after the flood of June 2008 extensively damaged the University of Iowa Hancher Auditorium/Voxman Music Building complex, UI arts administrators heard from both the Joffrey Ballet and the Civic Center of Greater Des Moines, wondering if there was anything they could do to help.

The result will be a benefit performance by the Joffrey Ballet on Sept. 11, 2009—the night before

the Iowa/Iowa State football game in Ames—in the Civic Center, followed by a reception with the Joffrey dancers. Proceeds of ticket sales will be shared by Hancher and the School of Music.

The program will be: “Kettentanz” by Joffrey co-founder Gerald Arpino; two works that celebrate the music of Richard Rodgers—“... smile with my heart” by UI alumnus Lar Lubovitch and “Carousel (A Dance)” by Christopher Wheeldon; and “Age of Innocence” by New York City Ballet



soloist-turned-choreographer Edward Liang, to music by Philip Glass and Thomas Newman.

“I’ll never forget the success of our evening in Des Moines on June 29, 2007, when the Joffrey Ballet performed in the Western Gateway Park during our River to River tour,” says Chuck Swanson, Hancher’s executive director. “It only seems appropriate that we bring the Joffrey back to Des Moines for another memorable evening. This is a wonderful opportunity for Hancher, the School of Music, and the University due to the generosity of the Joffrey Ballet and the Civic Center of Greater Des Moines. It is a true celebration of the arts in Iowa.”

Collaborations between Hancher, the UI Division of Performing Arts, and the Joffrey Ballet began with the Joffrey’s first Hancher performances in 1974, which were accompanied by an orchestra organized by School of Music faculty.

The School of Music has provided live music for the Joffrey Ballet on several visits to Hancher, most notably for the world premiere performances of Robert Joffrey’s *Nutcracker* in 1987. Residencies by the Joffrey II Dancers in the 1980s were hosted in collaboration with the division’s Department of Dance, which escaped major flood damage.

Joffrey companies have presented more than 100 performances in Hancher, or around the state of Iowa through Hancher’s sponsorship. The most ambitious collaboration with the Joffrey came in the summer of 2007, when beautiful weather

Hancher and the School of Music get boost from Joffrey and friends

welcomed the company to Iowa for the River to River tour of free, outdoor performances in celebration of Hancher’s 35th anniversary.

Hancher’s reputation as a creative center began with the Joffrey Ballet, when the University commissioned James Kudelka’s *The Heart of the Matter* in the 1985–86 season. Its stunning success launched Hancher into an era of artistic entrepreneurship that has included more than 100 works in music, theater, and dance.

The collaboration is best known for two large-scale Hancher-commissioned productions that were both artistic successes and important elements of the Joffrey’s survival through tough financial times: the Robert Joffrey productions of *The Nutcracker* in 1987 and *Billboards* in 1993, America’s first full-length rock ballet, featuring music by Prince and movement by four contemporary choreographers.

The late Gerald Arpino, who co-founded the company and was its artistic director for many years, succinctly summed it up: “Without Iowa, there would be no Joffrey Ballet.” And now, partly because of the ballet’s friendship and generosity, there may again be a Hancher Auditorium and a Music Building at The University of Iowa.

—WINSTON BARCLAY

For ticket information, call the Civic Center of Des Moines, 515-246-2300.



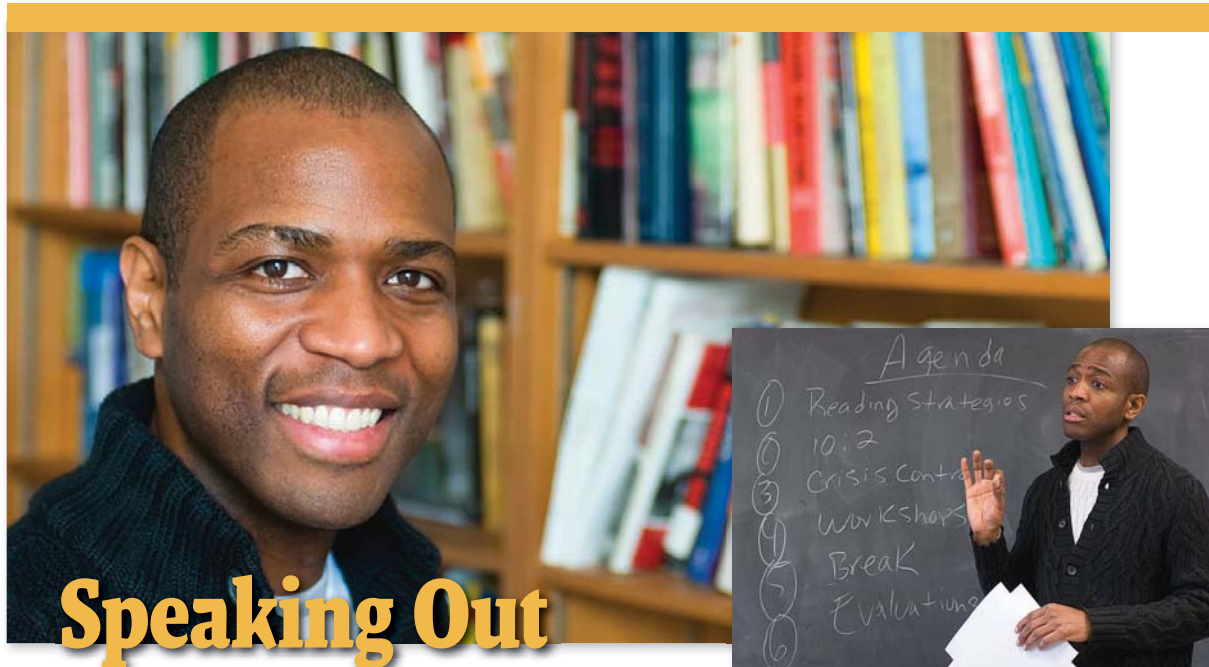
The Joffrey Nutcracker premiere in 1987 prominently featured a corps of Iowa children, who then accompanied the Joffrey to Washington, D.C., to perform with the company in a two-week run at the Kennedy Center. Each return of The Nutcracker has provided an opportunity for another group of Iowa children: The Iowa “alumni” of the Joffrey Nutcracker now total more than 300.



The Hancher-sponsored 2007 River to River tour took the Joffrey to Council Bluffs, Des Moines (top, center), Muscatine, and Cedar Rapids (above) for free outdoor performances.



The River to River tour—celebrating Hancher’s 35th anniversary and the Joffrey’s 50th anniversary—concluded at The University of Iowa, where a massive crowd filled the Hancher lawn on a summer night.



Speaking Out

Professor challenges assumptions based on language and demeanor

University of Iowa students who take a class from Vershawn Ashanti Young often remark on their surprise that the youthful professor grew up in the Chicago housing projects. That's because his demeanor and speaking style don't match what they associate with someone who comes from the ghetto, Young says. "People often read me as middle class," he says. "I am middle class now, but when my students read my work, they're jarred. They cannot believe that's my background."

Young, an assistant professor who holds joint appointments in rhetoric and African American studies, uses this example and others from his life to encourage students, educators, and others to confront assumptions about race, class, language, and performance.

The election of the country's first black president has increased interest in the African American experience in the United States, which Young sees in the growing enrollments in classes he teaches. At Iowa, African American studies was founded in 1969 in the College of Liberal Arts and Sciences, and was the first in the country to offer a master's degree in the field (see box, right).

Young's work explores the African American experience post-Jim Crow, often focusing on how black speaking styles and demeanor shape perceptions and treatment.

"We don't separate people by the color of their skin anymore, but by the way they speak and act," he says, explaining that this phenomenon is the residue of separate-but-equal laws in the United States.

In his work, he draws on experiences from his own life, saying he often felt that he had to downplay his African American characteristics—his loud voice, his tendency to talk about race—in order to be taken seriously in the classroom. At the same time, African Americans challenged his blackness and masculinity because he was a serious student.

But it doesn't have to be that way, Young says. In a book he published in 2007, *Your Average Nigga: Performing Race, Literacy, and Masculinity*, Young argues that African American vernacular should not be shunned in schools. The standard practice of urging black students to abandon the language they speak at home, which he terms "code switching," forces them to check their identity at the school door and leads to anxiety and failure, Young says.

Instead, he urges educators to understand the social and cultural forces that influence black students' rhetorical style, and to embrace this in their teaching.

"Educators are making African American rhetoric sort of like a foreign language, and it isn't," he says. "When students think they have to learn a different language, they resist that because they understand how closely identity is related to language. The thing I want teachers to understand is that students don't have to change their language styles so drastically to succeed—and they shouldn't have to."

The book weaves his research with personal stories, including observations from his time as a teacher and principal in the Chicago Public School District.

Young grew up in the Henry Horner Homes on Chicago's west side. His mother and influential teachers pushed him to do well in school, and he did, earning three advanced degrees: master's degrees in performance studies and educational administration and a doctorate in English.

In addition to teaching undergraduates in African American studies and rhetoric, Young draws on his theatrical background, traveling around the country giving performances based on his book.

He also has three books in the works. In a forthcoming book, *Exaggerated Americans: Gender and Racial Anxiety Among the Black Middle Class*, Young uses Barack and Michelle Obama to illustrate how prominent African Americans must change their demeanor in order to be accepted by the mainstream. He points to the 2008 campaign, when Michelle Obama, for instance, sanitized aspects of her black rhetorical style after being criticized as being too direct.

Having the Obamas in the spotlight will create more interest in the issues that he studies, Young says. But having a prominent African American in power could create a backlash too, he says.

"Now that we have a black man in the White House, some people are going to say, 'you all have arrived, and we don't need to talk about race anymore,'" he says. "Unfortunately, a lot of people are going to agree. People committed to ethnic studies are going to be called upon to make a case for why we do what we do."

—MADELAINE JEROUSEK-SPRITH

New energy in African American studies

Iowa's African American Studies Program is nearly 40 years old. But a mix of acclaimed scholars and young faculty, a curriculum that stretches from classic novels to hip hop, and a blend of academic rigor and one-on-one mentoring have brought it new vitality.

Founded in 1969, Iowa's program went on to offer the nation's first master's degree in the field. Today it provides a multifaceted view of history and culture, introducing some students to African American life while prompting others to see their own lives from new angles. In addition to classes offered by University faculty, a twice-yearly seminar series brings in African American scholars from around the nation.

"Even if you're African American, it challenges you to think beyond what you've been told or seen in the media," says Quinneta Claytor (below), a third year student from Des Moines earning an African American studies minor. Recent graduates have parlayed their experience into jobs with Teach for America, social policy think tanks, businesses, and even pro sports teams.

The program draws faculty from many fields. But with particular strength in areas like English, journalism, theatre arts, and rhetoric, it's developing a focus that reflects Iowa's literary reputation.

"A program that embodies a passionate exchange of ideas is the most exciting thing a student can look for," says Michael Hill, an assistant professor of English and African American studies. "That's what they'll find here."



PHOTOS BY TOM JORGENSEN



A Buggy Birthday for Lakeside Lab

Students young and old won't be the only ones swarming Iowa Lakeside Laboratory this summer.

The Big Bugs exhibit by sculptor David Rogers will be on display at the biological field station in northwest Iowa to commemorate the lab's centennial—and organizers hope to attract other visitors as well.

The gargantuan insect sculptures made of all natural materials will loom over the 147-acre campus near West Okoboji Lake July 4 through Oct. 4. Also part of the centennial celebration will be a public birthday party on July 11, featuring tours and science demonstrations, as well as a reunion for lab alumni, faculty, and staff Aug. 1 and 2.

Lakeside Lab, one of the nation's first biological field stations, was founded as a private summer field station in 1909 by then-University of Iowa professor Thomas Macbride, who later became UI president. Today, the lab is owned by the State of Iowa and operated by the Board of Regents, State of Iowa.

The lab's focus has evolved over the past 100 years, says executive director Peter van der Linden.

"In Lakeside's early years, the focus was on inventorying and documenting the flora and fauna of our region," he says. "Now the emphasis is on understanding the interrelationships among living things and their environment—ecology."

Designated as a Regents Resource Center, Lakeside Lab serves graduate and undergraduate students at the three state universities and offers summer course work in the biological and physical sciences to students from around the world. The field-oriented classes range from one to four weeks

and include Freshwater Algae, Prairie Ecology, Global Climate Change, and the Ecology and Systematics of Diatoms, among others.

In addition to its academic and research components, the lab serves the state through water-quality monitoring and analysis, and provides educational programming for the general public, including day camps for children, monthly discussions of environmental topics, and weekly faculty lectures. A writers-in-residence program invites professional writers to live on the campus and conduct workshops and readings.

A new side mission, notes van der Linden, also has emerged: to combat nature deficit disorder.

"There is concern that children are losing their connection with nature because they spend too much time indoors with TV, computers, and video games, and this contributes to obesity, depression, and other problems," he explains. "Lakeside's summer camps and family programs provide a hands-on experience that engages children directly with nature, establishing ties and interests that can last a lifetime. We also collaborate with local agencies to host an annual early-learning conference, which instructs preschool and day-care providers in how to connect children with nature."

The centerpiece of the centennial—the Big Bugs exhibit—combines art and science and appeals to people of all ages, van der Linden adds.

The Lakeside Lab campus is open to the public year-round during daylight hours. Admission is free. For more information, see www.lakesidelab.org.

—SARA EPSTEIN MONINGER

CLAYTOR PHOTO BY TOM JORGENSEN, BIG BUGS PHOTO © JAN FERRIS

A Legacy of Literature

Longtime Iowa Review editor steps down

When David Hamilton agreed to become the editor for the *Iowa Review*, The University of Iowa's magazine of fiction, poetry, and informal essay, he thought of the job as something he might do for 10 years.

That was in 1977. "I had no idea I would stick with it so long," Hamilton, professor of English in the College of Liberal Arts and Sciences, says with a grin. "I told myself that at some point I would have to be doing something else. And then I turned 50... and then 60..."

Hamilton has been with the *Iowa Review* for 32 years—nearly the entire time the magazine has been in print. 2009 marks the 39th year of the *Review's* continuous publication, and it also will see the passing of the torch when a new editor succeeds Hamilton later this year.

Each year the *Iowa Review* puts out three issues—in April, August, and December—and Hamilton has been responsible for mining the finest literary works from the thousands of unsolicited manuscripts that cross his desk each year.

The words published in the *Iowa Review* end up in bookstores, schools, and libraries across the country. Each issue has a print run approaching 3,000. About 1,000 of those are sent to subscribers; another 1,000 to 1,500 go to bookstore chains. A few hundred more are specially ordered by independent bookstores. But circulation numbers need not be large to build a substantial reputation.

"In writing circles in this country, the *Iowa Review* is a very desirable place to publish," Hamilton says. "Another editor whose work appeared in our magazine this year referred to the *Iowa Review* as one of the 'big littles,' and was thrilled to be published in one. It's interesting how something relatively small can resonate."

Having ties to the University and the surrounding community doesn't hurt the *Iowa Review's* status. In November, Iowa City became just the third city in the world to receive the City of Literature designation from UNESCO, the United Nations Educational, Scientific, and Cultural Organization; the University is home to the renowned Iowa Writers' Workshop, the Nonfiction Writing Program, the International Writing Program, the Playwrights Workshop, and a creative writing track for undergraduates.

Hamilton didn't pursue the task of climbing the mountains of manuscripts found in the *Iowa Review* office; the job came to him early in his career at the University. Legend around English-Philosophy Building says that the department brass went down the faculty

roster looking for a possible candidate to fill the magazine's vacancy, and they had an "aha!" moment when they reached Hamilton's name.

"Somebody guessed I would be interested, or willing to give it a try," Hamilton says.

So in the fall of 1977, Hamilton adjusted his teaching load and began his new life as *Review* editor. He got to know the graduate students who assisted with editorial duties. He learned the ropes of the production side of the publishing business. "The mechanics were much different at the time," he says.

And, of course, he read manuscript upon manuscript. But Hamilton never viewed the large volume of submissions as a burden; in his opinion, the steady stream of writing formed the lifeblood of the magazine.

"That should be the passion of the editor, having interest in the writing that is out there and being responsive to it," Hamilton says. "As a state university, open in theory to the citizenry, there ought to be a magazine where people who think of themselves as writers can try out their work."

The *Review* features famous or reputed writers in each issue, but the zest of the publication comes from creating that sense of family with the undiscovered writer.

"When you say yes to a stranger—not a friend, not an acquaintance, not a neighbor—that's just a very nice thing culturally," Hamilton says. "It means they are able to communicate with people outside of their inner circle, outside their comfort zone, and through that we are able to see strangers relatively clearly."

"That junction of the anonymous reader meeting the anonymous writer is an interesting and vital connection. It's an enlargement of anybody's world. That's what we're striving to do."



—CHRISTOPHER CLAIR

PHOTO BY KIRK MURRAY



Cura Kazor (above, right) knows what she wants to do once she graduates from The University of Iowa: work as a paraeducator to help other students with cognitive disabilities succeed.

The 21-year-old from Waukee, Iowa, is one of the first 18 UI students enrolled in the College of Education's Realizing Educational and Career Hopes (REACH) program, a two-year certificate program designed to help college-age students with cognitive and learning disabilities develop life skills and transition to successful employment and full participation in the community.

Through the REACH program, students take core classes in academic enrichment, career development, and life and social skills for independent living and are fully integrated into University life, including living in the residence halls.

Kazor knows she is fortunate to be one of the first students who will benefit from the program. She is excited about the opportunity to gain more independence and career skills.

Kazor had a stroke when she was six months old, affecting her ability to process information and think things through completely. Through REACH, she's taking classes on everything from financial management to human relations. She does volunteer work, has an internship, and participates in many social activities.

REACH interim director Jo Hendrickson says that this program benefits not just the 12 men and six women in the program—who hail from Iowa, Illinois, Missouri, Minnesota, and Nevada—but also College of Education students pursuing careers in education, rehabilitation counseling, counseling psychology, and other areas, who are actively involved with REACH students, working as

PHOTO BY TOM JORGENSEN

REACH-ing Out

Program helps students with cognitive disabilities succeed

tutors, mentors, activity leaders, counselors, and group facilitators.

The program debuted in October 2007, thanks to support by private gift commitments in the amount of \$1.4 million and leadership from former lieutenant governor Sally Pederson, who also chairs the REACH advisory board.

REACH received a major boost when The Principal Financial Group Foundation Inc. pledged \$319,000 to support the preparation and transition of REACH students to new career opportunities with Iowa business and develop partnerships with an array of employers.

Janis Mendenhall, Career Development Coordinator and a UI alumna with an undergraduate degree in sociology and a master's degree in rehabilitation counseling, says her main role is to provide support for students to successfully transition from the REACH program to independent living and successful employment.

"Students explore careers through classroom discussion, activities, and homework, and complete two or three internships during the two-year program."

Hendrickson says she and her staff also will work with employers and businesses to examine and modify their jobs. Mendenhall describes this as "job carving," where duties are rearranged among positions based on skills and abilities of individuals.

Thus the REACH program also benefits the state and economy, Hendrickson says, by ensuring a more qualified and productive workforce.

"Increasing accessibility to jobs not typically available to students with disabilities and creating a larger and more diverse workforce is good for students, good for business, and good for the state of Iowa," Hendrickson says.

Hendrickson adds that REACH students have a wide range of competencies, skills, and talents.

"Each has the potential to succeed in a wider array of jobs than those typically considered by employers and educators," Hendrickson says. "Working together with a fresh eye and new technologies, we should be able to modify traditional positions and design niche jobs well suited to the talents and interests of students with varied disabilities and well matched with the needs of future workplaces."

For more information on REACH, visit www.education.uiowa.edu/reach.

— LOIS J. GRAY

UI Graduate College Alumna Wins Nation's Top Dissertation Award

University of Iowa alumna Jessica Horst has won the nation's most prestigious honor for doctoral dissertations, the Council of Graduate Schools (CGS)/UMI Distinguished Dissertation Award. Horst, who earned her doctorate in psychology in 2007, won the award for her dissertation "Turning Novel Names into Known Names," a study of how children learn language. Horst's study was selected above all other social science dissertations completed nationally from July 1, 2006–June 30, 2008.

Horst's win means that Iowa has garnered more national awards than any other institution, public or private. With this year's award, Iowa racks up five wins and surpasses Yale University, which has had four winners.

The other UI recipients of the national prize were: Michael Chasar, English, most outstanding dissertation in the nation in the humanities, 2008; Susan Behrends Frank, art history, most outstanding dissertation in the humanities, 1997; Matthew P. Anderson, physiology and biophysics, most outstanding dissertation in the biological sciences, 1993; and David Lasocki, music, most outstanding dissertation in the nation in the humanities, 1984. Ten other UI nominees have been finalists in the national dissertation competition.

Activist, Nov. 1 Survivor Remembered

In April, the University honored the life and memory of Miya Rodolfo-Sioson, the lone survivor of the Nov. 1, 1991 shootings on the UI campus. Rodolfo-Sioson, 40, died of breast cancer on Dec. 3, 2008.

As a UI student, Rodolfo-Siyoson was a work-study student at the Women's Resource and Action Center (WRAC), chair of the UI Lecture Committee, and an active member of several groups promoting human rights. The shooting left Rodolfo-Sioson paralyzed from the neck down. After moving to Berkeley, Calif., in 1996, she worked with a student exchange organization arranging home stays for European students and dedicated her life to advancing the rights of the disabled.

The UI events in her honor included a photo exhibition at the WRAC, a commemoration and wreath-laying ceremony attended by members of the Rodolfo-Sioson family, and the screening of a one-hour documentary film, *Miya of the Quiet Strength*. Information about the film is available at www.miyafilm.com.



Effects of Smoking Linked to Accelerated Aging Protein

A University of Iowa study has made a compelling connection between a rare, hereditary premature aging disease and cell damage that comes from smoking. The study results point to possible therapeutic targets for smoking-related diseases.

The investigation found that a key protein that is lost in Werner's syndrome, a disease that causes rapid aging, is decreased in smokers with emphysema, and this decrease harms lung cells that normally heal wounds. While people know that smoking is bad for health, not all the mechanisms by which smoke damages the body are fully understood, says Toru Nyunoya, assistant professor of internal medicine at the Carver College of Medicine.

"Smoking can accelerate the aging process and shorten the lifespan by an average of more than 10 years. We focused on what happens within the lungs because of the similar aging effects, including atherosclerotic diseases and cancer, seen in people with Werner's syndrome and people who smoke," says Nyunoya. The study findings appeared in the Feb. 6 *American Journal of Respiratory and Critical Care Medicine*.

Gene Finding May Lead to Male Contraceptive

A newly discovered genetic abnormality could be the key to developing a male contraceptive, according to Michael Hildebrand, a postdoctoral researcher in otolaryngology at the Carver College of Medicine.

"We have identified CATSPER1 as a gene that is involved in nonsyndromic male infertility in humans, a finding

which could lead to future infertility therapies that replace the gene or the protein," Hildebrand says. "But, perhaps even more important, this finding could have implications for male contraception."

The research team, which included scientists from Iran, discovered the male infertility gene while studying the genetics of families from Iran, where there are population groups with relatively high rates of disease-causing gene mutations. Although the team's research focuses on identifying genetic causes of deafness, collecting genetic information from this population allowed the researchers to identify two families in which male infertility that was not part of a syndrome appeared to be inherited.

Summer Jobs May Help Prevent Suicidal Tendencies in At-Risk Teens

A University of Iowa study found that when a friend of a friend attempts suicide, at-risk teens are more likely to seriously consider doing so. But at-risk teens are less likely to be suicidal if they hold summer jobs.

In fact, summer employment is more of a deterrent than holding a job during the school year, attending church, participating in sports, or living in a two-parent home, according to the research by Rob Baller, associate professor of sociology in the College of Liberal Arts and Sciences, who coauthored the study with Kelly Richardson of the Iowa City Veterans Affairs Medical Center.

"Summer employment is thought to be beneficial because it creates self-esteem while reducing isolation and substance abuse, and it does not conflict with school work in the way a job during the school year could," Baller says.

Hancher-Voxman-Clapp and Art Building Slated for Replacement

The Board of Regents, State of Iowa, has approved The University of Iowa's request to replace several flood-damaged facilities at new sites on higher ground.

At its April meeting, the board unanimously accepted recommendations to relocate Hancher Auditorium, Voxman Music Building, and Clapp Rectal Hall. The original Art Building complex also will be rebuilt in a new location. The buildings have been closed since last summer.

University planners have suggested possible sites for Hancher-Voxman-Clapp, expressing interest in keeping the buildings united as part of an arts campus. The University will provide more information about building sites at the Regents' June meeting.

The Federal Emergency Management Agency (FEMA) gave the University and the Regents the option of repairing the complexes in place or moving them to new sites. Under

either scenario, FEMA would cover 90 percent of building costs. The recommendation to relocate took into account costs, as well as potential future flooding, problems insuring buildings on flood plains, and expansion opportunities.

Relocating and upgrading the facilities is projected to cost about \$336 million—\$276 million for a new Hancher-Voxman-Clapp and \$60 million to replace the Art Building. The University would fund approximately \$134 million.

Private gifts from alumni and friends will play a major role in rebuilding plans, and the University and UI Foundation are in the early planning stages for a fund-raising campaign designed to benefit the entire arts campus.

Hancher continues to program music, dance, theater, and other events at alternate sites throughout the community, while many arts programs have moved to an alternate facility, Studio Arts, a repurposed former Menards store.



University Museum's Artworks Return to Iowa

A partnership between the University of Iowa Museum of Art (UIMA) and the Figge Art Museum in Davenport, Iowa, means that modern masterworks from the UIMA, the majority of which have been in storage since their evacuation from floodwater in June 2008, will once again be accessible to the public. In March, staff installed in the Figge more than 20 paintings from the UIMA collection; here Sean O'Harrow (left), executive director of the Figge, talks with Pamela White, interim director of the UIMA, as workers install *Mural* by Jackson Pollock. While conversations continue about a new home for the UIMA, the University will use the Figge and campus venues to exhibit a portion of its collection. Also, nearly 250 works on paper from the UIMA collection are available for view and class study in the UI Libraries Special Collections (by appointment).



School Buses Among Safest Ways to Travel in Iowa

University of Iowa researchers recently published findings that may put some parents at ease: school buses are among the safest forms of road transportation in Iowa.

Jingzhen (Ginger) Yang, assistant professor of community and behavioral health in the College of Public Health, and colleagues examined the incidence of school bus crashes in a study published in *Accident Analysis and Prevention*.

On average, there were about 13 nonfatal injuries and less than one fatality per 100 million bus miles traveled. When compared with overall vehicle crash fatality and injury rates, fatalities in school bus crashes were more than three times less likely, and injuries during school bus crashes were more than five times less likely. The study also found that passenger vehicle drivers and passengers were more likely to be the cause of the crashes and were more likely to be injured in school bus collisions.

A Breath of Fresh Air

A team of University of Iowa researchers received a grant from the U.S. Environmental Protection Agency to conduct a four-year study to identify some of the most hazardous air pollutants in major U.S. cities.

The project will develop techniques to identify harmful particulate matter and its sources in urban air, according to Charles Stanier, assistant professor of chemical and biochemical engineering in the College of Engineering.

"The objective is to bring together experts in the health effects of particulate matter with experts in the modeling of air quality concentrations," Stanier says.

"In the past, studies of the health effects of particulate matter have relied on air quality monitor data that is limited to one sample a day, and sometimes the monitors are located dozens of miles

away from the individual with the health effect," he says. "We intend to demonstrate some advanced techniques for combining measurements and simulations into a hybrid product that can be of use to air pollution health scientists."

Stanier adds that the project builds on air quality modeling techniques developed in part at the University of Iowa Center for Global and Regional Environmental Research.

Grant Aims to Keep Kids Interested in Science

More Iowa students will improve their science literacy, thanks to a four-year, \$4.8 million U.S. Department of Education Institute of Education Sciences grant awarded to a team of University of Iowa and Iowa State University researchers.

Brian Hand, science education professor in the College of Education, will work with William Therrien, assistant professor in the College of Education who researches special education, and Mack Shelley, ISU professor of political science and statistics, to field test the approach of the Science Writing Heuristic—research that helps students learn about and use scientific arguments.

About 7,000 fourth- through sixth-grade students in 48 urban and rural Iowa elementary schools from across the state will be asked to pose questions, make claims, and defend their claims with evidence—an argument structure that Hand says doesn't currently exist in most schools. For example, students might use these tools to explore the ideal conditions in which plants thrive.

The researchers hope the program will directly address the critical national need for science literacy and improved science education—and also cultivate in students the logic and problem-solving skills sought by a wide range of employers.



Love, Attraction Win Out in Mate Preference

Men are increasingly interested in educated women and less concerned about chastity, according to a recent UI survey, while women are increasingly interested in a man who wants a family and less concerned about whether he's always Mr. Nice Guy.

Since the 1930s, researchers have been asking college students to rank a list of 18 characteristics they'd prefer in a mate. Christine Whelan, visiting associate professor of sociology, and graduate student Christie Boxer analyzed results of a 2008 survey of more than 1,100 undergraduates at four universities, including Iowa, comparing the results to past mate-preference studies.

Today's young adults rank love and attraction as most important; a few generations ago it didn't even make the top three. Male respondents in the 1930s were seeking a dependable, kind lady who had skills in the kitchen, and chastity was more important than intelligence. Now, guys look for love, brains, and beauty.

Emotional stability, dependable character, and ambition ranked as the

top three characteristics 1930s women wanted in a man. Today, women put love at the top of the list, followed by dependability and emotional stability.

Inflammation Linked to Calcium Signaling in Heart Attack

Increased inflammation following a heart attack has been associated with worse outcomes for the patient. A new study led by Iowa researchers has found an unexpected link between this inflammation in heart muscle following a heart attack and a previously known enzyme called calcium/calmodulin-dependent protein kinase II, or CaM kinase II.

The findings also reveal the involvement of an immune system gene—complement factor B—that has been implicated in other inflammatory diseases. The study, led by Carver College of Medicine research scientist Madhu Singh and published online in the *Journal of Clinical Investigation*, suggests that CaM kinase II inhibition could be a therapeutic target in heart disease, but by previously unknown pathways.



Home sweep home—Winning a doubleheader against South Dakota State University to kick off Iowa's home season in March was just icing on the cake for the Hawkeye softball squad. The team's home stadium, Pearl Field, was submerged in floodwater in 2008, requiring a complete renovation of the facility. The locker rooms, concession stands, restrooms, dugouts, playing surface, warm-up areas, and outfield fencing were all rebuilt in time for the home opener.