New students head across campus on a tour for UIC Orientation, organized by Student Development Services. Up to 8,000 freshmen or transfer students and their parents will be introduced to UIC through orientation, which began at the end of May and continues through July. Students are also invited to stay overnight in residence halls. All new undergrads can participate in orientation; it’s not too late to sign up at 312-996-3271.

Not-so-lazy days of summer

Christine Mary Dunford adds drama to teaching

Look, Ma, no gravity! Team takes science into space

Custom map business leads urban planning grads to success

Loyola women’s coach joins Flames staff
Here's how Christine Mary Dunford came to adapt the bestselling novel *Still Alice* into a play that she directed recently for Lookingglass Theatre.

She was working with the director of a program for Alzheimer's patients and asked if she'd ever considered stage performance as a way to reach them.

"Yes, but I didn't know how," the director said.

Said Dunford: "I know how.

Dunford, associate chair of UIC's theatre and music department, is a partner on Alzheimer's-related projects with Darby Morhardt and Mary O'Hara of Northwestern University Feinberg School of Medicine.

They co-founded the Memory Ensemble, which involves patients in improvisation.

"People don't have to remember," Dunford said.

Because she needed background on Alzheimer's, Dunford asked Morhardt for some literature. The book *Still Alice*, by Lisa Genova, was part of the material she was handed.

"One of the reasons I liked it was that it shifted the discourse about 'dying from' to 'living with,'" she said.

"It matched my own values and principles about living and change, and my experience with people in the Memory Ensemble. Living with Alzheimer's — that felt truthful to me."

Another thing she liked about *Still Alice* was its "dark humor that matched my experience with people with Alzheimer's," Dunford said.

"Sometimes people are afraid, sad or confused, but when their feelings are acknowledged, they quickly move into the chance to do something positive with humor and hope."

She wanted the play to present some of the biggest questions about living with Alzheimer's and "provide a vocabulary for more conversation."

She seems to have succeeded.

"People who came to the play told me almost without exception that they drove home talking about it," Dunford said.

One of several works she's adapted into plays, *Still Alice*, which ran at Lookingglass from April 20 to May 19, "came rather easily," she said.

"The source material is so good, and I'd had a lot of personal experience that gave me a sense of clarity about what I wanted to do."

As with any piece of fiction, the challenge was in translating the narrative voice to the stage. Dunford did this by splitting Alice into two characters.

Both are onstage together, along with the play's other characters — Alice's husband, their two children, a grad student and two doctors.

"Alice talks to herself," Dunford said. "She can say things she thinks that she wouldn't say to her family."

Dunford has been part of the Lookingglass ensemble since 1989 and has acted in, written, adapted or directed nearly three dozen of the theater's productions.

For the Memory Ensemble, she gets together with eight to 15 Alzheimer's patients once a week for improv work.

"No one has to remember anything from week to week," she said.

In one exercise, objects are grouped in the middle of the room and participants take turns pretending the objects are something else.

Illustrating, Dunford picked up her sweater and held it like a violin, cradled it like a baby and tugged on it like a dog leash.

For each transformation, "everyone shouts 'Yes it is!'" she said.

"Everyone is creative, everyone is supportive, everyone is successful in a safe environment."

Twenty years ago, Dunford co-founded the Lookingglass Education and Community program for public and private school students across the city.

In the Young Ensemble, kids ages 8 to 18 spend a school year creating a play — or adapting one from a short story or novel — then stage and produce it.

In 1994, Dunford became a founding teaching artist with the Chicago Arts Partners in Education, teaching in the program until 2003.

As an anthropology research associate with the Field Museum, she conducted research commissioned by the city's Department of Environment on how residents understand and deal with issues of conservation and climate change.

Dunford's family lived in Evanston and Chicago until she was 6, moving to Rockford for three years and then to Phoenix, Ariz.

She earned a bachelor's degree in theater from Northwestern University.

"I thought about a double major including political science, but I kept coming back to theater," she said.

"Through stories, we get to experience and explore what it means to be human."

Dunford received a master's degree in cultural anthropology at UIC before returning to Northwestern for a doctorate in performance studies.

She rejoined UIC in 2012 as associate chair of theatre and music and will be director of the new School of Theatre and Music.

Dunford lives in Evanston with her husband, Daniel Cunningham, production coordinator at Oakton Community College, and their two young children.

"I like to hike and camp with my family," she said. "I have an interest in travel, but don't get to do a lot of it."

"And I want to learn to draw and watercolor. It's on my list of things to do when I retire."

"One of the reasons I liked it was that it shifted the discourse about 'dying from' to 'living with,'" says Christine Mary Dunford about "Still Alice," her recent play directed for Lookingglass Theatre.

Sheela Raja, assistant professor and clinical psychologist in pediatric dentistry, on getting children to eat their vegetables. July 14 Nashua, N.H. Telegraph

"It's the notion of universities doing things and us doing things with universities, because they can't do it alone, that helps us create the coalitions of place that we need to invest in Chicago."

David Perry, professor of urban planning and policy, on the impact of universities on Chicago's economy, July 10 WBEZ-FM "Curious City"
UIC Chicago site for Latino health study

By Sharon Parmet

UIC will manage the Chicago portion of a six-year, multi-center National Institutes of Health study of Hispanic and Latino health in the U.S.

“The Hispanic/Latino population is growing faster than any other minority group in the U.S., and to better serve their health needs, we need to know where they stand as a whole — this study lets us see that big picture,” said Martha Daviğlus, director of the UIC Institute for Minority Health Research and principal investigator of the Chicago field center.

The nationwide Hispanic Community Health Study/Study of Latinos includes more than 16,400 Hispanic/Latino adults between the ages of 18 and 74. Participants are of diverse backgrounds, including Cuban, Dominican, Mexican, Puerto Rican, Central American and South American. They were recruited from four U.S. communities.

The NIH contract managed by UIC is funded for up to $15.3 million.

The first phase of the study, from 2008 through 2012, collected baseline health data on participants.

In the second phase, researchers will reexamine the participants and collect data on chronic diseases that are prevalent in Hispanics/Latinos, including heart disease, diabetes, asthma, chronic obstructive pulmonary disease and gastrointestinal diseases.

The study will include assessment of cardiovascular risk factors, echocardiography and blood and urine tests. Participants will complete a questionnaire on demographic, socioeconomic and lifestyle factors. Genetic information will be analyzed to determine if health and disease findings can be linked to specific gene variants.

The original study revealed a startling burden of risk among the Hispanic/Latino population, Daviğlus said.

“We found that 80 percent of men and 71 percent of women have at least one adverse risk factor for cardiovascular disease, such as high cholesterol, high blood pressure, obesity, diabetes and smoking,” she said.

The study has an educational and preventive component; findings will be shared with the participants and the public.

“Everything we find through this study will help us identify risk factors and educate this population as to how they can avoid these risks and improve their health,” Daviğlus said.

The research will investigate the so-called “Hispanic paradox” — despite overall low socioeconomic status and high rates of obesity and diabetes, Hispanic/Latino people in the U.S. tend to live longer than whites, Daviğlus said.

“We want to further investigate whether the Hispanic paradox really exists, and if so, what are the factors driving it,” she said. “Does this population do something else that is protective, or helps offset these negative health issues?”

The field centers are located in the New York City borough of the Bronx, San Diego and Miami. The Chicago field center is a collaboration between UIC and Northwestern University.

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School policies, state laws reduce junk food availability

By Sherri McGinnis Gonzalez

District policies and state laws help reduce the availability of sugar- and fat-laden foods and beverages in elementary schools, according to a study published online in JAMA Pediatrics.

UIC researchers looked at the link between established policies and laws, and the availability of candy, baked goods, ice cream, chips, sugar-sweetened beverages and soda sold outside the school meal program.

More than 1,800 elementary schools in 45 states responded to surveys during the 2008-2009 and 2010-2011 school years.

The researchers found that in schools without district or state guidelines limiting sugar content in foods, 43.5 percent sold sweets. When both district and state guidelines restricted the sale of sweets, only 32.5 percent of schools — nearly a quarter fewer — sold these foods.

The study shows that “policies can improve the elementary school food and beverage environment, and state and district policies are often reinforcing one another,” says Jamie Chriqui, lead author of the study and senior research scientist at UIC’s Institute for Health Research and Policy.

Sugar-sweetened beverages were available in only one-fourth as many schools with a district-wide ban as in those that had no policy.

The availability of sugar-sweetened beverages was not influenced by state policies.

Public elementary schools are required, through an unfunded federal mandate, to have a wellness policy with nutritional guidelines for “competitive” foods and beverages — those that vie with items in the school meal program.

“Given the problems we have with overconsumption of sugar-sweetened beverages by children and youth, the fact that unfunded district policies are actually helping to change the availability of sugar-sweetened beverages in elementary schools is a really positive sign,” Chriqui said.

However, the study also found that such policies are not fully implemented. For example, the researchers found that of the 121 surveyed schools located in states with laws prohibiting sale of sugar-sweetened beverages in elementary schools, 22 schools — all in southern states — still sold such drinks.

The U.S. Department of Agriculture is working to implement nationwide standards governing competitive foods and beverages in schools as part of the Healthy, Hunger-Free Kids Act of 2010.

“There is a lot of room for continued progress,” said Chriqui, who said the study provides promising data to guide the USDA’s efforts to impose new federal standards.

Co-authors include Don Hedeker and Linda Owens of UIC, Joel Caplan of Rutgers University, Michael Compton of George Washington University, and Jen Wood of Temple University.

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Crisis training may improve police response to mentally ill

By Jeffron Boynés

Can specialized training help Chicago police to divert people with mental illness into treatment services and avoid incarceration?

A $3.1 million, five-year grant from the National Institute of Mental Health to researchers in the Jane Addams College of Social Work will fund a study of the effectiveness of a police-based diversion approach that uses crisis intervention teams.

“There is emerging evidence that crisis intervention teams improve police response to persons with mental illness,” said Amy Watson, associate professor of social work.

This study will allow us to more rigorously test crisis intervention team effectiveness and examine factors that support improved longer-term mental health and criminal justice outcomes for persons with serious mental illnesses in the community.”

Results from a previous study in four Chicago police districts suggested that crisis intervention-trained officers were more successful at directing individuals with mental illness to services than were their non-trained peers, and that they were less likely to use force with resisting individuals.

The new study will include all 22 Chicago police districts. In addition to examining how trained and untrained officers handle calls involving persons with mental illnesses, the researchers want to recruit the call-subjects for a year-long follow-up after the initial encounter to see how many accessed local mental health services, how many entered the criminal justice system, and how they fared.

Watson said she hopes the study will guide allocation of “scarce” mental health and criminal justice resources and “improve safety and outcomes for police officers, persons with mental illnesses, and Chicago’s many diverse communities.”

Study co-investigators include Don Hedeker and Linda Owens of UIC, Joel Caplan of Rutgers University, Michael Compton of George Washington University, and Jen Wood of Temple University.

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Artificial intelligence no match for 2-year-old

By Jeanne Galatzer-Levy

Artificial and natural knowledge researchers at UIC gave IQ tests to one of the best available artificial intelligence systems to see how intelligent it really is.

Turns out, it’s about as smart as the average 4-year-old, they reported today at the U.S. Artificial Intelligence Conference in Bellevue, Wash.

The UIC team put ConceptNet 4, an artificial intelligence system developed at Massachusetts Institute of Technology, through the verbal portions of the Wechsler Preschool and Primary Scale of Intelligence Test, a standard IQ assessment for young children.

They found that ConceptNet 4 has the average IQ of a young child. But, unlike most children, the machine’s scores were uneven across different portions of the test.

“If a child had scores that varied this much, it might be a symptom that something was wrong,” said Robert Sloan, professor and head of computer science and lead author on the study.

Sloan said ConceptNet 4 scored well on tests of vocabulary and ability to recognize similarities.

“But ConceptNet 4 did dramatically worse than average on comprehension — the ‘why’ questions,” he said.

The sponsoring faculty or staff member must submit guest names 24 hours in advance to the UIC Athletic Facilities Office.

Nominations due for Watkins Award

Nominations are due July 19 for the Janice Watkins Award for Distinguished Civil Service, presented each year to one or more support staff employees.

Nomination forms are available online at www.uic.edu/orgs/sac/

The award was established in memory of Janice Watkins, president of the Staff Advisory Council, who died in 1974.

Quantifying with Qualtrics

UIC students, faculty and staff now have free access to Qualtrics, a web-based service for creating, publishing and analyzing survey data.

Qualtrics can be used for market research, tests, employee evaluations, website feedback and more. Potential UIC uses include surveying new students, measuring program satisfaction, helping with course projects, scoring quizzes and collecting secure data.

The site is available through the Academic Computing and Communications Center at http://accc.uic.edu/service/surveys

Circle Interchange background

Print documents related to the proposed Circle Interchange project are available for public viewing at the Daley Library reserve desk (library use only).

The documents, which include environmental impact, plans and community concerns, are also available online at www.circleinterchange.org/
Team takes science into space

Researchers go weightless to test cooling system in zero gravity

By Jeanne Galatzer-Levy

Three years of preparation supported by NASA paid off for UIC researchers who conducted experiments while floating weightless on a Novespace & European Space Agency plane.

Under the direction of Alexander Yarin, professor of mechanical and industrial engineering, two brothers — Suman Sinha Ray, a postdoctoral fellow and recent UIC graduate, and Sumit Sinha Ray, a graduate student — went aloft and braved high- and zero gravity to test a cooling system Yarin’s team developed for hot-running microelectronics.

When liquid on a hot surface evaporates, it carries away heat. Yarin and his colleagues wanted to find out how well the evaporative cooling system they developed would work under conditions of twice-normal or zero gravity.

The UIC researchers, one of 12 international teams monitoring experiments onboard the Novespace Airbus plane, collaborated with Cameron Tropea of Technische Universität Darmstadt in Germany, who sent three students onboard.

The Novespace Airbus’ parabolic flights produce conditions of weightlessness and nearly double normal gravity. When the plane traces a parabola, gravitational force increases as it climbs or descends steeply. As the plane reaches its peak and floats over the top of the curve, the crew experiences weightlessness.

Over three days, the group flew three flights. On each three-and-a-half-hour flight, the plane flew 31 parabolas — five minutes through the curve, five minutes rest, then another five-minute parabola, with a rest after every third parabola.

The flights were physically demanding but “exciting and fun,” Suman said. The scientists were warned not to float around the cabin as astronauts do in the space station. When you move your head while weightless, he said, “your senses don’t match,” and many people become nauseated, even after a pre-flight anti-nausea injection.

Suman was right at home, Sumit said, and “worked on the computer very naturally as we ran the experiment.” Sumit photographed the experiment while keeping a close eye on the pressurized rig running the system. Holding the camera steady as his feet floated off the floor was challenging, he said, as was keeping an eye on his fellow researchers.

Researchers Alexander Yarin (right) and Suman Sinha Ray aboard the plane. Researchers take science into space: Alexander Yarin and Suman Sinha Ray go weightless to test cooling system in zero gravity.

The UIC researchers tested their cooling system for potential use in near or outer space. Satellites, rockets and drones have elaborate electro-optical and infrared sensors, recording equipment and data processing systems. All of these electronics are designed with smaller and smaller elements that generate heat and can burn out.

“This is a problem that is very acute,” Yarin said. “We are very nearly at the limit of miniaturization because of the problem of heat removal.” Yarin and his group developed nano-textured surfaces that dramatically increase cooling efficiency. Their cooling system covers high-heat surfaces with mats made from tangles of nanofibers. The extremely thin fibers of the mat trap coolant against the surface so that evaporation is rapid and complete.

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See the video!
UIC science soars
youtube.com/uicmedia

The group took three flights over three days. Each flight was physically demanding but “exciting and fun,” said Suman Sinha Ray (left). Right, engineering professor Alexander Yarin checks the set-up before take-off.
The Supreme Court has made its decision to recognize same-sex marriage at the federal level, UIC scholar John D’Emilio says the next set of hurdles are coming up quick — the states.

The case declared same-sex couples living in the 12 freedom-to-marry states are eligible for the same federal benefits and protections as other married couples, such as Social Security. It also determined federal law must recognize same-sex marriages by states that have legalized them. The case was decided by a 5-4 vote.

In another case challenging California’s Proposition 8, which prohibited same-sex marriage, the court’s action means California will again recognize same-sex unions.

“We are living through a long era in which gay people have been challenging what has been considered normal — what is okay,” said D’Emilio, professor of history and gender and women’s studies whose book, Intimate Matters: A History of Sexuality in America, was referenced in a 2003 Supreme Court case on gay rights.

“That allows a re-thinking of marriage as the union of a man and a woman — it’s a violation of equal protection.”

The landmark case was brought by a woman who had married her partner in Canada. The couple lived in New York; after her partner died, the widow faced heavy federal estate taxes because they were not considered legally married.

“I was just shocked because I didn’t think the court would go that way,” said Joseph Zanoni, director of continuing education and outreach at Great Lakes Center for Environmental and Occupational Health and Safety, who has been in a civil union with his partner, Albert Prieto, since June 2011.

“I’m hoping it will show the legitimacy of our partnership.”

The differences in legal protection for same-sex couples have resulted in legal and financial problems for Zanoni and Prieto.

“The whole thing for us is the health insurance aspect,” said Zanoni, who priority-mailed payments for Prieto’s health insurance to Springfield to make sure his partner stayed on the policy.

Since 2007 UIC employees have been eligible to receive same-sex domestic partner benefits, including health insurance.

“If the check did not reach them, he would be permanently cut off,” Zanoni said.

Because they couldn’t file jointly as married on their federal income tax, they paid an extra $2,000, Zanoni said.

D’Emilio says he believes the court’s decision will provide a path toward same-sex marriage in states now considering the issue, Illinois included.

A same-sex marriage bill backed by Gov. Pat Quinn passed the Illinois Senate in February, but was pulled from the House of Representatives May 31.

“I think there’s a very good chance that the legislature will approve same-sex marriage,” said D’Emilio. “As that happens, it encourages people in the next tier to go forth as well.”

One important question likely to arise as a result of the Supreme Court decision is the legal status of couples married in one state when they move to a state that does not recognize same-sex marriage.

“I believe that will be the next round of challenges,” said D’Emilio. “Deciding whether or not a couple married in Massachusetts is married in Indiana.”

Both Supreme Court rulings are “limited in their scope,” and many barriers to same-sex marriage still remain, said D’Emilio.

“One of the morals of this story, in this moment of time, is it [change] doesn’t just fall out of the sky,” said D’Emilio.

“People are campaigning to make change.”

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Couples celebrate after same-sex civil unions are legalized in Illinois in 2011.
Custom map company, Cartografika, guides grads to success

By Anne Brooks Ranallo

“Maps are about more than navigation. They can tell stories,” says Jose Alarcon.

Alarcon co-founded Cartografika, a company that produces custom-designed maps, with former UIC classmate Adam Jentleson.

Since they started Cartografika two years ago, their maps have told many Chicago stories. But they’ve also discussed places as diverse as Budapest, Venice, Jackson Hole, the seven kingdoms of ancient China and Dayton, Ohio. And Siem Reap, Cambodia, highlighting the Temples of Angkor Wat. And the Molise region surrounding the town of Duronia, Italy (population 473).

It all depends on the places and things that mean something special to their clients. According to their mission statement on www.cartografika.net, Alarcon and Jentleson “eagerly invite fresh design ideas and will gladly suffer constructive criticism.”

The two started making maps while studying geographic information systems in the master of urban planning program. Alarcon, who majored in art history as an undergraduate, was drawn to the design aspect, and Jentleson “just fell into GIS and really enjoyed the classes,” he says.

They graduated in 2011 and found full-time work as GIS analysts. Alarcon works for the South Suburban Mayors & Managers Association, where he manages an online mapping application that offers data on building footprints, parks, land parcels, brownfields, waterways, infrastructure and more. Jentleson works at UIC’s Institute for Health Research and Policy, most recently mapping parks, sidewalks, bike lanes and food access for a national study linking child obesity to the built environment.

A few months after graduating, they gathered up the maps they’d been making for friends and family and showed them at the summer 2011 Renegade Craft Fair in Wicker Park. Suddenly, their side business began to take off as people asked for maps of their neighborhoods or other favorite places.

“People wanted different colors, or they wanted to mark their apartment buildings,” Jentleson said. “The level of customization is endless.”

“Every custom map is quite time-intensive, but we enjoy working closely with our clients,” Alarcon says. “One of my favorites is a series of three custom maps of Mexico City, Houston and Chicago, all of which have the same scale, map features, and certain buildings and sites of great significance to the couple who ordered it.”

Now they sell their maps through Etsy.com and the occasional craft fair, and they promote dozens of designs on their website. Jentleson says about half the maps are customized and half are premade. They can be made to any scale, but printing costs are added to the base fee of $175.

One of their recent commissions was a 14-by-20-foot wall mural for the Intelligentsia coffeehouse in Logan Square. It details the neighborhood’s buildings, roads and waterways.

“We want to move into more consulting work, going beyond the artistic side,” Jentleson said. He describes a suite of “foyer art” they’re preparing for a real estate company that will depict Chicago parks, transit lines and buildings.

Both artists stress that good maps have to combine accurate data with compelling design. Jentleson recalls sifting through a lot of “ancient, inaccurate data” for that map of the seven kingdoms of China.

“There are a lot of sources online for free GIS data,” he says. “But it’s often of poor graphic quality.”

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Recent creations include a 14-by-20-foot wall mural for a coffeehouse in Logan Square (right), but Cartografika has also produced maps of Budapest, Venice and Jackson Hole.
JULY 19
Role of Boards in Nonprofit Organizations
Seminar presented by Marilyn Kirk details best practices for building strong boards. 1-4:30 p.m. 110 CUPPA Hall.
Students free; UIC alumni, faculty $25; others $40.
http://bitly.com/190SGuc

JULY 25
“Inspired and Transformed”
Liautaud Graduate School of Business alumni discuss their experiences, career success. 5:30-8:30 p.m., UIC Innovation Center, 1240 W. Harrison. 312-996-4573, eminix@uic.edu

SPECIAL EVENTS
July 25
“Ida: In Her Own Words”
Michelle Duster, great-granddaughter of Ida B. Wells-Barnett, on the book she edited, Ida In Her Own Words: The Timeless Writings of Ida B. Wells From 1893. 7-9 p.m. Hull-House Museum. JAHH@uic.edu or 312-413-5353

July 30
“Unraveling Bill”
Fourth installment of the Building Peace and Justice series. Music, dance and monologue presented by Hull-House Museum and Chicago Danztheatre. 7-8:30 p.m. 312-996-4173, www.hullhousemuseum.org

LECTURES/SEMINARS
July 17
Race. Justice. Power
Interactive teach-in with resources and information on underlying issues surrounding Trayvon Martin case. Sponsored by Hull-House Museum. 7-9:30 p.m. Logan Center for the Arts, 915 E. 60th St. 312-413-5353

EXHIBITS
Through Oct. 11
“The Reason Why the Colored American is Not in the World’s Columbian Exposition”
Interactive exhibit presents historical accounts of black Americans’ thoughts, feelings and experiences related to the Chicago World’s Fair. African American Cultural Center, 207 Addams Hall. 9 a.m.-4 p.m. Mon.-Fri. Evening, weekend and group tours by appointment. 312-996-9549

Through August 24
“Whisper Down the Lane”
Exhibit brings together 29 artists, based on the children’s game telephone. Who picked whom and why, as well as connections between the work, will be revealed. Gallery 400. Tue.-Fri. 10 a.m.-6 p.m., Sat. 12-6 p.m., tours by appointment. 312-996-6114 or gallery400@uic.edu

Through August 31
Interactive exhibition demonstrates Jane Addams’ legacy for domestic life and public health. Public workshops, performances, conversations and hands-on activities. Jane Addams Hull-House Museum. 312-413-5353

EXHIBITS
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JULY 19 IN HISTORY
Newsman Walter Cronkite dies
July 17, 2009: Famed CBS news anchor Walter Cronkite dies at 92. Labeled the “most trusted man in America,” Cronkite was anchor for CBS Evening News for 19 years.
Improving the reliability of nanotransistor technology

By Paul Francuch

Today's best computer chips boast staggering transistor arrays exceeding 2.5 billion, but new nanometer-level technologies hold the promise of boosting that number even more.

Nanotransistors may be fabricated from materials ranging from silicon to carbon nanotubes and even large molecules.

But how do you guarantee such ultra-small electronic circuits will perform reliably?

Wenjing Rao, assistant professor of electrical and computer engineering, is exploring that question using a five-year, $450,000 National Science Foundation Early Faculty Career Award.

Today's chips are built based on the device called CMOS (complementary metal-oxide semiconductor), which can be fabricated with very high reliability. But tomorrow's nanotransistors may be made using entirely new processes.

Rao said computer engineers are asking many far-ranging questions about electronic nanosystems, seeking to set up design and manufacturing rules that will ensure the new products using them will be reliable.

"We're really trying to probe for where's the boundary. What can and cannot be done? We're looking at what we can do from an engineering perspective into what's possible, what's not, and what's too costly," Rao said.

"If each transistor will be that small, you're subject to a lot of defects and faults," she said. "So, how do you deal with that? We have to be able to detect faults and find ways to tolerate them, perhaps by using a different component to do the same computation, or — long-term — by self-repair."

Rao is studying ways to test and diagnose problems with nanotransistors and determine if, and how, redundant systems can act as safeguards against faults.

"You have to have a work-around," she said. "A chip for a sensor, for example, could be subject to environmental variations such as background noise, cosmic radiation and environmental vibrations. You'd also expect to see a lot of faults during computations."

Future nanotransistors, she said, are likely to be subject to faults and defects. Research may even prove it is not worthwhile to manufacture them for conventional use, such as desktop computers.

But nanoelectronics-based systems may prove useful for entirely new applications, such as embedded systems and sensors. Rao will explore this as part of her NSF Career Award, along with the theoretical limits, capabilities and applications of nanotransistor chips.

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Mathematician seeks new ways to analyze real-world problems

By Paul Francuch

Mathematician Irina Nenciu has taken on the challenge of analyzing connections among complicated mathematical equations and techniques — hoping to find better ways to analyze real-world problems, ranging from the economy to the bunching-up of city buses during rush hour.

Nenciu received a five-year $500,000 National Science Foundation Early Faculty Career Award to study, specifically, "long-time asymptotics of completely integrable systems with connections to random matrices and partial differential equations."

She chuckled when asked to put that in terms that are understandable to a non-mathematician, then broke it down one mouthful at a time.

"Assume you let a long time go by — is there some structure in the solution that always emerges, regardless of where you start from? Do you see something that one recognizes?"

"Asymptotics," she said, "is just a fancy word for the long-time behavior of the solutions, and how you can make predictions from what you're given."

Random matrices are mathematical arrays of numbers or symbols representing random values. They are tools used widely in Nenciu's specialty, mathematical physics.

"They're a hot topic in math," Nenciu said.

In economics, random matrices are used to understand certain behavioral outcomes. Other examples include the optimal pacing of buses to prevent bunching, or the quickest airliner passenger-boarding procedures.

She said random matrices and integrable systems are mathematically similar techniques, but the direct connections are not clear.

"It looks coincidental, but it's proved to be so useful that most of us believe there's something deeper behind it," Nenciu said.

"We're trying to understand that connection through a problem that tries to evaluate how efficient various numerical algorithms are."

"If you switch to a different mechanism, there will be change," Rao said. "Just as if I switched building materials from brick to glass and steel, you get a different character. While I may be able to build a taller building with lighter materials, new problems may occur."

Future nanotransistors, she said, are likely to be subject to faults and defects. Research may even prove it is not worthwhile to manufacture them for conventional use, such as desktop computers.

But nanoelectronics-based systems may prove useful for entirely new applications, such as embedded systems and sensors. Rao will explore this as part of her NSF Career Award, along with the theoretical limits, capabilities and applications of nanotransistor chips.

"If each transistor will be that small, you're subject to a lot of defects and faults," she said. "So, how do you deal with that? We have to be able to detect faults and find ways to tolerate them, perhaps by using a different component to do the same computation, or — long-term — by self-repair."

Rao is studying ways to test and diagnose problems with nanotransistors and determine if, and how, redundant systems can act as safeguards against faults.

"You have to have a work-around," she said. "A chip for a sensor, for example, could be subject to environmental variations such as background noise, cosmic radiation and environmental vibrations. You'd also expect to see a lot of faults during computations."

Rao said computer engineers are asking many far-ranging questions about electronic nanosystems, seeking to set up design and manufacturing rules that will ensure the new products using them will be reliable.

"We're really trying to probe for where's the boundary. What can and cannot be done? We're looking at what we can do from an engineering perspective into what's possible, what's not, and what's too costly."
Pharmacy scholar recognized for biotechnology research

By Sam Hostettler

Biotechnology is the use of biological processes to manufacture products to improve the quality of human life. But Alexander “Shura” Mankin, professor and director of the Center for Biopharmaceutical Technology in the College of Pharmacy, says it is that and much more.

“Biotechnology is about developing new technologies to understand the nature of diseases and drug discovery, as well as applying unorthodox approaches to basic research that will eventually feed the applied branches of pharmaceutical sciences,” Mankin says.

Mankin received the Paul R. Dawson Biotechnology Award from the American Association of Colleges of Pharmacy Monday during the association’s annual meeting in Chicago.

The award recognizes an active scientist within pharmacy education who is a leader in the teaching of biotechnology and its related science.

Throughout his career, Mankin has performed extensive research on the functions of the ribosome and how it can be inhibited by drugs. His laboratory has established modes of action of several important classes of antibiotics.

“We’re working to discover how antibiotics bind to the ribosome, which is responsible for churning out all the proteins a cell needs for survival, and how they interfere with its function,” Mankin said. “We investigate mechanisms of drug resistance and are trying to develop new, superior antibiotics.”

Mankin is studying how the ribosome deals with the newly formed polypeptide, how drugs can affect this process, and how microbes can become resistant.

The Dawson Award, Mankin said, is for a team effort, recognizing the “excellent work of the members of his laboratory, whose support, efforts and contributions made this possible.”

“I was humbled when I learned I was nominated, and even more so when I learned that I received the award. I greatly appreciate the assistance of those in UIC’s College of Pharmacy who made this possible,” he said.

“I view this award as an indication of the success of UIC’s Center for Biopharmaceutical Technology, founded by Michael Johnson 20 years ago. The center has been extremely successful in its research, publications, attracting extramural funding and training students and postdoctoral students with its outstanding faculty.”

Mankin has published more than 100 papers in leading journals. His research has been supported by the National Science Foundation, the National Institutes of Health and other funding agencies.

Jerry Bauman, dean of the UIC College of Pharmacy, said Mankin was “extremely deserving” of the prestigious award.

“Shura’s work in elucidating the mechanism of antibiotic action will pave new ways to consider the effective treatment of serious infections,” he said. “It is truly at the cutting edge of science.

“Shura is a wonderful leader in our college, not only leading by example, but also in mentoring young faculty for a career in the cutting edge of science. We are lucky to have him in our college.”

Richard Carlin, chemistry

Richard Lewis Carlin, 77, a chemistry professor from 1968 until his retirement in 1998, died June 16 after a long illness.

He was internationally known for his research on the magnetic properties of molecules. Two of his books, Magnetic Properties of Transition Metal Compounds (Springer-Verlag, 1977) and Magnetocchemistry (Springer-Verlag, 1986), were translated into several languages and are regarded as authoritative texts in the field.

He was a visiting professor of physics at universities in Brazil, Italy, Spain, France and Morocco and spent a sabbatical year at the University of Leiden.

A 1957 graduate of Brown University, he earned a Ph.D. in chemistry from the Urbana-Champaign campus in 1960, then joined the Brown faculty before coming to UIC.

He was a mentor to students, post-doctoral researchers and young faculty members, many of whom went on to distinguished careers all over the world.

Chemistry professor Robert Gordon, who shared an office suite with Carlin for 24 years, remembers him as a “mentor who taught me much about scientific and university politics.”

“He also broadened my horizons. His enthusiasm and his personal qualities, both at work and in his personal life, made him a model for all of us.”

But I also loved his joy for living and his love for the good music and for the good food.”

A classical music lover, Carlin and his wife, Dottie, were among a group of UIC faculty and spouses who have attended the Thursday C series of concerts at the Chicago Symphony Orchestra since 1968. As a youth he played the trumpet and after retirement he joined an amateur orchestra.

A photographer who specialized in local Chicago scenes and street people, he exhibited in art shows around Chicago and his photographs still hang in faculty offices on campus.

He also enjoyed rock-climbing and mountain-eering, including the ascent of Mount Rainier in 1971 with Eric Gislason, professor emeritus of chemistry.

UIC Police emergency: 312-355-5555
Nonemergency: 312-996-2830

July 8–14

Crimes reported to UIC Police

Theft: 9
Battery: 1
Disorderly conduct: 1
Criminal trespass: 1
DUI: 1

Arrests by UIC Police

July 10: A man was arrested for disorderly conduct at 12:48 a.m. at 1260 S. Halsted St.

July 11: A man was arrested on an outstanding warrant at 7:59 p.m. at 915 S. Paulina St.

June 12: A man was arrested for battery at 12:41 a.m. at 1120 S. Paulina St.

A man was arrested for DUI at 3:24 a.m. at 709 W. Roosevelt Road.

A man was arrested for criminal trespass at 2:59 p.m. at 801 S. Paulina St.

Kerry Wood scholarship winner ‘unbelievably hard worker’

By Brian Flood

“Is this really happening?”
“Is this the best day ever.”

Those were Gabriella Santoyo’s thoughts when she learned she is the first recipient of a UIC Honors College scholarship established by former Chicago Cubs pitcher Kerry Wood.

When she enters UIC as a freshman this fall, Santoyo will have some peace of mind, moneysmart — all tuition, fees, assessments, books and housing costs are covered for four years by the Kerry and Sarah Wood Family Foundation Scholarship. She’ll also start school with a new laptop computer.

“To be the first one to attend college in my family is quite a privilege because I know I will be the role model for my younger siblings about what it takes to get to college,” she says.

Santoyo is a graduate of Chicago Bulls College Preparatory Charter School, where she was student government president and a varsity three-sport athlete.

She lives in Chicago’s Lawndale neighborhood with her mother, Livier Paleyo, a member services representative at a Chicago staffing agency, sister Sylvia, 16, a junior at Chicago Bulls Prep, and brother Michael, 2.

In recommendation letters from faculty and staff at her high school, Santoyo’s maturity, thoughtfulness, enthusiasm and ability to motivate others were mentioned frequently.

Tyson Kane, principal of Chicago Bulls College Prep, calls Santoyo “smart” and an “unbelievably hard worker.”

“She has a really strong foundation of character and integrity. She has a maturity beyond her years,” he says. “She is an extremely trustworthy kid.”

Santoyo was selected from a group of graduating high school seniors who have been accepted to UIC’s Honors College and live in the Austin, Englewood, Humboldt Park or Lawndale neighborhoods of Chicago.

She has been recognized for academic achievement with membership in the National Honor Society and University of Chicago’s Collegiate Scholars program. She participated in the Right Angle summer college enrichment program and an out-of-state leadership conference.

“The many organizations and activities in high school prepared me to practice communication and interaction with others, the skills it takes to be a leader, and achieving goals with groups of people,” Santoyo says.

“I hope to bring a different perspective and an outspoken voice to the Honors College and the UIC community,” she says.

Wood Family Foundation scholars must meet Honors College requirements, which include a minimum 3.4 cumulative grade point average for all UIC courses; an Honors Activity every fall and spring semester such as honors coursework, research, tutoring or volunteer service; and an independent capstone research project before graduation.

Santoyo expressed her excitement for the responsibility and challenge that accompany being an Honors College student.

“I have many resources, from academic groups to professionals, to assist me,” she explains.

“This is a challenge I know I’m prepared for. My hard work ethic and motivation are what will drive my progress.”

Her academic interests include business, psychology and communication. She is enrolled in the College of Business Administration, but hasn’t committed to a specific area of study.

Santoyo says UIC’s academic support programs were among the key factors that attracted her.

“The diversity of the student body and the city lifestyle around the campus had a strong appeal,” she adds.

Kane believes Santoyo’s high school success will continue at UIC for many reasons, including her ability to deal with adversity and her unassuming leadership style.

“She has that thing that is really hard to teach, and that is grit,” he says.

“She is very comfortable with herself and accepting of other people. She is really interested in doing the right thing.”

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Researcher studies women’s decisions on reproductive technologies

By Sam Hostettler

Patricia Hershberger, assistant professor of women, children and family health science in the College of Nursing and assistant professor of obstetrics and gynecology in the College of Medicine, received the 2013 Award of Excellence in Research from the Association of Women’s Health, Obstetric and Neonatal Nurses at its national convention last month in Nashville.

Her research explores the decision-making process among women facing assisted reproductive and genomic treatments, and the effects these technologies have on the everyday lives of individuals, families and society.

“Dr. Hershberger’s research is vital to understanding women’s decisions around reproductive technologies,” said Karen Peddicord, chief executive officer of the association. “With her research, nurses will be able to better support and counsel their patients.”

“My research goal has always been to help women and families who are contemplating the use of advanced reproductive or genomic technologies,” Hershberger said.

“Many women discuss their options regarding advanced technologies with nurses and physicians, and I hope my work has improved those very personal discussions.”

Hershberger is active in the Midwest Nursing Research Society, where she is past chair of the Research Section Advisory Committee and the Decision-Making Research Section.

Her research has been funded by the National Institutes of Health and her work has been recognized by the American Society for Reproductive Medicine and the Midwest Nursing Research Society.

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Loyola coach joins UIC women's basketball

By Mike Laninga

Eric Simpson, who guided Loyola women's basketball to its first Horizon League Championship game last season, was named assistant coach at UIC.

Simpson’s appointment is pending University of Illinois Board of Trustees approval later this month.

“Quality coaches like Eric Simpson do not become available very often,” said head coach Regina Miller.

“Having coached against him in the Horizon League, I know his abilities and I’m delighted to have a proven winner on our bench rather than on the opposite side of the court.

“His coaching knowledge and familiarity of our league make him an outstanding asset to UIC, as does his solid commitment to developing scholar-athletes. As we continue to build a winning program, Eric’s deep roots in the Chicago area will provide us with an important edge in recruiting our talent-rich region.”

A Chicago native and 1994 Northwestern graduate, Simpson spent the last seven years at Loyola, including four seasons as head coach, where he compiled a record of 57-66 (.463).

He was assistant women’s basketball coach from 2007-09 and coordinator of men’s basketball operations in 2006-07.

Last season, Simpson led Loyola to 17-15 record, the program’s best mark since 1988-89. The Ramblers were one of the hottest teams in the country down the final stretch of the season, winning 11 of 12 games before falling to nationally ranked Green Bay in the Horizon League title game.

He helped sophomore forward Simone Law claim first-team All-Conference accolades, while freshman Taylor Johnson was voted the league’s Newcomer of the Year.

During his first season as head coach (2009-10), Simpson mentored the Ramblers to 15 wins, the program’s best showing since the 2001-02 campaign and the best start by a first-year coach at Loyola since the 1970s.

“I am extremely excited and grateful to head coach Regina Miller for the opportunity to be a part of her coaching staff at UIC,” Simpson said.

“Coach Miller has a strong history of success and I gained respect for her coaching and leadership abilities as an opposing head coach in the Horizon League. I look forward to assisting her in building a championship caliber program at UIC.”

Simpson, who entered the Division I ranks with 10 years of high school coaching experience, was the head boys’ basketball coach and director of athletics at Marquette High School in Chicago from 2001 to 2005.

During his collegiate playing days, Simpson was a four-year letter-winner at Northwestern, where he majored in business management.

Photo: Steve Woltmann

Eric Simpson led Loyola to the Horizon League title game with a 17-15 record.

Volleyball senior leads league advisory group

By Mike Laninga

Volleyball senior MaryKate Imrie was named president of the Horizon League’s Student-Athlete Advisory Committee for the upcoming academic year.

Imrie was vice president last year. She was also elected president of UIC’s Student-Athlete Advisory Committee for the second straight year.

“I look forward to having great dialogue and leading the agenda for the student-athletes in our conference,” Imrie said, adding that she plans to emphasize student activities and community service.

After the 2012 volleyball season, Imrie was voted the team’s Most Valuable Player for her role in helping the Flames reach the Horizon League title game for the first time since 2006.

She paced the conference in assists per set with an average of 11.20 and earned honorable mention accolades on the AVCA’s All-Midwest Region team.

Her performance on the court is matched by her dedication in the classroom. She is a member of the 2012 Horizon League Fall All-Academic team and the conference’s Academic Honor Roll. She received this year’s Chancellor’s Student Service and Leadership award, along with teammates Sara Sternard and Justine Garcia.

“MaryKate is an exceptional leader and exemplifies the meaning of student-athlete,” said Christine Halstead, Horizon League director of student-athlete affairs.

“She will represent the very best of the Horizon League.”

Soccer adds newcomers

By Brett McWethy

Newcomers to the men’s soccer team next year will include Notre Dame transfers Danny O’Leary and Bob Novak, and Alex Simon of St. Ignatius College Prep.

All three are Chicago-area natives.

O’Leary and Novak, who earned their bachelor’s degrees from Notre Dame in May, will be graduate students at UIC, immediately eligible to suit up for the Flames for the 2013 season.

O’Leary attended Neuqua Valley High School in Naperville. He saw action in 50 games at Notre Dame over the last three years, collecting 12 career points, including five goals.

Novak, who prepped at Lockport Township High School, played in 34 matches for the Fighting Irish over the past three seasons, including nine starting assignments in 2012.

Simon, a four-year letter-winner at St. Ignatius College Prep, joins four other newcomers who starred for the nationally prominent club Raiders FC.

O’Leary, Novak and Simon join a 2013 recruiting class that includes Kyle Hamann (Lemont/Lemont), Joel Leon (Cicero/Morton East), Gabriel Martinez Jr. (Chicago/George Washington), Andrew Putna (Lemont/Lemont) and Gonzalo Romo (Hammond/Bishop Noll).

MaryKate Imrie had an average 11.20 assists per set last season.