









Office of University Relations 300 PCO. Suite 370 lowa City, Iowa 52242-2500

### ACADEMIC SCIENCE

### THE REWARDS OF RESEARCH—page 1

A life spent unraveling life's mysteries

#### BUILDING BLOCKS—page 5

Basic science key to fruitful investigations

### **TEAMING UP—pages 6-7**

There's strength in numbers on the road to innovation

#### TEACHING MATTERS—pages 10-11

Meet three of Iowa's exceptional professors

#### ONE FOR THE BOOKS—page 13

University of Iowa Press celebrates 40 years of publishing

#### CULTIVATING LEADERS—page 14

Institute invests in the skills of undergraduate





Some 4,000 students—most of them new to the University—kicked off the fall semester with a convocation celebration on the lawn west of Old Capitol. The event revived the tradition of introducing students to each other, to UI leaders, and to their school. Speakers included first-year student Simone Renault of Clinton, Iowa, who vied for the speaking slot in a University-sponsored YouTube contest. UI President Sally Mason urged students to make the most of their lowa experience and invited them to a block party at the President's Residence immediately following the event. The convocation is one of several related initiatives that aim to build community and help new students, in particular, feel at home at the University.

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## Driven to Discover: What makes scientists tick

cientists love finding something new. Solving mysteries and putting together pieces of a complex puzzle are the chief rewards of the scientific life. The scientific method suggesting an idea about the way something works, then using measurable and observable methods to test it-might seem straightforward enough. But good science rarely works that way.

"People see shows like *CSI*, where difficult questions are quickly solved and mysteries are wrapped up in a one-hour episode," says Mark Blumberg, professor of psychology in the College of Liberal Arts and Sciences. "They don't see the obsession, the struggle, the reading, the thinking, the mistakes. The path to discovery almost never follows a straight line. It's typically more like a drunken walk."

The motivations to pursue that circuitous path are as varied as scientists themselves, and University of Iowa researchers study everything from black holes to bioinformatics to behavior. But there is a common thread—the sense that science is a rewarding pursuit worth sharing.

"Seeing something never before seen, sharing that excitement with students, watching them conduct an experiment on their own for the first time—that's what gets me up in the morning," Blumberg says.

Those mornings are full of variety, as the lives of academic scientists resemble those of small business owners: they must fund their work by writing and submitting grants, a highly competitive process. They also manage laboratory staff and operations, design experiments write and publish research papers, and teach. Many see patients in clinic and hospital settings. With this kind of hectic schedule, what's the appeal of academic science?

PHOTO BY TOM JORGENSEN

"I tell my students that in the pharmaceutical industry your role is very defined, fulfilling one aspect of the large process of developing a drug," says Aliasger Salem, associate professor of pharmaceutics in the College of Pharmacy, whose research involves developing vaccines that stimulate an immune response against cancer cells. "In academia, you take an idea from conception to finish. You can follow your passion. There are many long hours, but it's worth it for the intellectual freedom."

"This is not an 8-to-5 job," says Beverly Davidson, Carver Biomedical Research Chair and professor of internal medicine in the Carver College of Medicine, who studies the molecular underpinnings of fatal neurological diseases. "But if you have drive and a passion for science, if you're a creative thinker with a strong work ethic, if you have a flair for communicating your ideas on paper and orally, and if you can maintain your enthusiasm through downturns, this is exciting work."

Diane Slusarski, associate professor of biology in the College of Liberal Arts and Sciences, whose research includes studying calcium signaling in zebra fish, adds a couple more important qualities for thriving in academics.

"You need to be self-motivated, curious, and not afraid to ask questions," she says. And she reiterates the need for a thick skin. "I tell my graduate students that experiments take time and energy, and that they won't work more often than they will."

Learning from those failed experiments is another hallmark of a successful scientist.

"Every day we make new observations and collect new data, and those discoveries (continued on page 4)

For more on academic science and scientists at the University, see stories on pages 5–7.



In summer 2009, academic scientist Aliasger Salem, associate professor of pharmaceutics in the College of Pharmacy, worked with UI sophomore and chemistry major Zsalanda Dixon (center) and Keyana Tyree (right), a senior chemistry major from Pennsylvania's Lincoln University. Dixon and Tyree are members, respectively, of the Iowa Biosciences Program and the Iowa-Lincoln Prostate Cancer program, which identify academically talented undergraduate students from underrepresented minorities with aspirations for a research career and offer them training necessary for entry into doctoral programs in the biomedical, behavioral, and biophysical sciences. "I love teaching students and helping them understand the inquisitive nature of the profession," says Salem. "We're trying to answer questions that have an impact on our society."

### For the Record

"We don't expect our auto insurance to pay for the costs of replacing a burned out headlight."

Ty Leverty, assistant professor of finance in the Tippie College of Business, offering an example of how health insurance differs from other types of insurance, such as auto insurance (UPI, Sept. 14, 2009).

"You start with a little pain, then everything north and south of it has to compensate. It's not enough to concentrate on the knee."

JOHN J. CALLAGHAN, PROFESSOR OF ORTHOPAEDIC SURGERY IN THE CARVER COLLEGE OF MEDICINE, EXPLAINING THE IMPORTANCE WHEN TREATING KNEE PAIN OF EXERCISES THAT STRENGTHEN THE ENTIRE LEG AND HIP (SAN JOSE MERCURY NEWS, Aug. 26, 2009).

"At what point does the fact that someone lives in a particular neighborhood or someone has a bad credit score become a way of eliminating people for illegal grounds? Basically, the courts don't protect against proxy discrimination."

ANGELA ONWUACHI-WILLIG, PROFESSOR IN THE COLLEGE OF LAW, NOTING THAT THE UNEMPLOYED FACE YET ANOTHER CHALLENGE AS MORE COMPANIES USE DETAILED CREDIT CHECKS TO SCREEN JOB PROSPECTS (NEW YORK TIMES, AUG. 7, 2009).

### **UI News Services Offers Podcasts**

Interested in maintaining emotional well-being in later life, changes in journalism, or identifying and dealing with bullying? There's a podcast for that. UI News Services has created a monthly series of conversations with UI experts on topics that range from wind energy to sports physicals. To see what's available, visit http://news.uiowa.edu/iowa-insights/index.html. For past podcasts and other multimedia features, click on the "Full Multimedia Archive" at the bottom of the page.



### **Arts Campus Rebuilding Continues**

More than a year after the June 2008 floods, it's school-as-usual across most of the UI campus. And the hardest hit spots—the arts campus, in particular—continue to make strides toward rebuilding.

The Theatre Arts Building reopened in January 2009, while the School of Music has found a temporary home in Clinton Street Music, the former Museum of Art (now called Music West–Interim Building), and the University Capitol Centre (above). These facilities include state-of-the-art Wenger practice rooms equipped with recording capabilities and acoustical manipulations.

The UI Museum of Art has opened UIMA@IMU in the former Richey Ballroom on the Iowa Memorial Union's third floor. More than 500 works of art are on display in the climate-controlled gallery. Objects from the UIMA collection also will be exhibited in the Levitt Center for University Advancement's Stanley Gallery and the IMU Stanley Gallery. Other works from the UIMA collection are on view at the Figge Art Museum in Davenport, Iowa.

The University is negotiating to obtain property along River Street to relocate and rebuild Art Building East: it could be complete within two to three years. Art Building West, also significantly flooded in 2008, will be recovered and protected from future flooding. Once Federal Emergency Management Agency approval is established, the completion of the design and the resulting construction will take roughly one-and-a-half years.

### Pick One Program Encourages First-Year Student Involvement

Research on student success shows that involvement in academic and cocurricular activities typically improves a student's overall college experience. Involved students have more opportunities to make friends, develop a sense of community, and—most important—make meaningful connections between their academic and nonacademic experiences.

To that end, the University is encouraging first-year students to get involved in campus activities through the new Pick One program.

Students are urged to choose at least one activity during their first semester to enrich their experience at Iowa. Qualifying Pick One activities include performing arts groups, honors programs, fraternities, sororities, student leadership programs, multicultural activities, volunteering, and campus employment. Students can choose from more than 400 recognized student organizations on campus.

### **UI Hospital Still on Top**

For the 20th time in 20 years, UI Hospitals and Clinics is on the list of leading hospitals. "The Best Hospitals in America" listing is compiled annually by *U.S.News & World Report*. Seven UI specialties are ranked overall, including otolaryngology, ophthalmology, and orthopaedics, which rank among the nation's top 10 in their respective categories.

### **College of Dentistry Begins Transformation**

Leaders of the University of Iowa College of Dentistry are moving forward with plans to transform their facility after receiving approval from the Board of Regents, State of Iowa, at its September meeting.

Officials are planning to break ground on a 33,400 square-foot addition to the College of Dentistry by early 2010, followed by renovations of the current clinical areas in 2012 and 2013. The transformed facility will provide world-class clinical teaching environments that will help students gain experience with state-of-the-art equipment and techniques.

The College of Dentistry first opened in 1882. The current facility has been in use since 1973. Approximately 80 percent of dentists in the state received their education at the college, which admits 80 students each year.



Timothy Barrett, research scientist and adjunct professor of papermaking at the UI Center for the Book, is a 2009 recipient of a fellowship from the John D. and Catherine T. MacArthur Foundation. The \$500,000 MacArthur Fellowships, popularly known as the "genius grants," are awarded to individuals in a variety of fields who have shown exceptional originality and dedication to their creative pursuits.

The recipients learn of the grants "out of the blue" with a phone call from the foundation. The grants, with no strings attached, support the fellows for five years. The unusual level of independence afforded to fellows underscores the spirit of freedom intrinsic to creative endeavors.

"People have asked me how it feels to receive this award," Barrett said. "More than the money, I have to say I've been moved by the recognition. I've spent most of my career focused on the history, technique, science, and aesthetics of hand papermaking. I've been lucky to be a part of the UI Center for the Book for the last 23 years because, in general, career tracks in my specialty are few and far between. So it is very much to the MacArthur Foundation's credit that they acknowledge creativity in new fields of study, as well as in established disciplines."

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.

### Forbes Ranking Puts Tippie MBA in Elite Group

The University of Iowa's Tippie School of Management is one of the 20 top full-time MBA programs in the country, and offers one of the best values, according to a new survey by *Forbes* magazine.

The business monthly's biennial survey of full-time MBA programs ranks the Tippie MBA at number 20 in the country, and one of the best values in that group. The magazine found Tippie has the sixth-lowest payback time at 4.2 years. Only BYU, Cornell, Dartmouth, Rollins, and Harvard graduates take less time to pay back their tuition.

Forbes' survey is determined by the return on investment that graduates have achieved five years after graduating. The magazine based its rankings on surveys of about 4,100 alumni of 103 schools.



### **Giving for University Increases**

Despite the worst economic downturn in decades, contributors to the University of Iowa Foundation and the University made more than \$203 million in gifts and gift commitments during the fiscal year that ended June 30, 2009, an 8.2 percent increase in giving over the 2008 fiscal year.

One gift that helped account for the increase was the \$25 million pledge from the Fraternal Order of Eagles for a new diabetes research center (see page 5).

Fiscal year 2009 was only the second time that combined University and UI Foundation gift productivity passed the \$200 million mark. The foundation's cumulative fundraising productivity since its formation in 1956 also passed the \$2 billion mark in fiscal 2009.



eplacements for the flood-damaged performing and visual arts buildings won't simply signal the University's lasting dedication to the arts. They'll also exemplify a commitment to smarter, greener facilities.

"These buildings will make a mark for the University and the state of Iowa with regard to green design principles," says Rod Lehnertz, director of Planning, Design, and Construction for Facilities Management. Project goals reflect growing emphasis on energy efficiency and environmental stewardship.

In April, the University announced a \$336 million plan to rebuild Voxman Music Building, Clapp Recital Hall, and Hancher Auditorium, as well as the 1930s-era Art Building. The Federal Emergency Management Agency had offered funds for either replacement buildings or repairs to the existing structures, provided they could be protected from future floods.

The decision to rebuild paves the way for upgraded facilities that meet contemporary standards, including the new Iowa Board of Regents target for all University construction projects—a minimum certification level of silver under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

Developed by the U.S. Green Building Council, the LEED system awards points to projects across a spectrum of criteria, including site selection, water use, energy efficiency, materials, air quality and comfort, and innovation.

Basic LEED certification requires at least 40 points on a 100-point scale. Projects receive silver, gold, or platinum status if they earn 50, 60, or 80 points, respectively.

"The payback on LEED silver has almost set the standard," Lehnertz says. "In terms of energy savings, designing for silver certification is smarter than not pursuing LEED at all."

Saving money isn't the only rationale for building green.

"LEED standards take into account storm-water management, which can help reduce flood conditions," says Liz Christiansen, director of the UI Office of Sustainability. "Productivity in LEED buildings tends to be higher, and LEED materials guidelines help keep construction waste out of the landfill and support demand for recycled building products."

The University has additional building projects targeted for LEED certification: Beckwith Boathouse, which opened this fall (above); the future home of the College of Public Health; and the renovation of the Old Music Building.

New arts buildings offer opportunities to aim even higher. "We're shooting for the highest level of LEED certification the buildings and the sites will physically allow," Lehnertz says of plans to construct new homes for the School of Music and Hancher Auditorium, in particular. "This project isn't intended just to be green for green's sake—it's intended to stand for sustainability and a long-term investment."

The University is building its in-house LEED expertise, too. This year, 12 Facilities Management staff obtained LEED accreditation, bringing the department's total to 18.

"This enhances our capacity to oversee design and construction for major buildings," Christiansen says. "But it also promotes sustainable decisions in all kinds of projects and a shift in campus culture."

For more information on these and other postflood building projects, visit www.facilities.uiowa.edu/facilities-closings.htm.

-LIN LARSO

The media toured the P. Sue Beckwith Boathouse, located on the Iowa River across from Mayflower Hall, one day before its September dedication. Designed to withstand flooding, the building is home to the largest Hawkeye women's team and features a rowing tank that moves water at various training speeds (lower photo), rowing machines, a locker room, and boat bays (upper photo).

2 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 Photos by tim schoon / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by tim school / illustration by claudia mcgehee Photos by t

(continued from page 1) might mean that what I assumed was true yesterday isn't right," says John Kirby, associate professor of microbiology in the Carver College of Medicine, who studies how bacteria sense and respond to their environment. "It's very humbling and sometimes painful, but it's also exciting—it means we know more about that subject, and that past experiments can be reinterpreted in a new light."

Nonscientists may have difficulty understanding the importance of specialized research topics like Kirby's or Slusarski's. But time and again, academic scientists cite earlier research findings, on sometimes unrelated topics, as important in helping them move forward (see story page 5).

Aliasger Salem puts it this way: "I'm often harnessing the basic science work done by many before me," he says. "I'm interested in technological development, in formulating drugs, but this work is often built on basic science."

Why do hundreds of scientists find Iowa the perfect place to engage in the art of discovery?

Kirby cites the Midwestern work ethic. "Running a lab is a little like coaching a sports team," he says. "It's up to me to figure out each individual's strengths and to design projects appropriately. But it's important not to just do what's easiest—students need to be challenged to fill in gaps in their skills. Students at Iowa like to be challenged."

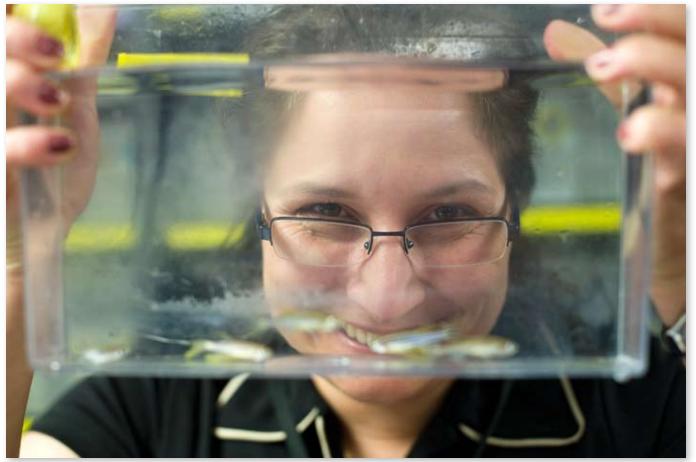
Salem, who originally came from England but has worked on the East Coast, finds truth in another Midwestern stereotype, one that helps make good science even easier.

"People here are just so nice—they're readily accessible and more grounded and willing to help," he says. "It's not a competitive environment, but one of 'What can we do together to get good work done?'"

He also notes that the facilities are excellent and staffed by skilled employees.

"The opportunity to work at The University of Iowa is quite stunning, really," adds Kirby. "This place allows scientists to flourish."

- LINZEE KULL McCRAY



Diane Slusarski, associate professor of biology, studies zebra fish, because their rapid growth rate and transparent embryos make them ideal for research on embryonic cell migration to appropriate locations in the body. Still, Slusarksi notes that the path from a lab discovery to a patient's bedside is lengthy. "Science is often a work in progress," she says. "It can take five years for an idea in a grant application to be tested and the results published. It's not about instant gratification."



Mark Blumberg, F. Wendell Miller Distinguished Professor in psychology, supervises a graduate student in his lab during an experiment to study changes in brain activity during sleep across early development. "The time I spend mentoring students is not just about teaching techniques," he says. "It's also to help them understand what the scientific life is all about."

"I believe in scientific inquiry for its own sake.

I think the history of science gives ample examples that pure investigation has enormous benefit...

I can't tell you what this might be good for, but learning about nature is important. And lovely things turn up."

—James Van Allen (1914–2006)

University of Iowa professor emeritus and discoverer of the Van Allen Radiation Belts

# Fruit Flies and Frog Skin

### How obscure discoveries lead to scientific advances

ans Ussing probably never imagined that his work would have a major impact on understanding human disease.

Back in the 1950s, the Danish scientist was studying ion transport across frog skin. In layman's terms: He was looking at how frogs absorb salt from pond water.

Big deal, right?

Turns out, it was.

Twenty-some years later, researchers looked at his data and methodology, and applied it to their work with cystic fibrosis.

"Using his techniques and theories, we and others learned that cystic fibrosis involves a defect in the movement of the salt chloride across the bronchial lining. That finding was important to understanding the disease, and set the field on a path to discovery," says Michael J. Welsh, a professor of internal medicine and molecular physiology and biophysics at The University of Iowa since the 1980s. "Now we know the gene that causes this disruption—it was discovered by researchers in Toronto and Michigan. But Ussing's research was the first insight into what was going on."

The lesson: Basic science is important—and not nearly as esoteric as it sounds. Those studies—about yeast cells or bacteria or fruit flies or frog skin—build a knowledge base that can propel science forward. The findings, methodology, and analysis techniques gained from that research can be—and often are—applied to studies that tackle more complex problems, like developing a cure for a specific disease.

"Sometimes it's hard for people who haven't been in a lab for an extended time to understand the process of discovery," says Welsh, a Howard Hughes Medical Institute Investigator and the Carver Biomedical Chair in Internal Medicine. "I think there's an idea of a scientist working alone, discovering things all by him- or herself. It rarely works that way. It would be very, very difficult to just jump right into understanding and developing a cure for cystic fibrosis or any other disease. Most of the methods we use have been invented or developed by people facing completely unrelated problems."

Findings are shared through journals, lectures, and even just talking with colleagues in other departments.

"When you discuss a problem or data, new approaches and novel ideas come out," Welsh says. "The strategies and ideas that emerge are incredibly powerful for pursuing a problem."

While some research is undertaken simply to add to the foundation of scientific knowledge without ever knowing how it might be applied to practical problems like treating or curing a disease, it's increasingly common for those seemingly obscure or random studies to be conducted with a larger end goal already in mind.

"These days, the trend is that to get grant funding for research, you have to show how your work is potentially translatable to a clinical setting," says Michael Hildebrand, a postdoctoral researcher in otolaryngology at the Roy J. and Lucille A. Carver College of Medicine. "It doesn't necessarily have to happen straight away,

but you have to show how this information is going to lead to a treatment for a particular disease, or alleviate the symptoms of a particular condition."

Of course, not every theory pans out. But that's useful, too. Negative findings—that is, learning that there is no relationship between X and Y—are also shared.

"Then the next researcher who comes along won't waste time or money researching that avenue, and can focus on something else," Hildebrand explains.

And sometimes a project takes on a completely new dimension when unexpected data pops up.

For example, when searching data on candidates for a study about genetic causes of deafness, Hildebrand and his colleagues happened upon a pattern of infertility in two Iranian families. They investigated further and discovered a gene mutation that interferes with normal sperm movement.

The finding, which could be a small, early step in developing male contraception or treatment for male infertility, gained national attention, with numerous mentions in the popular press.

"It's a common thing in research that your best projects end up being complete sidetrack projects," Hildebrand says.
"People tend to think that we're focused on one particular area of medicine, but what we're really interested in is genetic diseases, and we can apply the same basic genetic principals to any type of disease."

 $-{\sf Anne}\;{\sf Kapler}$ 

### **Funding Findings**

These financially trying times make an academic scientist's responsibility for obtaining funding all the more challenging. Despite increasingly stiff competition for grants, UI researchers continue to draw dollars needed to pay salaries, fund experiments, purchase equipment, etc.

In July, the Office of the Vice President for Research announced that total external funding (the money awarded for successful grant applications) grew last year by 10.3 percent, for a total of \$429.5 million.

Private donors also benefit research. In September 2008, the Fraternal Order of Eagles pledged \$25 million to create an institute dedicated to diabetes research. The University's planned Institute for Biomedical Discovery will be home to the institute: the Eagles' funding will support endowed chairs and fellowships for diabetes researchers, grants for innovative research ideas, and recruitment of leading scientists. In July 2009, Beth L. Tross (who attended Iowa from 1978 to 1983), and Nathan R. Tross (BA, '83), of Highland Park, Ill., pledged \$1 million to establish the Beth L. Tross Epilepsy Research Fund in the Department of Neurosurgery, to accelerate efforts to discover new treatments for epilepsy.

4 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 PHOTOS BY KIRK MURRAY PHOTOS BY KIRK MURRAY



cademic scientists will tell you that theirs is far from a solitary occupation. Relationships with teachers, mentors, and collaborators, many developed and maintained over entire careers, bring new perspectives and insights that have a profound effect not just on the scientists, but on science itself.

Bob McMurray, assistant professor of psychology in the College of Liberal Arts and Sciences, works in speech perception, word recognition, and language development, collaborating with scientists in speech pathology, linguistics, animal and human learning, and math. When he gets together with his colleague in math to work on a problem, McMurray brings his laptop, while she uses a pad of paper and a pencil.

"She brings a different way of looking at the issues," McMurray says. "She asks different questions. Plus, she does things with math that I cannot. Joining forces makes for an extremely powerful way to understand."

Indeed, a major research university like Iowa is all about such relationships. For many young scientists, their career flowers when they find their mentor.

"A teacher passes along information," McMurray says. "A mentor works to help the student develop

skills in finding information, evaluating it, and using it in a successful way. A good mentor understands what the student needs to grow as a scholar and scientist. Sometimes that means throwing a student working on your research project into the deep end of the pool, knowing full well that your project will take longer while the student learns to swim.

"That mentoring relationship is what a university is all about, but it's hard to put a number on its value. We can count students, hours, grade-point averages, but mentoring is not measurable."

It may be hard to measure, but the long-term view that mentors must take—often sacrificing their own short-term gains—has definite rewards, says Peg Nopoulos, professor of psychiatry, pediatrics, and neurology in the Roy J. and Lucille A. Carver College of Medicine. She also directs the college's Doris Duke Clinical Research Fellowship Program, designed to help medical students explore careers in clinical research.

"Mentoring is a big responsibility," Nopoulos says. "You have someone's future in your hands. It's somewhat easier for me because I love my work and I don't think it's fair for me to have all the fun. A project might take ten times as long, but I get to share a lot of

fun, and in the end, I have someone who's going to be a better scientist, for me and for science."

John Logsdon, associate professor of biology in the College of Liberal Arts and Sciences, works in evolutionary molecular genetics. He says that mentoring in the academic sciences is markedly different from many other disciplines.

"In writing, for example, a mentor might provide all the same kinds of advice, guidance, new ways to look at things, perspective—all the good stuff that mentors do," Logsdon says. "But in the end, your book will have your name on it. In the sciences, the enterprise is collaborative. The product carries all the collaborators' names. So as a mentor, I have a stake in my students' achievements, and the student has a responsibility to me to do well. It's an investment on both sides."

Like mentoring, these scientists say, collaboration offers growth through changes in viewpoint, new perspectives, and relationships that make for better

"The best way to the best science is through other bright people's eyes and brains," says Nopoulos, who specializes in Huntington's disease, a genetic brain disorder, and works with children with cleft lip and

### **Cvber-Collaborations at Iowa**

Scientists use more than just pencil and paper to collaborate. Some examples:

Graduate student Brian Krueger, who is completing his PhD in molecular and cellular biology, developed a web site as a tool for scientists to communicate and collaborate. LabSpaces (www.labspaces.net) offers daily news feeds about scientific developments. Members can form groups, publish profiles of their labs to make it easier for collaborators to find partners, join discussion forums, and contribute to or create blogs on the site at no charge.

Thomas Oetting, professor of clinical ophthalmology, created a Facebook group to share cataract surgery techniques with residents in his department through high-quality videos. Today, the group offers more than 125 videos and has earned more than 3,000 "fans" among interested ophthalmologists, surgeons, and others all over the world. Oettig has used Facebook to collaborate on projects with other surgeons in such distant locations as London. For an example, visit www .facebook.com/cataract.surgery?ref=search&sid =1443251972.3386063671.1.

Oettig also uses the collaboration site Drop.io to share large files. His book, Cataract Surgery for Greenhorns, is published free of charge on the site MedRounds, a not-for-profit organization whose mission is to provide high-quality medical teaching materials at little or no cost (www .medrounds.org/cataract-surgery-greenhorns/ 2005/09/title-page.html). Several of Oettig's colleagues on the UI ophthalmology faculty also offer their books on MedRounds.

palate, collaborating with surgeons, speech pathologists, dentists, child psychologists, pediatricians, pediatric neuropsychologists, and geneticists.

"It can be easy, if you are isolated and working alone, to become biased," says Nopoulos. "You invest too much in your own ideas. Your passion can blind you. Academic medicine is a life spent having your ideas reviewed and rejected, sometimes accepted. It can be humbling. But I believe that humble pie is the best diet for a scientist."

"Coming to Iowa awakened me to collaboration," McMurray says. "At my previous institution, I was in a cognitive science department where we dealt with theory, computational models, and minutiae. I never had contact with clinical science, much less medicine. Coming here, I found a talented set of people working on language disorders and became involved with otolaryngology and education. I was forced to think about how my work affects the real world. I tell people I have learned more in my four years at Iowa than I did in six years of graduate school because I have been confronted by new problems and ideas. It's been very good."

-CHARLES S. DRUM



Peg Nopoulos, professor of psychiatry, pediatrics, and neurology (facing page, right), and Bob McMurray, assistant professor of psychology (above, standing), work with students not only as teachers, but as mentors, helping guide them to careers in science. "It's a lot more work to mentor a student working on one of my projects and takes a lot more time," Nopoulos says. "But it is always worth it."



John Logsdon, associate professor of biology (above, center), talks with students in his lab. The mentoring relationship often is as complex and rewarding as the parenting relationship, Logsdon says, with many similarities. "There are investments made in each other, just like parents and children," he says. "And there's certainly tough love."

6 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 Spectator THE UNIVERSITY OF IOWA 7 PHOTO BY KIRK MURRAY PHOTOS BY KIRK MIJERA

In May, 1984, Peter Feldstein, a native New Yorker and art professor at the University, invited the 693 residents of his new hometown, Oxford, Iowa, to be photographed. He asked them to come dressed "as you are" and had them stand in any way they chose, against a wrinkled construction tarp. By late summer 670 residents had been photographed, and the following spring Feldstein displayed their photos in the Oxford American Legion Hall.

Twenty years later, Feldstein decided to re-shoot the residents of Oxford. This time, he joined forces with UI journalism professor Stephen Bloom, who interviewed the photo subjects and compiled first-person vignettes from their conversations. The results were published in *The Oxford Project* (Welcome Books, 2008).

Spectator here shares two of the photo pairs, along with the accompanying text. To see more photos and hear from Feldstein and Bloom, visit www.spectator.uiowa.edu.

# The Oxford Project

"I'm the last living of the first four American soldiers who liberated Buchenwald concentration camp."

### Jim Hoyt, Sr.

My father worked for the railroad and my mother was a rural schoolteacher. I went from Kindergarten through twelfth grade in the same building. My biggest achievement was winning the Johnson County Spelling Bee in 1939. I was in the eighth grade and I still remember the word I spelled correctly: *archive*.

After basic training I was sent overseas and went through the Battle of the Bulge. I'm the last living of the first four American soldiers who liberated Buchenwald concentration camp.

There were thousands of bodies piled high. I saw hearts that had been taken from live people in medical experiments. They said a wife of one of the SS officers—they called her the Bitch of Buchenwald—saw a tattoo she liked on the arm of a prisoner, and had the skin made into a lampshade. I saw that.

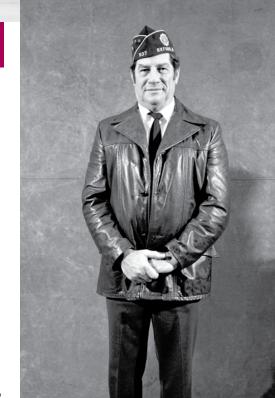
I received the Bronze Star, but when I got home, I didn't have a job. I worked at a bank, then for Burroughs Adding Machine, then in construction. I ended up a rural mail carrier.

I have post-traumatic stress disorder. My oldest son, who was awarded the Purple Heart for service in Vietnam, suffers from the same thing. Seeing these things, it changes you. I was a kid. Des Moines had been the furthest I'd ever been from home. I still have horrific dreams. Usually someone needs help and I can't help them. I'm in a situation where I'm trapped and I can't get out. I go to a group therapy session every week at the VA.

For the fifty-year anniversary of the liberation of Buchenwald, they asked me to return. They would've paid for the whole works. But I said no. I didn't want to bring back those memories.

Thinking back, I would have pushed to be a psychologist—if for no other reason than to understand myself better.

I met my wife Doris at a dance in Solon back in 1948. She's the love of my life. I don't know what I'd do without her.





# Portraits of small-town life

"Every summer my sister and I went to Oxford to live with my grandparents. It was a Mayberry kind of place."





### **Amber (Barker) Carroll**

My father's a Christian musician. He's won two Grammy Awards. When I was seven we moved to Nashville. I went to public school at first; I was the only white girl in my class.

Every summer my sister and I went to Oxford to live with my grandparents. It was a Mayberry kind of place. I used to skip on the sidewalks, singing, "Step on a crack, break your mother's back."

I had my rebellious stages. I went a little crazy. I was a party girl. But I had fun. You have to live a little. Once I got out of college, I decided what I really wanted to be was a hairdresser. I now work at one of the nicest salons in Memphis. I consider myself an artist. I try to inspire others to be happy. I'm almost like a psychologist.

I love purses—the kind that are large enough to carry a blow drier in them. And I also love shoes, especially high heels. If they're smokin' hot, they can make a pair of jeans into a sexy outfit. And hats. I love hats, too.

I'm happy with who I am. God knows my heart and my intentions. I'm not close to being perfect, but I'm always trying to be a better person

I want to travel the world. I want to have a couple of kids. I want to have a big kitchen and a big bathtub. I'm not engaged, but I'm working on somebody.

From *The Oxford Project* published by Welcome Books. Photographs © 2008 Peter Feldstein.

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Preface © 2008 Gerald Stern.

www.welcomebooks.com/theoxfordproject.

8 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 FALL 2009



Cristi Gleason, associate professor of accounting in the Tippie College of Business, describes her students as the kind "you'd want in any university." Her pupils reciprocate the feelings, lauding her knowledge, guidance, encouragement, and compassion.

### Dedicated. Passionate. Kind. Devotion. Interest. Laughter. Inspirational. Thoughtful. Caring. Support. Guidance. Encouraging. Fantastic. Patience. Humor. Fun. Life-changing.

These were some of the words used in 2008–09 by University of Iowa seniors when asked to identify a teacher who had had a positive influence on them during their time at Iowa. Hundreds of faculty members were singled out for having made a difference, with more than 50 receiving 10 or more student recognitions. *Spectator* selected three to profile from the latter group, and solicited comments from current UI students.

### Cristi Gleason

"Professor Gleason is the kind of teacher who knows everyone's name by the end of the first week of class and makes a conscious effort to reach out to all students... she has helped me find my footing in the world of business and has instilled in me a sense of confidence."

—Patrick Teyro, senior finance and economics major from Naperville. Ill.

### Faculty members draw student praise

Cristi Gleason knows the kind of impact a teacher can have on a student. As an undergraduate at Brigham Young University, the Mesa, Ariz., native had visions of being an attorney. An accounting professor kindled in her an interest in research, however, and her career plans changed.

"He invited me to be his research assistant, and encouraged me to consider academia instead of law school," explains the associate professor of accounting in the Henry B. Tippie College of Business. "We were using statistics to predict bankruptcy, and I thought it was so cool. I was hooked."

Gleason pursued a doctorate in management and joined the UI faculty in 2004. She teaches about 180 finance students each year, and makes a point of learning their names quickly, "cold-calling" on random students during class discussions.

"I have 65 students in a typical section, and if I didn't call on them, the same five students would participate," she says. "This way, they know that I know who they are. I'm not just delivering facts; I'm not just firing at them."

Although Gleason was initially lured into academia for the research, she relishes her students daily.

"In every class there are students whose personal successes really impress me—they may not be the

graduation speaker, but they've made great accomplishments," she says. "My goal is to help students get what they want in their careers—whether it's a Wall Street job or admission to law school or starting their own business. I hope my class provides the tools they need to get there."

Gleason, who also is a Larry and Lori Wright Research Fellow, admits she felt a bit sheepish about the student recognition—but she also welcomed it.

"Some semesters are easier than others—personally and professionally—and the last two years have been difficult for me," says Gleason, who lost her husband to cancer in 2008. "And you're not always sure you're doing well, so I appreciate the student feedback and knowing that taking my class was worth their time."

### **Jerald Moon**

"Professor Moon is an awesome teacher and mentor he's always very helpful, understanding, and flexible. He is very willing to stay after class, he holds review sessions, and he encourages students to schedule meetings for extra help. He and I have also talked a lot about graduate school—choosing a program, applying for admission, writing personal statements, taking the GRE—and he's helped me feel more comfortable about the whole

process."—Whitney Achenbaugh, senior speech and hearing science major from Pleasant Valley, Iowa

Jerry Moon is willing to take a few hits if it advances his students' learning.

"My goal is to create a learning environment in which students feel comfortable asking questions," says the professor of communication sciences and disorders in the College of Liberal Arts and Sciences. "If cracking a joke once in a while or making fun of myself puts students at ease, that's not a bad thing. I want to make class a fun experience, and that means engaging students and being accessible."

The Canada native was studying at the University of Western Ontario when he decided to pursue the field of speech language pathology.

"I always wanted to be in a helping profession, and I always wanted to teach," he says. "I experienced teachers in high school and college who really cared about their students and made learning fun, and that became important to me."

Moon first came to the UI campus in 1985 as a research assistant and later joined the faculty. Not only does he enjoy working with the motivated students in his department, he also welcomes advances in technology that affect education.

"The days of chalk to chalkboard are gone, and I'm stimulated by that," says Moon, who recently developed an online anatomy course for undergraduates. "I'm always trying to employ new forms of content delivery that students will react positively to."

Teaching, Moon says, helps keep things in perspective. "If you're having a bad day—your grant got rejected or the car won't start—as soon as you set foot in the classroom, none of that matters," he says. "That hour

of the day is devoted to helping your students."

Although the student recognition was unexpected, Moon says he was pleased that students carved out time to pay tribute.

"I'm grateful for the opportunity to do what I do. When the day comes that I don't look forward to coming to work, I'll quit," he says. "But I don't anticipate that. I enjoy it too much, and this is a great department at a great university."

### **Kathryn Whitmore**

"In some education classes, instructors will tell us that good teachers draw on students' interests, use inquiry-based classroom activities, and assess student progress throughout the semester, but then their classes are lecture-based with a big final at the end. Professor Whitmore's classes aren't like that at all—she teaches the way she wants us to teach."—Liz Willmore, graduate student in elementary education from San Ramon, Calif.

Kathy Whitmore rarely lectures and has never given a test. The professor of teaching and learning often stops in the middle of her classes to reflect on and analyze what is happening.

"I'll ask my students, 'Why is everyone so engaged in this activity?' or 'Why did that discussion end that way?' It helps them understand why we are doing what we are doing," explains the Davenport, Iowa, native who joined the UI College of Education faculty in 1993. "I have to practice what I teach, so I always monitor myself."

What started as a practical career move, Whitmore says, has turned into a passion.

"I became completely enamored by the idea of theorized practice—there is so much to know about how children learn and how teachers help them reach

Jerald Moon, professor of communication sciences and disorders in the College of Liberal Arts and Sciences, aims to create an environment where students feel comfortable asking questions. His students in turn find him to be energetic, passionate, and a great listener.

their potential," says Whitmore, who attended the University of New Mexico and the University of Arizona. "I fell in love intellectually with teaching."

At Iowa, Whitmore teaches both undergraduate and graduate students, particularly in the areas of literacy and diversity. She often reads aloud during class, and requires that all of her students—not just those in her literature courses—read novels and picture books each semester.

"We talk about books in class," she says. "So many Iowa students come from upper middle-class, white, suburban backgrounds, but they will be teaching a more diverse group of students. I like to offer them books that give them vicarious experiences in different worlds."

Most important to Whitmore, however, is that her students feel well prepared and confident—and that they identify themselves as professional educators when they graduate.

"I want them to recognize that, regardless of the low status teachers sometimes have in our country, it is a serious, delightful, and provocative profession," she says.

Whitmore says it was wonderful to receive the high marks from students before they left campus.

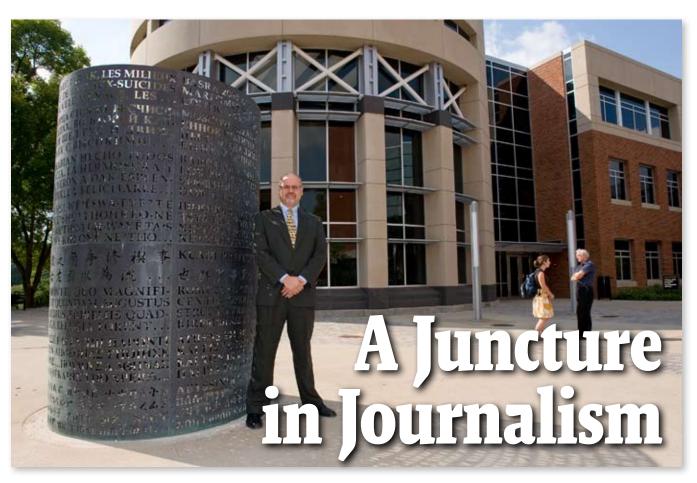
"I often get letters and thank-you notes down the road from graduates," she says, "so the immediate recognition from students was very gratifying."

-SARA EPSTEIN MONINGER



Kathy Whitmore, professor of teaching and learning in the College of Education, loves to get her students, especially the self-identified nonreaders, excited about books by inviting them to read literature that "pulls at them emotionally and politically." She often receives thank-you notes.

10 THE UNIVERSITY OF 10 WA Spectator FALL 2009 FALL 2009



### New director stresses retooling in changing media landscape

raining students to be professional communicators is like trying to hit a moving target. Journalism and mass communication schools across the country are revamping their curricula to prepare students for the diversified demands of the profession.

David D. Perlmutter (above, left), the new director of the University of Iowa School of Journalism and Mass Communication, took a moment to discuss his vision for the program and to offer some tips for alumni in the field. He explains how he landed at Iowa—and describes his rare but useful disorder: "information panic."

### Journalism and mass communication is changing rapidly—what's your take on the profession? Any advice for alumni who may be concerned about their future in the field?

Twenty years ago, for example, we trained someone to be "the camera guy," to carry a big heavy camera around and shoot video. He may have done some producing and writing, but mainly he could focus on one thing because people had the luxury to specialize within a career for a lifetime.

Now you have to be able to do everything and anticipate what your employer's going to ask you to do

tomorrow—including changing your area of specialization. The reality is that if you can't, you will be replaced by someone who can. The days of earning a degree and being done with your education are over. Journalists need to constantly retool and retrain—to be adaptable and innovative by taking additional courses or learning on the job. If people in your office think of you as the go-to person for what's new, I bet they'll keep you around.

### What is the UI School of Journalism and Mass Communication doing to respond to the changing media environment?

Every journalism and mass communication school in the world is asking itself "What are we doing, and how can we do it better?" The core skills remain vital and I love books—the printed, paper kind. relevant—integrity and ethics; sourcing and interviewing; research; written, oral, and visual storytelling; the ability to work under deadline—and of course we'll continue to teach them. But we are starting from scratch and evaluating the entire curriculum. We have to be brave enough to say, "let's get rid of X," even if we've done "X" for 20 years.

We and other journalism and mass communication schools are entering a period of experimentation. In a chemistry department, they understand that part of

innovation is experimentation (including failures and trying again), and we need to take the same approach. We'll be getting feedback from our students and professionals in the field to determine what our graduates need to be successful, and we will be developing curriculum in concert with industry and entrepreneurs including our own students.

I'm also very interested in having our alumni back every few years for short continuing education courses or workshops. We tend to be four-year-degree focused, but this would be one way to help alumni keep their skills fresh, and we could learn a lot from them in the process.

#### What are some of your favorite media?

I get my news from newspapers, news websites, and spending a half hour or so a day on Facebook seeing what my friends are up to. My family and I watch a lot of YouTube.

### Tell us about your background and how you landed here.

My parents were both professors, and I was born in Switzerland, where they were teaching. When I was about 8, my father accepted a job at the University of Pennsylvania, so I spent the rest of

my childhood in Philadelphia. I went to Penn for my BA and MA. I got my PhD from the University of Minnesota, taught at Louisiana State University for 10 years, and taught at the University of Kansas for three years. My wife is from Iowa, and because I love political communication, being at the epicenter of presidential campaigns every four years will lead to some interesting projects.

### You write "P&T Confidential," a popular monthly column for The Chronicle of Higher Education. What topics do you

It's mainly about promotion and tenure. We often say in this business that we do an outstanding job of training doctoral students to be researchers, an adequate job of teaching them to be teachers, but a terrible job training them to be professors. Many times the brightest doctoral students find themselves floundering very quickly in their first job because the human relations issues and politics catch them off guard. I cover topics like getting along with colleagues, time management, and job searches.

#### Your research interests have ranged from pictures to politics—and even the show The Office. Could you elaborate?

I've studied pictures that might be classified as political, specifically emblematic photos and how they represent a complex event or time. If you say the word Tiananmen, people think of the man standing in front of the tank. Or Iwo Iima, you think of the Marines raising the flag. Then I became interested in blogs on persuasion and politics, and I published a book on political blogging, Blogwars. I'm a big fan of the show The Office, and it has led to a new research interest: the portrayal of work in the media.

### What's something people would be surprised to know about you?

I suffer from an undiagnosed and unofficially recognized disorder called "information panic." I wake up in the morning and think, "The Vikings in Greenland—I don't know anything about the Vikings in Greenland. I must know more about the Vikings in Greenland." So I go off to the library and check out every book on that topic. And then once I have the Vikings in Greenland covered, I wake up and say, "Abraham Lincoln, I don't know enough about him." It's a cycle—every four or five weeks I have a new information panic. People find it surprising when they bring up something obscure and I know a little about it.

-NICOLE RIEHL

# Keeping Their Word

### UI Press marks four decades in publishing

very year, university presses produce some 10,000 books, almost always very quietly. But as Holly Carver points out, they amplify voices the world needs to hear, especially at certain moments.

"After Sept. 11, 2001, books on religious radicalism, the Middle East, and even the Twin Towers themselves were suddenly in demand," she says. "University presses had published a lot of these books, but they'd never sold a lot of copies. When the time came, however, there they were."

Carver directs the University of Iowa Press, the University's own publishing house and the only university press in Iowa. This year, the Press—part of the UI Graduate College—celebrated its 40th anniversary with events like the Iowa City Book Festival, which also commemorated the University Libraries' acquisition of its five millionth volume, the Press's Biographical Dictionary of Iowa.

In recent years, a few university presses have folded or been bought out. Iowa's program, however, has withstood decades of change.

"There had been a loose string of books with University of Iowa imprints," Carver says, recounting the Press's roots. "But the University's publishing program didn't really gel until 1969, when the Press, under the leadership of John Simmons, became a member of the Association of American University

Even then it remained a small operation, housed in the University's Printing Department and producing just a handful of books each year. In 1984, a task force recommended ramping up the program.

Today, the UI Press's eight-person staff publishes about 40 books annually from their headquarters in Kuhl House, a historic stone home just northwest of Hancher Auditorium.

"I hesitate to brag—well, okay, I'm bragging—but we publish more books per staff member than any other university press, with a quality and consistency that makes us proud," Carver says.

Their record is especially impressive given the care each book receives. The UI Press copyedits, designs, and proofreads every title, a degree of attention authors seldom find in commercial publishing.

"When I'm working on a book, I know I can call Holly or her colleagues and get a pep talk," says Connie Mutel, who's written or edited three books— Fragile Giants, Land of the Fragile Giants. and The Emerald Horizon—for the Press and is finishing a fourth. "You can tell they're doing what they enjoy."

Some UI Press titles touch on topics that seem obscure, but the Press aims to identify worthy works that fill necessary niches.

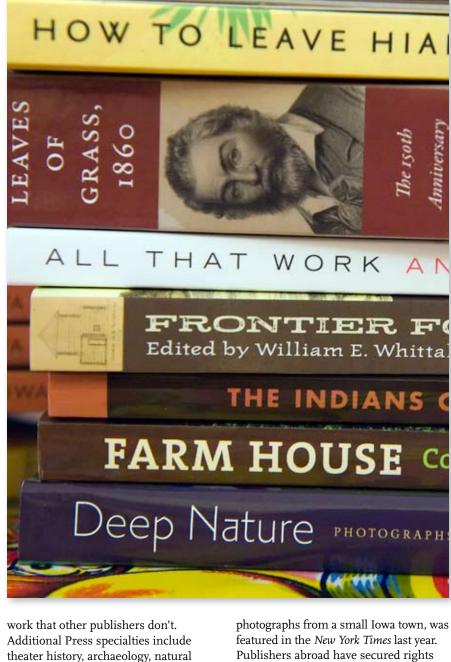
"Who else is going to publish books on the butterflies of Iowa or the mushrooms of the intercontinental United States?" Carver asks. "We take the long view. We publish things that we intend to keep in print for a very long time."

UI Press authors come from everywhere—Ivy League universities, small liberal arts colleges, all corners of the United States, countries around the world. Many of their books are written for academic audiences, but certainly

The Press has developed natural strengths from close partnerships with UI faculty. The Iowa Whitman Series. for example, grew out of work by Ed Folsom, professor of English in the College of Liberal Arts and Sciences and a nationally known expert on the life and work of poet Walt Whitman.

The Press also reflects the University's history as an influential center for creative writing. The annual Iowa Short Fiction Award—created with the Press back in 1969—and Iowa Poetry Prize recognize new or established writers, including most recently Kathryn Ma for the shortstory collection All That Work and Still No Boys and Andrew Michael Roberts for the poetry collection something has to happen next.

Books about Iowa and the Midwest are another nod to the Press's geographic location and its dedication to delivering



history, literature and medicine, and American studies, literature, and history.

UI Press editors tend to focus on works that reflect their own interests and expertise. For Carver, that includes nature. She notes Mutel's Fragile Giants: A Natural History of the Loess Hills as a particular point of pride.

"When we first published the book in 1989, Iowa's Loess Hills were largely unappreciated and unvisited," Carver says. "Today they've become a focus for conservation and tourism. I think Connie's book made a tremendous difference."

Other recent books have made their own splashes. Sunday Afternoon on the *Porch*, a collection of early-1940s

to translate Poems from Guantánamo, a volume of writings from detainees at the U.S. military facility in Cuba.

This kind of attention seldom translates into big sales, but sales aren't the only point. UI Press staff know they're helping authors contribute to cultural conversations on issues small and large, historic and contemporary, local and

"Even after so many years in publish ing, I have never lost my admiration for people who write books," Carver says. "Plus, our work gives us something to hold and to show. At the end of the day, you have a book, and that's pretty cool."

12 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 **Spectator** THE UNIVERSITY OF IOWA 13 PHOTO BY KIRK MURRAY PHOTO BY KIRK MURRA



### UI Student 'Empowered to Lead, Undaunted by Failure'

mily Grieves never gives up. In fact, the University of Iowa student, who has run for positions with UI Student Government (UISG) three times, says failure is a critical part of learning about leadership.

"Failure is part of success in politics, for sure. You just kind of have to feel bad about it for a little while and then move on," says Grieves, a fifth-year senior Spanish and integrative physiology major in the College of Liberal Arts and Sciences.

Grieves was one of 30 undergraduate women from across the state who participated in the second annual Iowa National Education for Women's Leadership Institute, hosted by the UI Women's Resource and Action Center (WRAC) May 31 through June 5 in Iowa City.

The eighth-generation Iowan ran for a UISG senator position her sophomore year and had a landslide victory. She then campaigned for vice president her junior year and for president her senior year, but lost both of those

Despite the two losses, Grieves says she doesn't consider the experiences failures. In fact, she picked up other valuable roles within UISG, such as serving as a student safety advocate on the executive board.

Though some might have thrown in the towel on politics, not Grieves. She says the experiences strengthened her resolve to participate in the institute.

"Hearing women tell their stories about not letting failure bring you down and not letting a setback knock you out of the game was really an inspiration. There isn't anyone who is successful who hasn't had a setback,"

Grieves says. "True success comes when you can brush that off your shoulder or learn from the mistakes and keep moving on."

And move on she has. Grieves has taken the lessons she's learned from the institute and applied them to her life to pursue new leadership opportunities.

Grieves says that her experiences are benefiting her in her role as executive director of the UI 10,000 Hours Show Project, an all-volunteer initiative to encourage community involvement. And she'd like to pursue a law degree after graduating from the Iowa in May 2010.

The 30 participants, including 13 from the University and from 10 other institutions, also developed public leadership skills, learned about civic involvement, and networked with women in public leadership from across Iowa.

Those women included former Iowa Attorney General Bonnie Campbell, who delivered the keynote address, and several faculty-in-residence.

Kelly Thornburg, the institute coordinator at the WRAC, says that Grieves is a perfect example of why it's so important to provide this experience, especially since Iowa is only one of two states in the nation that has never elected a female governor or sent a woman to the U.S. House or Senate.

"We invest in this program and in our participants because we can see how much they want to do and how important it is for them to contribute to their communities in a substantive way," Thornburg says. "I have no doubt that training women to be skilled, confident, collaborative public servants will have a positive impact on our world."

### Is it Public Art or Public Nuisance?

If someone spray paints a stunningly beautiful landscape on the side of a railroad car, is he an artist or a vandal? What about hundreds of people simultaneously freezing in Grand Central Station? Is that whimsical art or public interference?

Those are questions that the legal system is grappling with as artists take their work further into the public domain and redefine the nature of art itself. In response, Randall Bezanson, professor of law, thinks artists should be given greater legal leeway in the use of public and private space. Calling it "trespassory art," he is urging courts to interpret the law in such a way that protects artists from trespassing, nuisance, and other laws and ordinances.

Bezanson is one of the first legal scholars to explore the legal intersections of art and the constitution, and his book Art and Freedom of Speech explores the protections afforded to artists. Bezanson said artistic expression is tricky from a legal perspective because, unlike speech and press, it's not specifically protected by the First Amendment.

Bezanson believes that if no actual harm comes to the property owner, the value of the artistic statement should override the owner's property-holding rights. He admits that such an approach would be "messy and controversial," but said the impact on public art is worth the

### **UI Team Reveals Molecular Mechanism Underlying a Form of Diabetes**

By investigating a rare and severe form of diabetes in children, UI researchers have discovered a new molecular mechanism that regulates specialized pancreatic cells and insulin secretion. The mechanism involves a protein called ankyrin, which UI researchers previously linked to potentially fatal human heart arrhythmias.

The findings may help identify new molecular targets for treating both rare and common forms of diabetes and hyperinsulinemia.

The University team, working with researchers at Washington University in St. Louis, focused on a gene mutation linked with permanent neonatal diabetes mellitus. Children with this genetic form of diabetes have symptoms by age 6 months and require lifelong dependence on insulin to maintain proper glucose levels.

The team discovered that the specific human gene mutation disrupts the ability of the protein ankyrin to regulate a key protein complex known as the KATP



Being an **Active Preschooler Pays Off** 

Being active at age 5 helps kids stay lean as they age even if they don't remain as active later in childhood, according to Kathleen Janz, professor of health and sport studies and lead author of a new UI studv.

"We call this effect 'banking' because the kids benefit later on, similar to having a savings account at a bank," Janz says. "The protective effect is independent of what happens in between. The implication is that even five-year-olds should be encouraged to be as active as possible because it pays off as they grow older."

The study indicates that kids who are active at age 5 end up with less fat at ages 8 and 11, even when controlling for their accumulated level of activity.

The UI team tested the body fat and activity level of 333 kids at ages 5, 8, and 11 using a scanner that measures bone, fat, and muscle tissue, and an accelerometer that measures movement every minute. The accelerometers provide much more reliable data than relying on kids or parents to track minutes of exercise.

### **Improving Elder Care**

Long-term care facilities in Iowa have teamed with researchers at the UI College of Nursing to improve outcomes for older adults in care facilities related to two common issues: pain management and incontinence.

Researchers will determine the best educational techniques to help registered nurses and certified nurse aides use current knowledge to care for elders. Selected staff at the facilities are assisting in the efforts, including considering non-drug treatment for pain management and identifying and treating pain in older adults, especially those with Alzheimer's disease.

### **Grad Students Help Small-Town Iowa Develop Sustainably**

Students in the University's graduate program in Urban and Regional Planning are bringing sustainability to small-town Iowa through an educational outreach

Twenty-eight students in the yearlong Field Problems in Planning class are developing sustainability plans for four eastern Iowa towns: Anamosa, Columbus Junction, Decorah, and Wellman.

The second-year MA students will serve as consultants to city administrators in the towns, working with them to address each community's respective needs in the areas of economics, the environment, equity, and energy. The students' development plans are screened by UI faculty and city administrators and are consistent with the respective towns' planning aspirations, which range from wind farm development to floodplain management. The educational outreach project supports the UI's sustainability initiative, an integral part of the University's academic mission.

### **NASA Selects UI Researchers** for Telescope Mission

A group of University of Iowa researchers will be part of a team using an X-ray telescope aboard a satellite to explore the distortion of space by spinning black holes and the creation of intense magnetic fields around dead stars.

Called the Gravity and Extreme Magnetism Small Explorer (GEMS) satellite, the project is coordinated by NASA's Goddard Space Flight Center. Although the satellite isn't scheduled for launch until 2014, the seven UI researchers have been hard at work for about one year, according to Phil Kaaret, leader of the UI GEMS researchers and professor in the College of Liberal Arts and Sciences Department of Physics and Astronomy.

"The satellite will measure the polarization of X-rays coming from black holes and other exotic objects such as neutron stars and supernova remnants," Kaaret said. "Polarization is the best tool to directly see how black holes warp spacetime. At Iowa, we will calibrate the X-ray detectors, contribute to the science planning and analysis, and Iowa students are building a detector that may extend the energy coverage to lower energies."

### Spectator in Cyberspace

At long last *Spectator* is available

online. And Spectator readers can now get even more news about The University of Iowa by signing up for Spectator@IOWA, a monthly e-mail digest. Each issue contains articles, photos, and multimedia features about students, faculty, staff, and alumni; links to timely UI news; and an opportunity to read about and share remembrances of University history. You'll also be able, via Spectator@IOWA's archives, to access print editions of Spectator. (Spectator will continue to print twice yearly.) To subscribe to Spectator@IOWA, sign up at http:// spectator.uiowa.edu/subscribe.html.

### **UI Welcomes Record Number of International Students**

More than 650 new international students arrived on campus this fall, with undergraduate enrollment showing a significant increase from previous years, bringing the overall international population close to 2,500 students.

The students hail from 57 countries ranging from Australia to Zimbabwe. Last year, 619 new international students came to the University, including 304 undergraduates and 315 graduate and professional students. This fall, an estimated 400 new undergraduate international students and 250 to 300 graduate students will arrive on campus to begin classes.

The top areas of study pursued by UI undergraduate international students include pre-business, actuarial science, finance, and economics; the top areas pursued by UI graduate and professional students include the MBA program, chemistry, computer science, music, and pharmacy.

### **Clubfoot Treatment Pioneer Ponseti Leaves Lasting Legacy**

Ignacio Ponseti (below), professor emeritus of orthopaedics, whose pioneering nonsurgical, low-cost clubfoot treatment benefited tens of thousands of children worldwide, died Oct. 18. He worked until just days before his death at age 95.

Spanish-born Ponseti came to Iowa City in 1941 to study with Arthur Steindler in the Department of Orthopaedics. Ponseti remained at Iowa, treating patients, teaching, and conducting research until he retired in 1984; he returned to the University in 1986.

His clubfoot research started in the 1940s. Without treatment, the nearly 200,000 children born each year with clubfoot faced a lifetime of debilitation. But surgical treatments had significant limitations, including stiff, fixed ankles.

In 1950, Ponseti was put in charge of the University's clubfoot clinic, where he developed the Ponseti method, which involves careful manipulation of muscles, joints, and ligaments held in a series of casts and braces to reposition the foot.

Despite positive outcomes, only Ponseti and a handful of orthopaedic surgeons used the method for the first 40 years. Ponseti's 1996 book Congenital Clubfoot: Fundamentals of Treatment and multidecade follow-up studies showing success rates as high as 98 percent raised awareness, as did the Internet, where parents of successfully treated children advocated the Ponseti method to other families.

Today, the Ponseti method is considered the mainstream treatment for clubfoot in North America and increasingly is used in underdeveloped regions. In 2006, the American Academy of Pediatrics endorsed the method. The Ponseti International Association for Advancement of Clubfoot Treatment, founded at the University in 2006, is devoted to clubfoot education, research, and improved access to care.



14 THE UNIVERSITY OF IOWA Spectator FALL 2009 FALL 2009 **Spectator** THE UNIVERSITY OF IOWA 15 PHOTO BY KIRK MURRAY PHOTO BY TIM SCHOON / ILLUSTRATIONS BY CLAUDIA MCGEHEE