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The world of tomorrow takes shape every day at the University of Illinois.

Students – in record numbers on all three of our campuses – are studying to become the leaders who will guide our nation and the state of Illinois for decades to come.

Faculty – armed with nearly $800 million in research grants – are chasing breakthroughs that will advance society, enrich lives and create jobs in new-age fields that didn’t exist before.

It’s a winning combination that has been at the core of our mission for nearly a century and a half, making the U of I a leading incubator of the crucial human capital and pioneering discovery that has paved the way for America’s growth and prosperity.

But we aren’t content to rest on our laurels. Society never stands still, nor can we. We are committed to building on our greatness, providing world-class academic programs and research that will ensure the U.S. never loses its hard-earned grip as the world leader in education and innovation.

In this report, you’ll find inspired examples of our everyday excellence in teaching, research and public service. The stories are wide-ranging, but have one important thing in common: they illustrate the power of curiosity and passion, and how both can transform dreams into achievement.

At the U of I, that endless quest for knowledge is both a cornerstone of our best-in-class legacy and a compass that will continue to drive us toward an even brighter future. Our tradition is rich, and our best days are still to come.

Thank you for your support of this great University.

Michael J. Hogan
President, University of Illinois
ADMINISTRATION

President Michael J. Hogan and senior staff develop strategies and solutions to educational challenges that are best addressed across the University of Illinois campuses.

University administration provides centralized administrative services that are vital to supporting the primary missions of the institution: instruction, research, public service and economic development.

Staff convey to government, corporate and civic leaders as well as to alumni and other stakeholders the variety and excellence of research and academic endeavors at the University of Illinois.

www.uillinois.edu

BEST IN CLASS: BOARD OF TRUSTEES

The Board of Trustees of the University of Illinois exercises final authority over the University. Trustees are responsible to the people of Illinois for the proper use of funds appropriated by the General Assembly and for the proper administration and governance of the University. The members, who serve on a voluntary, non-remunerated basis, are diverse in experience and background as well as their residence.

In addition to their interest in all aspects of the University, Board members advocate for programs and initiatives that support diversity and sustainability on the three campuses.

In addition to meeting every two months, trustees serve on various standing committees including the executive committee; academic and student affairs; audit, finance and facilities; governance, personnel and ethics; and hospital. The board’s three-member Executive Committee meets to transact urgent business that cannot be postponed to a regularly scheduled board meeting.

Trustees also serve on a number of external boards, including those of the U of I Alumni Association and U of I Foundation; the Illinois Research Park; and IllinoisVENTURES LLC

Three student trustees, one from each campus, are elected to one year terms; one has a binding vote and two have advisory votes.
“Public academic research institutions are the greatest renewable resource that this country has ever had.”

Christopher Kennedy
Chairman, University of Illinois Board of Trustees

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BOARD OF TRUSTEES
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The University of Illinois at Urbana-Champaign is a world leader in research, teaching and public engagement and is distinguished by the breadth of its programs, broad academic excellence and internationally renowned faculty.

illinois.edu
The University of Illinois at Chicago is an urban research university that is a vital partner in the educational, technological and cultural fabric of the Chicago metropolitan area. UIC offers students a superior education and a unique campus experience.

www.uic.edu
The University of Illinois at Springfield offers its students, faculty and staff an intellectually rich, collaborative and intimate learning environment. Students who attend UIS are attracted by the outstanding liberal arts education offered on the capital-city campus.
RANKINGS

A University of Illinois degree is a best-in-class value. Part of that value is derived from outside evaluations of the institution, its programs, and its students, faculty and staff.

Numerous organizations, from magazines to professional associations, issue rankings each year. Below are just a few rankings for the three U of I campuses.

The UIC College of Pharmacy ranks third in total federal research funding based on 2010 grants awarded by NIH and other federal agencies, according to the American Association of Colleges of Pharmacy.

The Wall Street Journal ranks the Urbana campus third nationally in terms of the quality of its graduates, as reported by recruiters from the nation’s largest public and private companies and nonprofit organizations.

For the past three years, the Springfield campus has been ranked as the top regional public university in the state of Illinois and the fourth best public university in that category in the Midwest in U.S. News and World Report’s “2011 America’s Best Colleges” edition.

The UIC Liautaud Graduate School of Business ranked among the top 25 graduate entrepreneurship programs in the nation in 2010 as reported in a survey conducted by The Princeton Review for Entrepreneur magazine.

The College of Engineering in Urbana ranked sixth for undergraduate programs and fifth for graduate programs in U.S. News and World Report’s “2011 America’s Best Colleges” edition.
Alumni are a permanent part of the University of Illinois family, and their support of University of Illinois and the University of Illinois Alumni Association programs, services and events fosters participation and pride in the institution. The universal membership model expands the reach of the organization and its members.

FINANCIALS
The total operating budget* for the University of Illinois is $4.76 billion.

* Includes $723.3 million in payments made on behalf of the University for employee benefits and $32.8 million for the Academic Facilities Maintenance Fund Assessment.
BEST IN CLASS: TEACHING

The U of I is renowned for academic excellence, with award-winning faculty and a host of undergraduate and graduate programs that are consistently ranked among the world’s best.

Kathy Hartke
UIS online graduate student
The New Century Learning Consortium, founded at UIS, assists universities in the implementation of high-quality, large scale online and blended programs. It recently added its 11th member and hopes to include 14 schools by the end of 2011. UIS’ outreach efforts come as online and blended enrollment continues to outpace traditional enrollment at universities nationwide.

Ray Schroeder, UIS professor emeritus of communication, has built a solid reputation within online education. In 2010, the Sloan Consortium, a national group of online educators, honored Schroeder with the inaugural Mayadas Leadership Award for his transformative leadership in online education. It is the consortium’s highest individual honor. UIS has earned more Sloan Consortium awards overall than any other university.

Online courses and degree programs expand the University of Illinois’ land grant mission by providing educational opportunities to non-traditional learners and other students who may be unable to access the three campuses. In 2010, the U of I’s online enrollments exceeded 32,000 students. Enrollments have increased more than 37 percent since 2003. At UIS, graduating students and their families attend a celebratory breakfast before commencement, often the first time they have been on campus.

For millions of students, the explosion of online education has turned dreams of completing advanced and undergraduate degrees while working full-time and managing family obligations into a reality.

In recent years, UIS has emerged as an online education leader because of the same high-quality teaching found on its brick and mortar campus. UIS online classes are managed by academic units.

“The same award-winning faculty who teach courses on campus teach them online,” said Ray Schroeder, director of the Center for Online Learning, Research and Service (COLRS).

Schroeder said universities nationwide are adopting the “UIS approach” of leveraging faculty expertise and training professors to use online technology. Schroeder said UIS stands apart because teaching and engagement drive online, blended and traditional programs.

When Kathy Hartke, of Teutopolis, enrolled in UIS’ online Master of Science in Computer Science program in 2009, she wanted to improve her programming and networking skills. Hartke, a mother of two who commutes to Urbana for work, considered online programs due to travel restrictions. Still, she had reservations about earning a degree without setting foot on campus.

“There was no such thing as the internet when I graduated,” said Hartke, who will earn her master’s in 2011. “But UIS reviewed my transcripts and laid out a path for me before I enrolled.”

“Inside” the classroom, UIS faculty partner with Oracle and other IT companies to give students access to databases and other materials for hands-on networking and programming exercises.

Hartke said professors use discussion boards to solicit feedback and are available by email or phone when students need assistance. She said “UIS goes above and beyond” and courses help students gain skills that will further their careers. Hartke said she has no doubts that her online classes offered the same value as traditional courses.

UIS RECOGNIZED FOR HIGH QUALITY ONLINE COURSES

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FINANCIAL AND INSTRUCTIONAL EXPERTISE IN THE CLASSROOM

Innovative. Influential. The embodiment of model teaching.

These are some of the qualities that made David Sinow, an Urbana clinical professor of finance, a recipient of a campus teaching award for excellence in undergraduate teaching. Sinow was one of twenty faculty, academic professionals and graduate teaching assistants honored in 2010.

Sinow teaches a variety of courses including employee benefits, insurance, real estate, and wealth management and has been included on the campus list of teachers ranked as excellent based on student course evaluations. In FIN 241, a survey course that covers the fundamentals of real estate including appraisal, investment, and management, students work on a simulation of a real estate deal involving an actual property in Champaign. Students can visit the property and meet with tenants and property managers. The course content is, noted one, “the difference between passive learning and conceptual mastery.”

Students notice the interest Sinow has in their mastery of a course’s subject matter. According to one undergraduate, Professor Sinow approached him after the first exam to ask how he had studied to score as well as he did. The student said his grade reflected the fact that he enjoyed the class. Based on that conversation, Sinow subsequently “interrogated” the student about his grades, internships, and professional interests and suggested career opportunities in finance.

Accomplished and memorable teachers inspire learning. Like other instructional award winners across the University of Illinois campuses, Sinow’s impact is both immediate and long lasting.

TEACHING THE NEXT GENERATION AND JUGGLING A BUSY ACTING CAREER

Yasen Peyankov, master actor and associate professor of performing arts, has worked almost nonstop since he moved to Chicago from his native Bulgaria in 1990. Peyankov joined the faculty of UIC, co-founded the European Repertory Company, appeared in one of Robert Altman’s final films, and has acted in some of the finest Chicago theatres including Steppenwolf Theatre where he is an ensemble member.

Despite his busy schedule, Peyankov remains engaged in working with students and recently directed UIC’s production of “Romeo and Juliet” set in modern day inner-city Chicago. The fast paced, two-hour production drew enthusiastic crowds during its fall 2010 run at the UIC Theatre.

Since he became head of the acting program in 2007, Peyankov has worked to redevelop the curriculum to broaden students’ perspectives and make UIC a key player in actor training. Peyankov has traveled with students to Sofia, Bulgaria, where they participated in acting workshops at the New Bulgarian University.

Peyankov emphasizes the ensemble and naturalistic system of acting whereby actors seek emotional authenticity in their roles. He brings professional actors, directors and casting directors into classes to help students learn professional habits.

“I want to train actors to be creative, thinking slightly outside of the box, and be ready to withstand the pressure – actors who are versatile and employable,” Peyankov said.

Reporting: Anne Brooks Ranallo
TECHNOLOGY-ENHANCED LESSONS

At other universities it would probably be correct to assume that Cecilia Gerber, a UIC associate professor of physics who conducts research on subatomic particles, has minimal contact with first and second-year students. Happily, that’s not how undergraduate education works at UIC.

While Gerber contributes to UIC’s research prowess with federally funded studies, her skills inside the classroom are consistently on par with those displayed in the lab. She was recognized as a University Scholar, the U of I’s highest faculty honor, in 2010 and will receive $30,000 over three years to advance her teaching, research and scholarship.

Gerber is among the more than 75 percent of UIC’s tenured or tenure-track faculty who teach undergraduate courses. During the fall 2010 semester, she taught an introductory physics and astronomy course that emphasized lab-based assessments and an online tutorial, homework and evaluation platform designed to foster active learning.

She is the director of undergraduate studies for the physics department which emphasizes a technology-rich curriculum to enhance students’ understanding of fundamental physics concepts. The department aims to create an environment where undergraduate students work in teams and perform experiments to answer questions presented in a clear, visually enhanced technological medium.

Reporting: Paul Francuch

LARGE CLASSES CAN PROMOTE LEARNING AND SCHOLARLY RESEARCH

Professor Rajeshwari Pandharipande has educated students on the Urbana campus for almost 30 years.

Pandharipande teaches courses on Hinduism and Hindi literature and has earned several campus teaching awards since she joined the faculty in the 1980s. She has also been named a University Scholar, the University’s highest award for teachers, scholars and researchers.

One of the areas where Pandharipande excels is teaching large lecture courses. The veteran educator is convinced her Asian mythology course – it enrolls 550 students each year – and others can promote effective teaching and introduce students to scholarly research.

“Students should be trained about what research means and how to do it, even in an elementary-level class,” Pandharipande said.

She divides students in her courses into teams and gives them the option to work on research papers together or write individual papers and discuss their ideas as a group. She said team-based research helps students develop leadership, debate and critical thinking skills.

Pandharipande has brought faculty and students from diverse disciplines together in conjunction with the Center for Teaching Excellence to create a template to make scholarly research a component of more large-enrollment undergraduate courses.

Reporting: Sharita Forrest
BEST IN CLASS: RESEARCH

The U of I boasts a rich legacy of discovery that includes transistors and the MRI, and its world-class faculty attracted nearly $800 million in research funding in 2010, ranking in the top five among U.S. universities.

John A. Gerlt
Enzyme Function Initiative
Ever since the famous Morrow Plots were established in Urbana in 1876, basic research at Illinois has provided the foundation of medical advances, technological innovations and cutting-edge discoveries. With the advance of science, new frontiers are discovered. This year, a team of researchers, led by John Gerlt, Gutgsell Chair, professor of biochemistry and chemistry, and a member of the Institute for Genomic Biology, will explore the frontier of enzyme structure and function.

Gerlt’s team has received a prestigious and highly competitive, $34-million-dollar-over-five-years, “glue grant” from the National Institute of General Medical Sciences (NIGMS). Glue grants support projects that tackle questions that are so big and complex they require a large team of interdisciplinary researchers. This project, the Enzyme Function Initiative (EFI), will develop a strategy for discovering the structure and functions of unknown enzymes discovered in genome sequencing projects. This is only the sixth glue grant ever awarded since the program began in 2000.

Enzymes are proteins that, like a car key that is inserted and turned, enable chemical reactions without which life could not exist. The reactions that enzymes “ignite” enable organisms to live in complex environments and adapt to a variety of conditions.

There are millions of enzymes. Gerlt and his longtime collaborator, Patricia Babbitt at the University of California, San Francisco, have created a way to more efficiently determine a protein’s function.

“We have sequences for more than 10 million proteins and we might know the specific functions of half of those,” says Gerlt, who is a member of the Mining Microbial Genomes theme at the IGB. “But what do the other half do? If we knew their functions, imagine how we might use them to identify new drug targets or provide catalysts used in industry.”

GERLT AWARDED INTERDISCIPLINARY “GLUE GRANT”

Dedicated in 2007, the Institute for Genomic Biology (IGB) is dedicated to harnessing recent advances in genome science and technology to improve human health, agriculture, the environment, and energy use and production. The state of Illinois provided $76 million for the building and in a little more than four years, IGB has more than recouped that investment, generating more than $110 million in funds from major federal granting agencies and the private sector. IGB scientists have generated more than 38 invention disclosures, 20 patent applications (and had four patents issued), and hundreds of scholarly journal articles.

Lawrence Schook, a professor of animal sciences in Urbana and the director of the Division of Biomedical Sciences, was named interim vice president for research in February. The office of the vice president for research is responsible for the University’s nearly $800 million-a-year, externally funded research enterprise. Schook holds joint appointments in bioengineering, nutritional sciences, and in pathology, part of the UIC College of Medicine, and has faculty appointments with the Institute for Genomic Biology and the Beckman Institute for Advanced Science and Technology.

Collaboration is key. Working on the Enzyme Function Initiative with John Gerlt are colleagues at the Albert Einstein College of Medicine, Boston University, Texas A&M University, the University of New Mexico, the University of Utah, the Vanderbilt University School of Medicine and the University of Virginia. The team also includes a microbiology group led by John Cronan, Jr., a professor of microbiology, and Jonathan Sweedler, a professor of chemistry, both in Urbana. The researchers will use their expertise in enzymology, structural biology, computational modeling and bioinformatics to develop an approach to associate enzymatic functions with genes in thousands of organisms.
EXPLORING THE SOCIAL AND EMOTIONAL FACTORS THAT INFLUENCE SMOKING

While most efforts to prevent smoking focus on early adolescence, UIC psychology professor Robin Mermelstein’s research indicates young people typically turn to smoking in their late teens and early 20s to relieve stress, obtain an emotional boost, or foster a sense of social belonging. “It’s that transition right after high school, filled with so many developmental changes, when we see big jumps in cigarette smoking,” said Mermelstein, director of UIC’s Institute for Health Policy and Research.

UIC received a $12.4 million grant from the National Cancer Institute to study predictors of smoking from adolescence through young adulthood. The grant extends a 2004 UIC teen smoking study. Researchers will follow 1,200 Chicago-area young adults originally identified in the 2004 study.

The need for such research is underscored by studies that indicate 45 percent of high school seniors smoked during the past 30 days and 11 percent smoke daily. Researchers will track exposure to tobacco advertising and conduct interviews with subjects to assess how their environmental and emotional factors change during this period.

UIC researchers intend to conduct one-on-one interviews using personal digital assistants and perform lab-based psycho-physiological assessments. They hope to identify protective factors that may reduce tobacco dependency and learn how young adults use smoking to regulate their mood.

Co-investigators for the study include researchers from UIC, the University of Utah, Wesleyan University, and Northwestern University.

REBUILDING A NATIONAL MATH CURRICULUM

UIC’s Learning Sciences Research Institute is collaborating with a team of organizations that includes Apple Computer, Inc. on a $10 million math literacy project funded by the U.S. Department of Education to redesign a widely used middle school math curriculum.

Susan Goldman and James Pellegrino, co-directors of LSRI and distinguished professors of psychology and education, will lead the UIC research team and said the results of the collaboration will likely have a major impact on mathematics achievement in American middle schools.

As part of the National Center for Cognition and Mathematics Instruction, UIC researchers will apply principles of cognitive theory and research to revamp the Connected Mathematics Project curriculum. Results from a series of interrelated studies, particularly those involving algebra and advanced mathematics concepts, will be used to improve future editions of the curriculum for grades six to eight.

UIC’s investigation comes at a time when schools across the nation are working to boost students’ ability to think mathematically in the same way that educators have worked to improve reading literacy. Education experts agree that math literacy is a gateway to college readiness and many careers.

WestEd, a national education research nonprofit agency, is the lead organization for the five-year project, which is a partnership between UIC, Carnegie Mellon University, Temple University, University of Wisconsin-Madison, Worcester Polytechnic Institute, Pearson, and Apple Computer, Inc.
ACKNOWLEDGING CLASS

The civil rights movement was never as unified as it has frequently been portrayed. What’s missing from the discussion is class.

Clarence Lang, an Urbana associate professor of history and African American studies, researches the history of civil rights by examining St. Louis, a border city where many aspects of segregation began and ended early relative to the South, but where blacks never lost their ability to vote.

The working-class roots of the movement took hold in the 1930s, Lang says, as the wealth and status of the small black middle class waned. Middle-class blacks had played key leadership roles for the black community, which in St. Louis had resulted in a black high school and hospital. The Great Depression represented a significant shift during which working class blacks began to speak for themselves. Lang’s research indicates the 1930s “reshaped the class dynamics” in the black community and changed race relations in St. Louis.

Those dynamics continued through the civil rights gains of the 1950s and 1960s. Class-related conflicts over goals, tactics, and leadership were waged in St. Louis chapters of the Congress of Racial Equality (CORE), the NAACP, and the Urban League. By the 1970s, new middle-class opportunities for blacks in business and government caused class dynamics to shift again in favor of the middle class.

A recipient of an Illinois Program for Research in the Humanities fellowship in 2009, Lang has been honored for his research and scholarship, which reexamines accepted interpretations of topics.

Reporting: Craig Chamberlain

THE INTERSECTION OF POLITICS AND NATURE

At the intersection of politics and nature, politics usually wins, despite best intentions, says Robert Pahre, a professor of political science in Urbana whose environmental research and teaching has focused on national parks.

His perspective comes in part from his research, which combines animal population models with political models in select areas near national park boundaries. Pahre has also researched trade cooperation across national boundaries in Europe. His observations are rooted in political science, where institutions and incentives are emphasized as the keys to political problems as opposed to educating the public.

Even with the renewed environmental interest in recent years, Pahre says nature gets little attention. Much of the environmental focus is ultimately about urban issues or energy, most of it related to climate change. Recycling, green energy, and sustainable architecture are important, but Pahre believes those issues are about humans using natural resources and land more efficiently to benefit themselves. Pahre said there is little vision for setting aside places with the idea that “this is going to be the place where we’re going to let nature be alone.”

During the spring 2011 semester, Pahre is teaching freshmen in a Discovery course that examines political and policy issues around protecting the environment in national parks. The Discovery program enhances students’ education through interaction with faculty in small classes that emphasize critical reading, writing, and discussion skills.

Reporting: Craig Chamberlain
BEST IN CLASS: HEALTH CARE

Home to the nation’s largest College of Medicine, the U of I is an incubator for life-saving research and educates more physicians, nurses, dentists and pharmacists for Illinois than any other school.

Dr. Ed Cook
Autism Center for Excellence
Since the mid-1980s Ed Cook, M.D., has worked to unveil the complexities of autism, a neurobiological disorder inhibiting a person’s ability to communicate and form social relationships. Cook has been a leader in recognizing that the high number of “copy number variants” on chromosome 16 and duplications in the beginning of chromosome 15 strongly increase the chance of autism, especially if it is a maternal chromosome.

“These findings are another step on the long path to sufficiently understanding autism to further develop treatments for the core symptoms,” said Cook, who leads the UIC Center for Neurodevelopmental Disorders.

Cook also heads the NIH-funded Autism Center for Excellence (ACE) at UIC, one of five such centers nationwide and the only one in the Midwest. His group focuses on ways to alleviate the “insistence on sameness” that is a common hallmark of autism. This behavior can include wearing the same clothes every day or taking the same route to school.

This behavior is “very distressing to the child,” Cook said because efforts to follow a set of rules will invariably fall short. Problems related to repetitive behaviors, such as anxiety and aggression, are among the most troublesome and debilitating for individuals with autism and their families.

Research has shown that some medicines modulating serotonin uptake help relieve repetitive behavior. Cook’s group is investigating the genetics of serotonin in autism to determine who might respond best to this treatment and at what dosage level. In addition, Cook’s colleague Suma Jacob is conducting the first study investigating whether oxytocin might also help children with autism.

Autism affects approximately one in 160 people. Boys are four times as likely to be diagnosed with autism as girls.

Reporting: Sherri McGinnis Gonzalez
NURSING LEADERSHIP, NURSING LEADERS

Most health experts agree the United States is in the midst of a shortage of registered nurses that will likely intensify as demographics change. UIC has recognized the need to expand and diversify the nation’s nursing workforce while ensuring quality for decades.

The College of Nursing operates four regional programs in the Quad Cities, Peoria, Rockford, and Urbana, offers five degree and seven certificate programs, and enrolls nearly 1,200 students. One out of every ten nurses in Illinois graduated from the college, a testament to the critical role UIC plays in nurse education.

The college boasts award-winning faculty including Susan Corbridge, recipient of the 2010 Outstanding Nurse Practitioner Educator Award of the National Organization of Nurse Practitioner Faculties. Corbridge, an educator for more than two decades, was cited for her ongoing efforts to improve nursing education. As director of acute care nurse practitioner and clinical nurse specialist programs, Corbridge combines traditional textbook learning with hands-on training using interactive mannequins that produce lifelike symptoms of real diseases to improve students’ clinical and decision-making skills.

Nursing faculty also serve the community and conduct research. The College of Nursing recently received a $1.9 million federal grant that funds a new midwifery clinic to provide care to medically underserved women and women with disabilities. Nursing faculty will use a grant from the Robert Wood Johnson Foundation to study how societal factors such as a lack of access to fresh foods influence obesity rates in Hispanic and African American women.

Reporting: Sam Hostettler

IDENTIFYING CANCER CELLS MORE QUICKLY

A novel microscopy technique developed on the Urbana campus produced easy-to-read, color-coded images of tissue, outlining clear tumor boundaries, with more than 99 percent confidence—in under five minutes.

Nonlinear interferometric vibrational imaging (NIVI) constructs images based on molecular composition. Once fully developed, NIVI technology could make medical diagnostics more quantitative and more rapid.

Professor Stephen A. Boppart, who holds appointments in electrical and computer engineering, bioengineering and medicine on the Urbana campus, says that at the molecular level, cells have “fairly clear signatures.” Normal cells have high concentrations of lipids, but cancerous cells produce more protein. By identifying cells with abnormal protein concentrations, researchers could accurately differentiate between tumors and healthy tissue.

The researchers are now working with human tissue samples from an Urbana hospital. Next up is to develop a way to employ lights and examine tissues in situ rather than samples. The team hopes to develop a portable NIVI instrument in three years and commercialize in five years.

The research, funded by the National Cancer Institute at the National Institutes of Health, was published in 2010 in the journal Cancer Research.

Boppart earned his PhD in electrical and medical engineering from MIT in 1998 and his MD from Harvard Medical School in 2000. He teaches courses in biomedical and optical imaging and biomedical instrumentation. He was the founding director (2006-2008) of the Mills Breast Cancer Institute at Carle Foundation Hospital.

Reporting: Liz Ahlberg
APPLYING CLUES FOR A MORE ACCURATE DIAGNOSIS

Two UIC researchers have shown that physicians can be taught to listen better and pick up on hints patients provide about their circumstances. The research may change the way doctors are trained and, ultimately, improve the quality of care patients receive.

Medical students at UIC’s College of Medicine were divided into two groups during studies conducted by Alan Schwartz and Saul Weiner, associate professors of clinical decision-making, medical education and pediatrics.

One group attended four short workshops training them to recognize and respond to patient contexts such as lifestyle and other personal details patients provide during examinations. The second group did not attend the workshops. The two groups then diagnosed and “treated” four actors trained to convey identical medical and contextual cues to each student. One actor played a patient with worsening asthma. The medical students had to discern if he needed his inhaler dose increased or if his financial condition prevented him from paying for his current medication.

The students who attended the workshops correctly identified and treated the contextually complicated patients two-thirds of the time versus 25 percent for students who did not attend.

Schwartz says individualized care can be taught and advocates for its inclusion in physician training. He said the workshops helped improve budding physicians’ ability to individualize care without affecting their other abilities as doctors.

Reporting: Jeanne Galatzer-Levy

PHARMACY STUDENTS BATTLE H1N1 HYPE

UIC pharmacy students earned a national award in 2010 for their efforts to immunize and educate people throughout Chicago amidst fears and hype about the H1N1 virus and flu vaccines.

The College of Pharmacy’s “Operation Immunization” earned the top award in 2010 from the American Pharmacists Association-Academy of Student Pharmacists. As part of the student-led initiative, more than 300 UIC pharmacy students and 17 faculty and staff performed immunizations and outreach at more than 150 flu-shot clinics at pharmacies, civic centers, churches and employer sites throughout Chicago. The project took place over four months in 2009 and about 15,000 people were immunized.

Fourth-year pharmacy students were certified to provide immunizations by the APA training program. First through third-year students were trained to educate people about the protection vaccines provide against potentially fatal diseases. Some events targeted at-risk populations such as the elderly, children, people with respiratory diseases and people living with HIV/AIDS.

UIC’s College of Pharmacy is one of the top 10 pharmacy programs in the nation. Initiatives like Operation Immunization are a result of the college’s patient centered-curriculum and emphasis on outreach to develop confident, caring practitioners with the ability to adapt to the needs of society.

Reporting: Sam Hostettler
BEST IN CLASS: PUBLIC SERVICE

Public service has been a cornerstone of the U of I’s mission since its founding nearly 150 years ago, and its leading-edge knowledge radiates across society to help build a better tomorrow.

Susan Schantz
Children’s Environmental Health and Disease Prevention Research Center
Whether it’s treating animals at one of the nation’s largest indoor aquaria, tracking West Nile or supporting efforts to protect farm animals from deadly viruses, the College of Veterinary Medicine in Urbana does more than educate veterinarians. Faculty and students help countless Illinois residents by working to improve animal, human, and environmental health.

The Veterinary Teaching Hospital offers an array of services, from MRIs for horses and eye exams for birds to chemotherapy for dogs with cancer. Veterinarians are at the forefront of their specialties, and patients benefit from access to new treatments available only through clinical trials. Chicago residents benefit from vet services at Furnetic, a small-animal clinic near the UIC Medical Center. A student-staffed grief support line helps pet owners cope with the loss of a companion animal.

The Vet Med Diagnostic Lab is a unique blend of public service, teaching and research that serves citizens of Illinois and the University’s research and teaching communities. In 2010, the lab received samples from vets across the state and performed more than 68,000 tests associated with more than 31,500 cases. The American Association of Veterinary Laboratory Diagnosticians accredited lab was instrumental in the early identification and tracking of West Nile in Illinois. Its zoo pathology program, located in Chicago, provides diagnostics to the area zoos and aquarium on everything from penguins and polar bears to sea turtles, tree frogs, and bottlenose dolphins.

Vet Med researchers also conduct research that directly helps humans. Susan Schantz, an environmental toxicologist, is leading the Children’s Environmental Health and Disease Prevention Research Center at Illinois with associate director and comparative biosciences professor Jodi Flaws.

The center is funded by a three-year, $2-million grant from NIH and EPA in coordination with Harvard University. Researchers will investigate the effects of BPA and phthalates, chemicals widely found in consumer products like plastics and personal care products, and which act by disrupting endocrine function. Male and female babies normally have different cognitive abilities and behaviors because of the actions of hormones on the brain during development. Schantz’s group will investigate whether prenatal exposure to BPA and phthalates affects those differences.

With the new veterinary curriculum introduced in 2009, students are engaged in a variety of clinical settings from their very first day in the program. They also master skills in the most comprehensive veterinary skills lab in the country. Aided by full-time coaches, students practice venipuncture on a lifelike model that reveals the llama’s idiosyncratic anatomy, bandage the legs of a life-sized horse model, learn suture patterns used for closing incisions in large and small animals, and more.

Oncology is an area where Vet Med staff are conducting several research projects with potential benefit to human patients. Board-certified veterinary cancer specialist and clinical professor Timothy Fan works with dogs and their owners to explore ways to use nanoparticles to deliver chemotherapy directly to tumors. Another research project with strong potential to be applied to humans involves using a novel molecule to block the action of tumor cells. Other notable projects involve pain management in sarcoma and long bone cancer and early cancer detection.

The student-run Wildlife Medical Clinic provides care and treatment to sick, injured, or orphaned animals, with the goal of returning them to the wild. Animals are accepted 24/7 and each is assigned to a team of 8-10 volunteers for treatment. The clinic has seven permanent residents—three owls, two hawks, a kestrel, and a kookaburra—that are used for educational purposes because they cannot be released. The clinic, which cared for more than 1,200 injured animals last year, is a non-profit organization that raises funds to support testing, treatment, and surgery costs.
MEETING THE NEEDS OF ILLINOIS RESIDENTS

Extension is the Urbana campus’ flagship outreach program, serving residents in every one of Illinois’ 102 counties. Based in the College of Agricultural, Consumer and Environmental Sciences, Extension provides research-based, high-impact programs that meet the changing societal and personal needs of Illinois residents. Through learning partnerships that put knowledge to work, U of I Extension’s programs are aimed at making life better, healthier, safer and more profitable for individuals and their communities.

Those programs include not just commercial agriculture, but money management, nutrition, the environment, and youth programs. More than 2.5 million residents participate in Extension programs every year, including 300,000 in 4-H youth programs. In one initiative, student interns help grow produce on farms in the Cook County area and then take their harvest to Chicago to teach residents the importance of fresh vegetables.

In response to challenging economic times, Extension units are now multi-county, rather than single-county. As before, local Extension councils, comprised of local citizens, will continue to guide the new multi-county units.

GREAT CITIES, GREAT CHICAGO COMMITMENT

Since 1993, UIC has leveraged its status as Chicago’s largest university to embark on a Great Cities Commitment in which faculty, staff and students engage in projects with the people, communities and institutions of Chicago and other world-class cities in ways that transform urban life.

Teaching, service and research activities occur in every UIC college and research center as well as in the Great Cities Institute and investigate issues related to education, health care, education, affordable housing, economic development and transportation.

Notable recent projects include UIC Voorhees Center for Neighborhood and Community Improvement co-director Janet Smith’s report and policy recommendations on the national shortage of affordable and accessible housing for low income people with disabilities. Associate professor of public administration Karen Mossberger also conducted groundbreaking research on racial and neighborhood gaps in internet use and access in Chicago that drew national media attention.

These projects and hundreds of others conducted each year are grounded in the campus’ mission to devote a significant portion of its research to finding solutions to urban problems in cooperation with governments, nonprofits and other partners.

Reporting: Anne Brooks Ranallo
**RE-ENERGIZED EAST ST. LOUIS COMMUNITIES**

More than 20 years ago a group of professors and students from the College of Fine and Applied Arts travelled to East St. Louis to initiate hands-on, community-based collaborations with local residents. Now in its 24th year, the East St. Louis Action Research Project (ESLARP) is a national model for service learning. Students and faculty members work hand-in-hand with inhabitants of one of the most impoverished cities in the nation undertaking projects residents deem most important.

Urbana students and faculty have teamed with residents to establish St. Clair County’s only center for homeless veterans, design and create parks and landscaping, establish 28 community computer facilities, write grant applications, and undertake fund raising and event planning.

One of ESLARP’s most notable collaborations with residents involved compiling data from housing, transportation and zoning agencies and convincing St. Louis to run the light rail transit system through East St. Louis’ Emerson Park neighborhood instead of around it.

On average 500 students and faculty from more than 11 academic units – from law to music, not to mention urban planning, landscape design, computer sciences, and library and information services – participate in ESLARP each year.

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**NURTURING PUBLIC SERVANTS**

An internship can provide the proverbial foot in the door. Recognizing this, UIS offers graduate students two internship programs designed to solidify a commitment to public service.

Few universities rival the success UIS has with its public service and legislative staff internship programs. Coordinated by the Center for State Policy and Leadership, the Graduate Public Service Internship (GPSI) and the Illinois Legislative Staff Internship Program (ILSIP) give students a head start on their careers while earning a UIS master’s degree.

In the last 35 years, more than 2,000 GPSI students have been placed in 21-month internships with a variety of Illinois agencies including transportation, public health, revenue, and state police. Interns hold a variety of jobs including web developer, biologist, procurement specialist, and marketing assistant. UIS interns integrate theory with practice under the direction of mentors.

Annie Thompson, press secretary for Governor Pat Quinn, recognizes that a UIS internship can open doors. Thompson interned with the Illinois Environmental Protection Agency and says her supervisor encouraged her involvement with resume-building projects. Thompson said her current position is a direct result of her internship.

Each year, 24 ILSIP interns hold full-time positions as professional legislative staff members with the Illinois General Assembly or Legislative Research Unit. The program lasts almost 11 months and gives aspiring public servants an understanding of the legislative process. ILSIP has served Illinois for almost five decades with interns working alongside legislative leaders to shape public policy.

ILSIP alumni include Illinois State Auditor General William Holland and former Governor Jim Edgar.
BEST IN CLASS: ECONOMIC DEVELOPMENT

The U of I is a key cylinder in the state’s economic engine, pumping more than $13 billion into the Illinois economy every year and creating more than 150,000 jobs.
University-affiliated research parks offer companies access to research faculty and an environment where innovation is nurtured and thrives.

The University of Illinois Research Park, located on the south campus in Champaign, provides an environment where technology-based businesses collaborate with faculty and students to leverage opportunities for research collaborations and access to human and intellectual capital. The Park, which has 607,000 square feet of space, has attracted 90 companies ranging from start-ups to publicly traded companies like ADM, Caterpillar, Qualcomm, State Farm and Yahoo. Research park companies employ nearly 1,300 people, many of them in high tech jobs. Forbes recognized the prowess of the U of I Research Park in 2010 and included it among the “top 10 technology incubators that are changing the world.”

Urbana-Champaign students also benefit from the presence of the research park with nearly 400 students working in positions as diverse as the companies in the park. Through their internships, students gain valuable experience and make connections with a company and industry. Interns use skills gained in their coursework and on the job to make real contributions to internal corporate R&D and product development programs.

Each year, Research Park managers nominate outstanding student interns to be honored for their achievements. Among the 2010 winners is Roman Semenyuk, a molecular and cellular biology major who interned with Autonomic Materials (AMI), a company that provides innovative self-healing technologies for the coatings industry. Scott White, an Urbana professor of aerospace engineering, founded AMI in 2007. The company works in partnership with coatings producers to make self-healing coatings a practical reality. Semenyuk’s mentor, Urbana alumnus Gerald Wilson, said Semenyuk worked hard and soaked up everything he could, not just about the science, but also about business and entrepreneurship. Wilson, who leads the AMI technology development team, said Semenyuk personifies exactly what research park companies look for in student interns. His ability to work independently and use problem-solving skills and domain expertise enabled him to play a key role in helping the company meet its goals.

iCyt represents the kind of success story the University envisioned when the Urbana-Champaign Research Park was launched in 2001. Founded in 1995, iCyt moved its two employees to the Research Park in 2002. In 2010, Sony bought the company, which now has almost 50 employees and founder Gary Durack expects that number to double. He credits the University of Illinois Research Park for much of the success of his business and says the park helps firms “function like a big company and compete with the big players.” Access to University labs, faculty and student workers helps iCyt compete with major rivals that are part of billion-dollar companies.

David Carley and Miodrag Radulovacki, noted sleep researchers, were jointly named the 2010 UIC Inventors of the Year for their work related to sleep-related breathing disorders. Traditional treatments for common disorders such as sleep apnea involved complex devices or surgery to widen the soft tissue in the airway. Carley, director of UIC’s Center for Narcolepsy, Sleep and Health Research, and Radulovacki, a professor of pharmacology, found that turning up or down the signaling pathways of certain neurotransmitters can reduce the incidence of sleep apnea. Their work has led to a dozen disclosures for potential new drug therapies under development by several companies, ranging from big pharmaceutical companies to start-ups.

The University of Illinois has earned a stellar reputation for groundbreaking research across a number of disciplines. The Urbana-Champaign and Chicago campuses each have an active Office of Technology Management that provides support to campus units to ensure that the results of University research are successfully commercialized. The offices are also valuable resources for companies seeking to partner with University researchers. In 2010, these offices filed for more than 300 U.S. patents and funded eight startups. These activities and numerous others are proof that the U of I is poised to continue its reputation as a research leader and economic development engine well into the 21st century.
BEST IN CLASS: COMMUNITY ENRICHMENT

The U of I’s reach extends far beyond classrooms and laboratories on its three main campuses, with a host of life-changing programs that expand careers and offer a glimpse into the future.

David Bartels
Rockford Regional Pharmacy Program

Dr. Jasti Rao
UIC College of Medicine at Peoria
Educate. Innovate. Serve. For more than 100 years those three pillars have guided the work of the UIC College of Medicine and helped it emerge as a world-renowned center of medical education and research. Today the College of Medicine is the largest medical school in the nation with 1,600 students on campuses in Chicago, Peoria, Rockford and Urbana.

The Rockford and Peoria campuses were established within a year of each other, four decades ago. Each has charted a different course by identifying a specific medical focus. Over time, each has also become a home for health science programs from other UIC colleges.

The Rockford campus is known for family and rural medicine and operates primary care clinics and a women’s and children’s health center in Rockford and surrounding communities. In 2010, the campus graduated its first class of master’s degree students in medical biotechnology and launched a Doctor of Nurse Practice program for nurse practitioners. Rockford also opened a 58,000-square-foot addition in 2010 that houses a new College of Pharmacy program.

“This new building allowed us to expand our pharmacy program beyond Chicago in order to attract more students from rural areas,” said David Bartels, vice dean at the Rockford Regional Pharmacy Program.

More than 130 miles to the south, the Peoria campus is known for its focus on specialty medicine, world-class research and is home to a graduate program in public health. Peoria broke ground for a $13-million Cancer Research Expansion Project in 2010. The 20,000-square-foot facility will enable Peoria to continue to recruit the world’s best cancer investigators, like Dr. Jasti Rao, an internationally recognized cancer researcher. Since he joined the campus a decade ago, Rao and his colleagues have published more than 120 research journal articles and secured more than $27 million in grant funding.

The need for doctors in rural areas is great, but often isolation and burnout cause physicians to leave their new communities. In contrast, more than 70 percent of Rockford’s rural medicine program graduates are practicing rural primary care in Illinois. Many Rockford students are from rural areas which makes the transition smoother. From their first year, Rockford students conduct public service projects in their chosen community and spend 16 weeks during their final year integrating into the community by working on a “primary care” project.

The College of Medicine in Peoria received the largest gift in its history in 2010. The $25-million gift, given by Jump Trading, a Chicago-based high frequency proprietary trading firm, will fund a state-of-the-art simulation, robotic and computer-mannequin technology center to train current and future physicians and regional health care professionals. The gift to the College of Medicine and OSF Saint Francis Medical Center also funds a conference center and auditorium that will have advanced multimedia capabilities.

Mario Martinez, co-founder of the student-led HEARTs (Health Education Awareness Resource Team) in Peoria, was honored with the 2010 Jefferson Award, one of the nation’s most prestigious awards for volunteerism. HEARTs was established in 2008 and addresses medically underserved populations in Peoria. Medical students concentrate on important public health issues such as diabetes, hypertension, and anti-smoking education. Martinez shared the dais with New York City Mayor Michael Bloomberg. Past recipients include Lance Armstrong, Dr. C. Everett Coop, General Colin Powell, and Justice Sandra Day O’Connor.
A LOOK INSIDE STATE GOVERNMENT

For most high school students, a trip to the state capitol includes public tours and minimal access to state officials. Thanks to University of Illinois at Springfield’s “Under the Dome” event, dozens of central Illinois and Chicago-area high school students spend a day navigating the statehouse as insiders.

“Because UIS has so many alumni engaged in government we’re able to take high school students behind the scenes,” said Ed Wojcicki, UIS associate chancellor for constituent relations.

Under the Dome is the state’s premiere immersion event for juniors interested in careers in government and nonprofits. Students interact with lawmakers, lobbyists, legislative analysts, and staff members and watch debates unfold on the House and Senate floors.

Schools provide transportation and UIS provides every other aspect of the event, which is scheduled on one of the busiest days at the capitol. The in-depth program is designed to help students gain relevant knowledge about government and inspire them to consider public service careers.

Allison Weidhuner participated in Under the Dome in 2010 as a junior at Greenview High School. Weidhuner said she had no concept of the number of people – from lobbyists, to journalists and staff members – who interact with elected officials. “It helps you understand the whole process and get to know your government,” she said.

Reporting: Blake Wood

COMPUTATIONAL CHEMISTRY IN THE RURAL CLASSROOM

The Institute for Chemistry Literacy through Computational Sciences (ICLCS) created by the National Center for Supercomputing Applications (NCSA) focuses on professional development for science teachers in rural schools.

Teachers come to the Urbana campus for two weeks every summer to train intensely at NCSA and meet colleagues. Teachers then correspond throughout the year using a social networking tool. Using computation and visualization tools, teachers learn to build a molecule, rotate it, view it in 3D, and join it with other molecules – not the balls-and-sticks models of the traditional chemistry classroom.

The teachers are as excited about finding a professional community as they are about learning specific techniques. Thanks to the institute, participants become, in the words of Carterville chemistry teacher Mary Jo Osborne, “a member of a department with 50 chemistry teachers.” That’s a far cry from reality where, according to project coordinator David Mattson, the ICLCS participants are the only chemistry teacher or even the only science teacher at their school.

Tests administered to both students and teachers show improved test scores. Like ripples in a pond, the ICLCS experience will expand outward from teachers to students and even beyond. Future plans include a larger social networking environment that would be open to all teachers everywhere.

In 2010, at the annual meeting of the Illinois Association of Chemistry Teachers (whose members teach high school and undergraduate students), more than half of the talks were presented by members of ICLCS.
UIS STUDENTS RESPOND TO NEED FOR MORE MENTORS

Nearly eighty percent of children waiting for a mentor in Sangamon County as part of Big Brothers Big Sisters of the Illinois Capital Region are African American. Many of those children are young boys who would like an African American big brother.

Yvonne Wapniarski, enrollment specialist for BBBS of the Illinois Capitol Region, said matches take an average of two years. The nonprofit agency struggles to find qualified volunteers of all backgrounds who meet the preferences of children and their parents.

Wapniarski said she rarely had black male volunteer candidates until Anthony Thomas-Davis, adviser for the UIS Black Male Collegiate Society, contacted her last summer. Since then 15 UIS volunteers have been paired with children and visit them weekly.

The BBBS-BMCS partnership embodies UIS’ commitment to civic and volunteer engagement and projects that help meet the needs of central Illinois. Recognizing this, the federal government has included UIS on the President’s Higher Education Community Service Honor Roll twice in recent years.

BMCS president Justin Rose mentors an 11-year-old student who is fond of sports. Rose said he reminds his little brother that he’s a student first and that sports come second.

“It gives you something to feel good about,” he said. “I’m already attached to my little brother and it’s still early.”

Reporting: Blake Wood