

ILLINOIS INSTITUTE OF TECHNOLOGY

# iit magazine

Fall 2008

The  
Greening  
of IIT **Page 16**

**IIT MEN'S SOCCER** Makes Its Mark **GLORIA RAY KARLMARK** Alumna One of the Little Rock Nine  
**IIT RESEARCH** Better GPS Accuracy, Improving Diagnostic Imaging

# Letter from the President



## IIT On Track

My first year as president of IIT has come to a close, and I am more optimistic than ever about the future of the university. My enthusiasm and expectations for IIT have continually risen because of the achievements, values, and attitudes of our faculty, staff, and students. The support of our Board of Trustees has also provided a huge boost to our morale and aspirations. So the excitement of being president of IIT is even greater than a year ago. One cannot ask for more than that.

Celebration of progress over the past year is a good tonic for aiming higher the next year, so I will offer some examples of how IIT has advanced. Two outstanding new leaders have been brought to campus, Alan Cramb as provost and senior vice president, and Russell Betts as dean of the College of Science and Letters. Our spring Commencement was held outdoors on campus for the first time in decades; college-level receptions, a great turnout by students and families, and wonderful weather made it a memorable occasion. Enrollment at both the undergraduate and graduate levels has improved faster than expected, and another strong class has been recruited for this year. We reconnected with many alumni chapters around the country and brought many alumni back to campus for a variety of celebrations. Eleven new members of diverse backgrounds were added to our Board of Trustees; of these, seven are alumni. Twenty new faculty of exceptional promise were hired. Our varsity athletes excelled on the field and in the classroom. Fifteen classrooms were renovated, and now 78 percent of our classrooms are in excellent condition. The non-stop efforts of our facilities staff improved our campus appearance. And new records were set in the annual pumpkin launch!

So what lies ahead this year? Well, the budget is a challenge, especially while we maintain our commitment to improve the university, but we will manage this. The strategic plan, based on the idea of “many voices, one vision,” will be completed and action steps will be identified. Our facilities will be improved, and our national and international visibility will be increased. The president and other university leaders will seek input through more open communication with the campus community and alumni. Our relations with the Chicago community, though already good, will be made even better. All of us will reinforce our dedication to excellence, going beyond merely what is expected. And, of course, fundraising will increase to fuel our advances. These are collective efforts requiring the dedication of us all. We need to remember the words of Will Rogers: “Even if you are on the right track, you will get run over if you just sit there.”

I assure you that IIT will not be sitting on the track.

A handwritten signature in black ink that reads "John L. Anderson". The signature is written in a cursive, flowing style.

John L. Anderson  
President

## iitmagazine

ASSOCIATE VICE PRESIDENT OF  
COMMUNICATIONS AND MARKETING  
Jeff Bierig

EDITOR  
Chelsea Kalberloh Jackson

CONTRIBUTORS  
Catherine Bruck  
Patricia Cronin  
Christopher Darnielle  
Marcia Faye  
Richard Harth  
Julie Morley

ART DIRECTOR  
Nancy Niequist Schoon

DESIGN  
Scott Benbrook  
Marty Schalm  
Nancy Niequist Schoon  
Jessica Serafin

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*IIT Magazine*  
Office of Communications  
and Marketing  
3300 South Federal Street, Suite 503  
Chicago, IL 60616-3793

OR EMAIL [iitmagazine@iit.edu](mailto:iitmagazine@iit.edu)

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To advance knowledge through  
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from throughout the world for a life  
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### Greening *IIT Magazine*

*You may have noticed that this issue  
of IIT Magazine looks a little different.  
To align with the university's goal of  
increasing its sustainable practices [see  
greening story, page 16], we've made a  
few changes to the publication's format.*

*While IIT Magazine has always been  
recyclable, it is now printed on a lighter-  
weight, Forest Stewardship  
Council certified recycled  
paper. We also have  
reduced the size of its pages  
and the overall page count slightly.  
In doing so, we'll save the equivalent  
of 22,500 copies per year over  
previous years, or 12.5 percent  
of our total annual print run.*

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## writeback!

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### Psychology Story Harkened Memories

Thanks for sending me the spring issue of IIT Magazine. It was one of the best, if not the best, that I have received.

I especially liked the “Psychology in the Workplace” article. I had a minor in psychology and the article brought back many memories.

One memory was working with a Dr. Kerr on an empathy test for hiring sales engineers (don’t know what they are called now) at RCA.

I also enjoyed the story about the Main Building renovation project. I have had a picture of “Old Main” on the house wall for many years.  
—Ronald A. Dickman (BE '67)

### More to the Story of IIT Computer Science

Page 21 of your spring 2008 issue could have presented a stronger and even more favorable picture in the “Notable Dates: Computer Science at IIT” sidebar. An earlier date, such as 1953, could look more impressive than 1959 as the earliest date. Also, some fill in between 1953 and 1959 could have added strength.

In 1953, IIT offered for the first and only time a graduate seminar on computers. As an IIT graduate student at the time, I registered for the course because I already knew a little about computers and was interested in learning more. My fellow classmates in the seminar included some personnel from firms in the Chicago area. At the end of the summer, the instructor said that the seminar would not be repeated in subsequent terms



because computers appeared to be a dead end. I told the instructor I disagreed and saw an important future for them, and urged that the seminar be repeated. He responded with “then you teach it!” and that he was not

interested. From having talked with the classmates, I knew they had felt some dissatisfaction with the content of the seminar. I knew if I presented a course on computers it should be more directed to a business/industry audience.

IIT agreed to try my take on computers as a night course with me teaching it. I taught the course regularly thereafter at IIT at night until I went off campus in the summer of 1956 to accept employment at the Stanford Research Institute. Nearly all of the course’s students were employees of business or industrial organizations in the Chicago area. Since there was no suitable text for such a course, I wrote one, and it became the second general-purpose commercially published book in the computer field (Richard G. Canning’s book on electronic data processing was the first one).

In your 1976 entry, you mention Carma McClure. I was the person who secured a publisher for Carma and encouraged her to become a published author.

It seems to be that you have good grounds to show that IIT was more of a leading pioneer than your sidebar presents.

Yours truly,  
Ned Chapin (Ph.D. BE '59)

*Editor’s Note: Thank you for alerting us about the 1953 seminar. In researching the article, we culled the university’s*

*archives for details of the origins of computer science at IIT. While the intent of the sidebar was to tell an abridged story, there was no record of this seminar in our archives. We often find that information from the early years of IIT was undocumented. We are happy to know that IIT’s history in computer science dates back even further—and to have an update to record in our archives.*

### Photo Recalls Personal Story

Your magazine was loaned to me by one of your alumni. It was so interesting to see a picture of the Engineering Research Building [“UTP Watch,” spring 2008] on which my late father, Willard P. Carr, president of Dahl-Stedman Co. Builders, was project manager. He accomplished the construction of that building with Mies Van der Rohe as architect. Dad also built, under Mies Van der Rohe, the Navy Building, the Mechanical Engineering Building, the Chemistry Building, and the (1948) new power plant—lots of work during the late 1940s. He was always so proud of the work he did for your university. I believe that he was also party to the discussions that lead to the retention of Old Main, even after the fire.

Professionally yours,  
James R. Carr

*Newly renovated Engineering Research Building (now the Incubator)*



© 2006 Michael David Rose Photography

Photo: Bonnie Robinson



Norman and Judith Lederman

## IIT Launches Public Charter School

IIT Professor Norman Lederman candidly admits how he and his wife, Judith, feel about the opening of a Chicago public charter school whose mathematics and science curriculum the couple has spent a lifetime researching, developing, and refining. “We’re excited—and scared,” says Lederman, adding with a laugh, “but it’s a good scared.”

Students enrolled in the Perspectives/IIT Mathematics and Science Academy, which opened this fall, are being taught biology, chemistry, and physics through inquiry-oriented instruction, which emphasizes an active style of learning rather than a passive style composed of largely rote memorization. In the active learning process, students are engaged in investigation and experimentation, sustained reasoning and evaluation, and analysis and problem solving. Norman Lederman, who is also chair of the IIT Department of Mathematics and Science Education, and Judith, director of teacher education, are internationally recognized for their work in inquiry-based education.

Perspectives Charter Schools (PCS), a network of four other charter schools in the city, contacted the couple about the possibility of a Perspectives-IIT partnership at the

recommendation of Mary Cummane (M.S. SED '05), longtime PCS educator, doctoral candidate in the Ledermans’ science-education program, and principal of the new school. Besides Cummane, seven academy mathematics and science faculty members received their education at IIT.

The only PCS facility to focus on science and mathematics, the academy is located at the site of the former Benjamin W. Raymond School, a few blocks south of IIT’s Main Campus, and is supported by the Chicago Public Schools (CPS) and a \$500,000 grant from the Motorola Foundation in partnership with the Renaissance Schools Fund.

The Ledermans developed the biology and chemistry component of the curriculum, which has already been field tested at 11 academic institutions through the Chicago Public High School Transformation Project, offered jointly by IIT, The Field Museum, and Glencoe Publishing. The program aims to improve students’ science learning and achievement by building critical-thinking skills and conceptual understanding through the concept of “learning by doing.”

A second IIT program—the National Science Foundation-funded Project ICAN (Inquiry, Context, and Nature of Science)—is the source for many of the activities in the academy’s science curriculum. This five-year teacher-enhancement

project, which ended in 2005, focused on the nature of science and scientific inquiry, and reached out to more than 235 teachers from the Chicago area as well as over 23,000 students.

Making a difference in the lives of students at all academic and socioeconomic levels is important to the Ledermans. “This is a school for all children; it’s not a selective enrollment school,” explains Judith Lederman. “Many people say that they can do inquiry with a top-notch group of math and science students. We say that good science instruction should be offered to, and learned, appreciated, and experienced by all children. That’s what also makes this a very exciting endeavor for us. This

is really a wonderful opportunity to work with children with an array of abilities and interests.”

The Ledermans acknowledge that some of the academy’s students may not want to pursue careers in mathematics and science. What is important is that students learn to make rational and informed decisions about their futures instead of relying solely upon the opinions of others. “We want them all to succeed, and we also want them to have the opportunity to make choices to do whatever it is they want to do in life,” says Norman Lederman. “All students will achieve well enough to have the choice to go to college. However, we fully recognize that all students will not choose to go to college, but we want them to have the choice.”

Now with 270 students in grades 6, 7, and 9, the academy will expand to its capacity of 700 students in grades 6–12 over the next four years. In preparing its students to be global citizens, the academy has the distinction of being the first charter facility in Chicago to offer a four-year program in the most widely spoken language in the world: Mandarin Chinese. “Knowledge of Chinese language and culture will give our students a competitive edge, whether they are working for Motorola in China, facilitating communication with newly wealthy Chinese tourists, or smoothing bilateral trade relations,” explains Cummane.

**“Good science instruction should be offered to, and learned, appreciated, and experienced by all children.” Judith Lederman**

Fueled by the desire to build a school of high standards in an intimate and safe environment conducive to learning, former Chicago Public Schools teachers Kim Day and Diana Shulla-Cose founded the first PCS institution in 1993. Their latest addition to the PCS family may be their most inspiring.

Says Shulla-Cose, “We are excited to build a model of a successful collaboration between an institution of higher education and a public charter school. Most importantly, we are excited to impact so many young lives with the amazing opportunities this partnership will provide.”

# The MTCC Turns

# 5

This September marks the five-year anniversary of the dedication of The McCormick Tribune Campus Center (MTCC) on IIT's Main Campus.

The MTCC opened in 2003 following the Richard H. Driehaus Foundation International Design Competition to select the building's architect. Designed by Dutch architect Rem Koolhaas, the 110,000-square-foot structure was Koolhaas' first building in North America. In his review of the new building, the late Herbert Muschamp of *The New York Times* described it as a "masterwork for the young and curious."

"This building was designed to be a pathway," says Kelly Schaefer, director of IIT Campus and Conference Centers. "Our focus is on keeping students in. We've seen a big jump in programming for student events."

Home to offices for student groups, IIT's radio station (WIIT, <http://radio.iit.edu>), a full-service restaurant, cafeteria, café, bookstore, and more, the MTCC has hosted thousands of tourists since its opening, including visitors from throughout western Europe, Asia, and North and South America. In academic year 2007–08, it held 8,156 events, a more than 16 percent jump from the previous year.

The building has been the site for the FIRST Robotics Competition, performances by IIT's 33rd Street Productions student theater group, and even a LAN party, where students were "kept in," literally, holding a lock-in and playing games via linked computers in the ballroom.

Recent updates to the facility include renaming the northern entrance the Collens Welcome Center, new furniture in the southeast lounge, and a new patio outside the cafeteria, Center Court. The radio station is currently being updated to include a lounge.



## MTCC Anniversary Events

To celebrate the five-year anniversary of both the MTCC and IIT's State Street Village student residence, the Mies van der Rohe Society is hosting special tours of IIT Main Campus and the nearby Prairie Avenue Historic District and Bronzeville neighborhood, in addition to a panel discussion about upcoming developments on campus and in the surrounding area. Tours will be held on Saturday, September 20 from 10 a.m.–2:30 p.m. For more information about this free event, visit [www.mies.iit.edu](http://www.mies.iit.edu).

IIT is presenting *Constructing Center: Framing the MTCC in Black and White* as part of the art@IIT series. The exhibit features black-and-white photography by John Stamets that documents the opening of the MTCC. The exhibit runs through September 27, 2008 in Paul V. Galvin Library on IIT's Main Campus. For more information, visit [www.iit.edu/art](http://www.iit.edu/art).

## Commencement 2008



Photo: Mindy Sherman

After years held at off-campus venues, IIT Commencement returned to Main Campus in 2008. President John Anderson presided over the May 17 event, which featured Segway inventor Dean Kamen as keynote speaker. More than 1,000 graduates along with their families and friends filled Stuart Soccer Field for the graduation, now being held once-yearly.



## Carr Chapel Undergoing Restoration

That it is the only religious structure Ludwig Mies van der Rohe ever built is reason enough to save the Robert F. Carr Memorial Chapel of Saint Savior on IIT's Main Campus from further deterioration. Another, perhaps equally compelling, reason is inherent in one of Mies' reflections on the chapel: "It was meant to be simple; and, in fact, it is simple. But in its simplicity it is not primitive, but noble, and in its smallness it is great, in fact, monumental."

In a 2001 assessment, T. Gunny Harboe, a restoration architect who has served as a preservation consultant on S. R. Crown Hall and other campus buildings, determined that the 56-year-old chapel was in need of roof work, as well as complete restoration of the interior and exterior of the building. The imminent project served as the inspiration for a seminar on historic preservation using Carr Chapel as a model for teaching best practices and better understanding the challenges and issues associated with restoration. The Restoration of Carr Memorial Chapel, co-taught by Donna Robertson, IIT College of Architecture dean and professor, and Harboe ran for three semesters beginning in fall 2007.

Each student completed an independent research project related to class discussions, such as determining the needs of current and future chapel users, accommodating users with disabilities, and evaluating whether structural

changes or modifications to the chapel would be necessary. Students were also involved with marketing efforts, designing a brochure for a chapel fundraising campaign run by the Mies van der Rohe Society

"The students were great," says Harboe, noting that while the plan of action determined for the chapel—to restore it to look as it did when it was first built—remained largely unchanged, the students "certainly reinforced the approach and attitude we developed about it." In restoring the look of the chapel, a curtain behind the altar and chairs more sensitive to Mies' original intent will replace what is being used now. Other renovations will include the installation of an accessible toilet and removal of exterior lighting.

Justine Jentes, Mies Society director, says that just over \$443,000 has been raised toward the \$1 million goal for restoration work and an endowment fund for maintenance of the building. "The Mies Society chooses its projects carefully, restoring those Mies buildings at IIT with the greatest historic and architectural merit, as well as the most significant impact on IIT's students," explains Jentes. "The chapel is a key part of Mies' modernist vision at IIT, but its simple design also provides an example of top-notch restoration to delight the many scholars who study the building, the thousands of tourists who come from around the world to see it, and the IIT students who use it every day." Work on

the chapel is anticipated to begin sometime in the fall.

All groups on campus are welcome to use the chapel for services or events, although it has been almost exclusively used by traditional Christian and nondenominational religious organizations. "Restoration of the chapel is an indication that the university has a commitment not only to the preservation of an architectural gem," says Lynne Meyer, director of IIT Spiritual Life, "but to the nurturing of our students, faculty, and staff as whole persons."

'Wholeness' is a concept that extends to the chapel itself. Nathaniel Woods (ARCH '08), a student who took the Carr Chapel seminar and who now works at Adrian Smith + Gordon Gill Architects, believes that the philosophical challenges of preservation are the most interesting when deciding what to do—or not to do.

"The understanding that the building itself isn't just what we're trying to save but the story of its life is what makes it special," explains Woods about the deeper significance of Carr Chapel. "The dirt on the walls, the water marks left by a leaky unresolved detail, the wear marks where a minister always rested his hand. Cleaning or repairing any of these erases a story but may prolong the life of the building and enhance its ability to tell other stories of its life." [www.mies.iit.edu](http://www.mies.iit.edu)

# What I Did Last Summer

## Diabetes Research Program Offers Students Learning Opportunities

Third-year IIT biology major Jessica Martinez's summer break had all the makings of a memorable and satisfying vacation: new experiences, learning opportunities, field trips, even like-minded roommates. To enjoy this, Martinez didn't travel far from her home in Chicago's Bridgeport neighborhood. She simply stayed on campus and joined a team of diabetes investigators who are at work developing a culture preparation they hope will become a new standard in beta cell research.

Martinez was a participant in Engineering Research in Diabetes: Summer Research Experience for Undergraduates, a 10-week program that gives students from IIT and across the country the opportunity to work with engineers, basic scientists, and clinicians on projects that increase the understanding and treatment of diabetes and its complications. Now in its third year, the program is coordinated by IIT's Department of Biomedical Engineering in collaboration with the IIT Engineering Center for Diabetes Research and Education.

According to Eric Brey, assistant dean of the Office of Undergraduate Research and principal investigator of the National Science Foundation-funded program, the IIT opportunity is unique among academic summer programs. "It is the only one that is centered on engineering studies related to diabetes," he explains. Martinez was one of 13 students selected from this year's competitive applicant pool of more than 120 candidates. The unique program focus is what influenced Martinez to apply. "A lot of my family members have diabetes—it's something that hits close to home," she says. "It's increasing so rapidly in the country and around the world. We need to find new ways to treat diabetes, or even prevent it."

Martinez worked with a group—composed of Brey, an assistant professor in IIT's Department of Biomedical Engineering (BME); Shiri Wallach, BME doctoral candidate; and researchers from the University of Chicago (U of C)—seeking to develop alternatives to commercially available extracellular matrices (ECM) that have been investigated for growing beta cells, the insulin producers of the pancreas. According to Wallach, current products are limited largely because beta cells do not function normally on

these materials. "Hopefully, we will find natural and more efficient ways to produce insulin," says Martinez.

After preparing a six-page proposal outlining her research objectives, laboratory procedures, and a timeline for accomplishing her goals, Martinez got to work extracting tissue ECM—a mixture of gel polysaccharides and fibrous proteins secreted by and surrounding cells. She prepared ECM into hydrogels to serve as culture scaffolds and observed how the various ECM environments supported the growth and differentiation of beta cells. After reviewing a current laboratory procedure with Wallach and discussing new directions for the procedure, Martinez was responsible for conducting the experiment and analyzing the data.

The summer program was especially exciting for Martinez because it was her first opportunity to do research. A member of the Medical Honors Society, she thought she would apply to medical school but after working with Brey and Wallach, is considering a career as a research scientist a distinct possibility. "The door on that is definitely opening more and more as my experience at IIT goes on," she says, finding the task of developing new processes in a new field to be a challenge she relishes.

Students also participated in weekly ethics seminars and presentations made by IIT faculty and U of C clinicians, and were given tours of the U of C transplant center, dialysis unit, and ophthalmology clinic, providing them with a first-hand look at the bodily effects of diabetes. In addition to being funded for the program, each student received a stipend for room and board, as well as travel expenses for the trip to and from Chicago.

With the fall semester underway, Martinez is looking forward to the possibility of continuing the work she did over the

summer in Brey's laboratory. "It is impressive how quickly Jessica has progressed in her research abilities," says Brey. "We look forward to her building on these results during the fall." It is her new-found interest in research and a deeper desire that influences her decision this time around.

"What I find most exciting is to have the opportunity to really make a difference in trying to find a better treatment or cure for diabetes," she says. "Knowing that you have a hand in helping hundreds of thousands of people is something that is very rewarding."

[www.undergradresearch.iit.edu](http://www.undergradresearch.iit.edu)

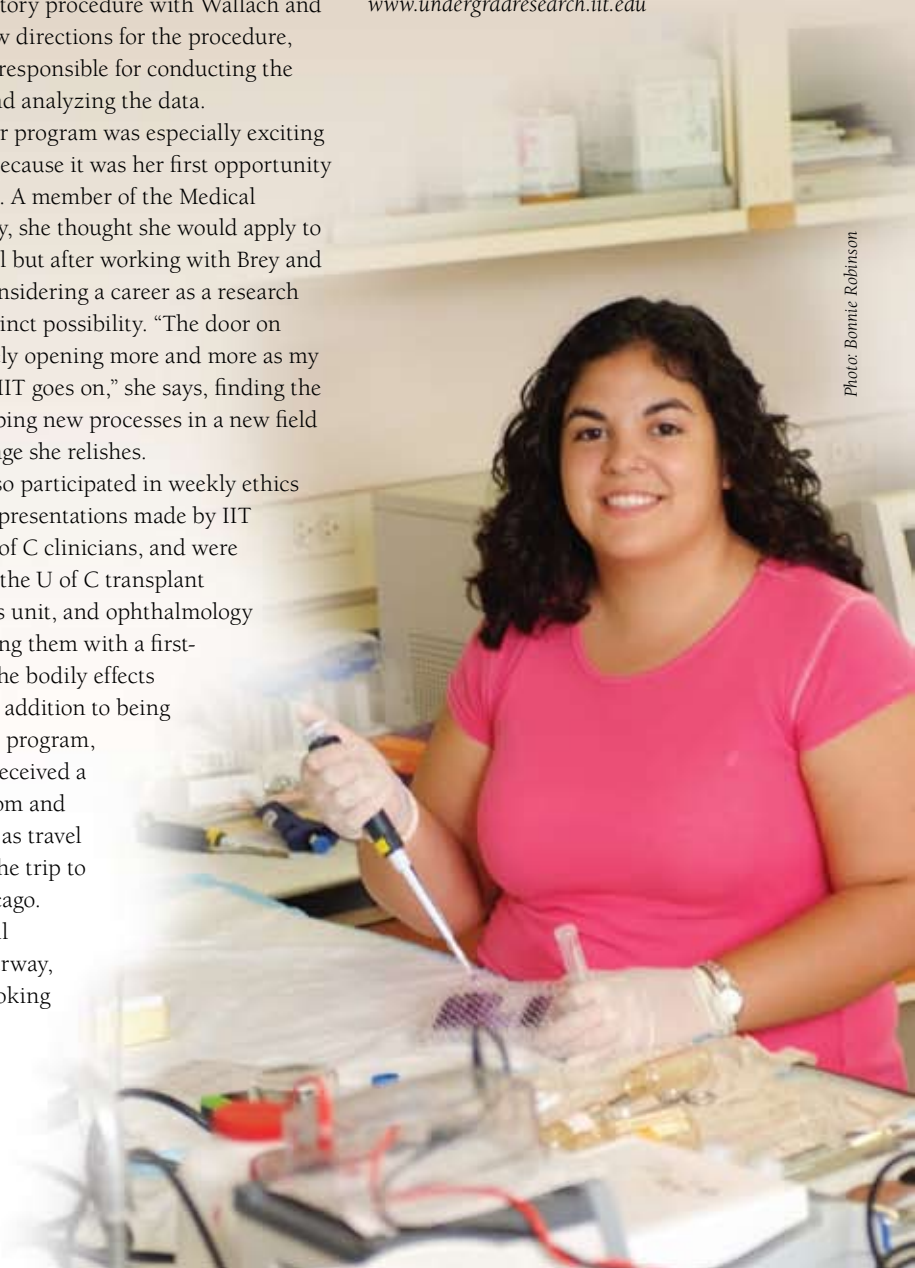


Photo: Bonnie Robinson





Aram Apyan arrived in the United States five years ago from Armenia after his father, Armen Apyan, was hired as a visiting scholar in the Department of Physics and Astronomy at Northwestern University. As a student in a new country, Aram soon became immersed in the study of two new languages: English and theoretical physics.

*“I had a lot of free time here. I didn’t go to high school at first,” Aram says. “So I started studying science and mathematics independently.” Encouraged by his father, the younger Apyan soon developed a keen interest in physics. “That was the turning point for me.”*

## Weighing His Options: Aram Apyan’s Auspicious Beginning

Today, Aram is a second-year undergraduate in the IIT Department of Physics. Though just 20 years old, he comes to the program with impressive accomplishments, having recently appeared as lead author of a paper published in the *Physical Review D* (1 Feb 2008, 77 037901).

The paper, co-authored with Aram’s father and Michael Schmitt, professor of physics at Northwestern, is entitled “Detecting Neutrino Magnetic Moments with Conducting Loops.” Its conclusions rely on detailed calculations Aram labored over during his last two years at Evanston Township High School. The trio’s work offers a fresh approach to establishing the mass of the neutrino, a crucial (and notoriously vexing) problem for physics.

Neutrinos are high-energy particles of wraithlike character. Unlike protons and electrons, they are electrically neutral and react very weakly with other matter, yet have the capacity to pierce through dense objects with little effect on their trajectory. Hundreds of trillions of neutrinos pass through our fingers and penetrate the Earth every instant.

Mass measurements for elementary particles differ dramatically from measurements of more familiar matter. No scale sensitive enough to accurately weigh such particles exists. Instead, these tiny masses must be inferred through

mathematical relationships observed in experiments. Using such methods, the mass of the diminutive electron was found to be about  $10^{-30}$  kg.

Determining the mass of the neutrino presents even more extravagant demands for the experimenter. Compared with the hefty electron, neutrinos are downright anorexic, with an estimated mass roughly one millionth that of the electron.

The collaboration began when Schmitt proposed a new technique for measuring neutrino mass to Apyan senior. The younger Apyan, meanwhile, was auditing Schmitt’s physics class at Northwestern. The group soon agreed to investigate the concept further, with Aram carrying out much of the mathematical calculation.

Their approach relies on Faraday’s Law of Induction. It states that a particle moving through a conducting ring acts like a tiny bar magnet, inducing an electromotive force—a current, in the ring. Measuring this current allows one to determine the neutrino’s magnetic moment, a quantity proportional to the mass.

The theoretical results gathered describe the size and shape of the electrical pulse produced by a neutrino’s passage through a magnetic loop. Unsurprisingly, it was found that the neutrino’s

magnetic moment would be exceedingly small. Adding to the difficulties of measuring this tiny quantity by direct experiment was the calculated time frame: the event would be over in about  $10^{-21}$  seconds—faster than a typical lightning strike.

Nevertheless, the team is hopeful that some innovative experimenter may find a way to make use of their results to propose a practical means of conducting such a direct measurement of neutrino mass.

Aram attends IIT on a Camras Scholarship, which provides full-tuition scholarships to students of exceptional promise. Most excitingly, the award guarantees Aram hands-on research experience; he plans to do work at either Fermilab or Argonne National Laboratory, likely in his junior or senior year. Later, he hopes to pursue cosmology, quantum gravity, and other areas of theoretical physics.

Aram also savors the prospect of future partnerships with his father: “It is very interesting to work with your own father and basically to see that you have the same ideas and the same interests, and can collaborate and contribute something.”

—Richard Harth

UTP is home to several of IIT’s academic and contract research centers. The most recent addition is the National Center for Food Safety and Technology’s Clinical Nutrition Research Center at IIT. This center supports food-based solutions for improving public health, with a new 5,000-square-foot human nutrition research facility for studying biochemical and functional endpoints of health and chronic disease. The center is dedicated to delivering science validating the impact of foods and ingredients with health-promoting properties on clinically relevant endpoints. [www.ncfst.iit.edu/platforms/foods.html](http://www.ncfst.iit.edu/platforms/foods.html)

This center complements the growing cluster of food-related companies at UTP including:

- Altermia Fuels: corn protein production from pre-ethanol corn processing
- Sarmas Group: intelligent packaging for food safety and preservation
- Chromatin: gene stacking for agricultural crops.

On the construction front, Wexford Science + Technology recently completed four wet labs (approximately 2,000 square feet each) for post-incubation of small companies. The Technology Suites are designed to get emerging companies up and running fast. These suites are a collection of pre-built wet and dry lab spaces within the Technology Business Center that are readily available on a short-term basis. The Technology Suites are fully equipped with case work, chemical fume hoods, and sinks also in the wet labs. [www.universitytechnologypark.com](http://www.universitytechnologypark.com)



## The Scarlet Hawks—and IIT—Have a National Champion



Branden Toro may be an above-average mechanical engineering student, but as far as his performance in the swimming pool goes, he's winning with straight "C's"—that is, confidence, consistency, and coachability. These qualities, in part, are what helped the third-year student win first place in the one-meter dive at the National Association of Intercollegiate Athletics (NAIA)

Swimming and Diving National Championships held this year. It is the first time in four years that IIT has produced a national-champion diver.

"After hearing my name announced as the national champion, it was almost too much to take in at once," says Toro, who scored a second-place win in the three-meter dive the day before, while breaking IIT's record for 11 dives. "For a moment, I felt as though my team was more excited for me than I was, because I was in complete shock. I knew I had a good meet but didn't know it was enough to take first."

While Toro's one-meter dive score of 488.45 merited first place, it also broke IIT's record in that event, brought Toro a fourth NAIA All-American recognition, and was the fourth-highest one-meter dive score in the history of the NAIA national championships. The dive that won Toro such acclaim happens to be his favorite, the back 1½ with 1½ twists.

"Branden is a naturally gifted diver and athlete," says Scarlet Hawks Diving Coach Ryan Nelson, a recognized coach and former diver, as he lists what accounts for Toro's success in the water. "But aside from that, he's extremely coachable. He listens to instructions and is able to make the necessary adjustments. He's willing to put in the extra effort outside the pool to keep himself in great shape. He has the right attitude about it as well. He keeps it fun and doesn't beat himself up if he misses a dive in competition. His confidence in his ability and his consistency are what keep him above the competition."

Although Toro was very comfortable in the pool even as a child, he quickly learned that swimming wasn't his forte. The joy he felt flipping on trampolines and diving off springboards during his grade-school years coupled with the excitement of watching divers perform at the 2000 Summer Olympics motivated Toro to think about his own aspirations. When he learned that his future high school in Brunswick, Ohio, had a

diving team, he joined a local gymnastics facility and trained his body on land for the techniques he would perform the following year as a freshman dive member. That first year at Brunswick, Toro accomplished 11 different dives, enough to allow him to compete in postseason meets. He served as captain of the dive team for three years and still holds both the six-dive and 11-dive records at Brunswick High School.

Toro's engineering interests led him to IIT, where he is on an athletic scholarship. His studies, his new role as a campus resident advisor, and his diving schedule keep his days full. The IIT dive season begins in mid-September with five days per week of practice sessions and weekend meets that begin in October and culminate with the nationals in March. Nelson would like to see him win both the one-meter and three-meter events in the 2009 nationals and has a game plan for Toro to increase the likelihood of that happening. "We'd like to add some more difficulty to his diving list," says Nelson. "More difficult dives and performing them with consistency will make him very difficult to beat."

**"Branden is a naturally gifted diver and athlete....His confidence in his ability and his consistency are what keep him above the competition."**

**Diving Coach Ryan Nelson**

As much as the Olympics have inspired Toro to pursue his diving dream, he instead prefers to contemplate the direction an engineering career might take him, be it in teaching, research, or business. Toro has discovered that hard work and the ability to focus on the moment makes for a winning combination, in or out of the pool.

"During a dive, I usually find myself thinking just about the dive. I think about keeping my legs together, my toes pointed, and what to spot so that I can move out of the dive at the correct time, to go in as straight as possible," explains Toro. "I try to clear my head of everything else so that I can concentrate only on the dive right then and there. I don't like to think about what's to come or what I just finished doing."

[www.illinoistechathletics.com/sport/6/5.php](http://www.illinoistechathletics.com/sport/6/5.php)



## IIT Welcomes New Provost

This August, Alan Cramb, former dean of the School of Engineering at Rensselaer Polytechnic Institute (RPI), joined IIT as university provost.

At RPI since 2005, Cramb was previously the head of the Department of Materials Science and Engineering at Carnegie Mellon University, where he also was a professor and co-director of the Center for Iron and Steelmaking Research. He has authored more than 190 publications, holds two patents, and is a fellow of the Iron and Steel Society. He received his Ph.D. from the University of Pennsylvania.

“Alan brings a wealth of experience and accomplishment to what is perhaps the most demanding job at a university. His ability to work with people, as well as to develop teamwork and vision within a university, will play a significant role in the advancement of IIT,” says President John Anderson.

“IIT is poised to be a leading institution not only in Chicago and the United States, but also internationally, in a number of important areas, including business, law, architecture, science, and engineering,” says Cramb. “It really is my pleasure to join IIT at this time when its future is looking so strong.”

Cramb was selected for the position following a nearly six-month nationwide search, handled by recruiting firm Russell Reynolds Associates and the IIT Provost Search Committee, led by former College of Science and Letters dean, Buck McMorris.



## New Dean for CSL

On September 1, R. Russell Betts joined IIT as the new dean of the College of Science and Letters.

Betts was formerly the vice provost for planning and programs at the University of Illinois at Chicago (UIC). A professor of physics at UIC since 1993, he was also a physicist and senior physicist at Argonne National Laboratory from 1979–1999. Prior to that, he served as assistant professor of physics at Yale University, where he worked in the A. W. Wright Nuclear Structure Laboratory. His research interests are in atomic, nuclear, and high-energy physics.

“He brings an extensive background in science and academic planning that will be a great asset to both CSL and the university as a whole,” says President John Anderson.

Betts is a fellow of the American Physical Society and a member of the American Association for the Advancement of Science. He earned his Ph.D. and master of science degrees at the University of Pennsylvania, and bachelor and master of arts degrees from Oxford University.

The CSL Dean Search Committee was co-chaired by the Lewis Department of Humanities Chair Kathryn Riley and Hal Krent, dean of Chicago-Kent College of Law, with assistance from the firm Academic Search, Inc.

## Lori Andrews

Lori Andrews, distinguished professor of law at IIT Chicago-Kent College of Law and director of IIT's Institute for Science, Law, and Technology, was recognized as a 2008 Julia Beveridge Award Recipient at a ceremony held on March 25. The annual award honors members of the IIT community who exemplify the professional and personal qualities of Julia Beveridge, librarian of Armour Mission and the first registrar of Armour Institute of Technology.

## Graeme B. Dinwoodie

Graeme B. Dinwoodie, an associate dean and director of the Program in Intellectual Property Law at IIT Chicago-Kent College of Law, has received the 2008 Pattishall Medal for Teaching Excellence from the International Trademark Association for his work as an educator and for his legal scholarship. The award is presented every four years to the university or graduate school professor who best exemplifies the qualities of excellence and innovation in teaching subjects broadly related to trademarks and trade identity.

## Sidney Guralnick

Sidney Guralnick, Distinguished Professor of Engineering, was recognized for 50 years of teaching at IIT at the Fifth Annual Sidney A. Guralnick Excellence in Teaching and Scholarship Awards Luncheon and Lecture, held on April 25.

## Norman Lederman

Norman Lederman, chair and professor of the Department of Mathematics and Science Education, has been selected to receive an honorary doctorate from the Faculty of Science at Stockholm University on September 26 in Stockholm, Sweden. Lederman is being recognized for his essential contributions to science education.

## Henry Linden

Henry Linden (Ph.D. CHE '52), Max McGraw Professor of Energy and Power Engineering and Management and Director, IIT Energy + Power Center, has been named to the list of the One Hundred Engineers of the Modern Era, compiled by the American Institute of Chemical Engineers (AIChE). Linden was selected for this prestigious list from nearly 1,000 nominations. His accomplishments will also be recognized at the AIChE Annual Meeting, to be held November 16–21 in Philadelphia.



## Faculty Awards Presentation

"When we honor our colleagues we honor ourselves as well, because none of us excels without the help of our colleagues," said IIT President John Anderson in his welcome to faculty and their guests at the Third Annual Faculty Awards Presentation, held on April 24 at the Pritzker Club. The event recognized four faculty members with special honors: Kevin Cassel, associate professor of mechanical and aerospace engineering, with the Excellence in Teaching Award; David Maslanka (M.S. MATH '86, Ph.D. '90), senior lecturer of applied mathematics, with the Bauer Family Undergraduate Teaching Award; Miles Wernick, professor of electrical and computer engineering, with the Sigma Xi Senior Faculty Award; and Shangping Ren, assistant professor of computer science, with the Sigma Xi Junior Faculty Award. F. R. "Buck" McMorris [above right], professor and dean of the IIT College of Science and Letters, was also recognized with an academic leadership award commemorating nine years of service to the university prior to his retirement at the end of the academic year.

## Maps Made In Heaven: Improving GPS Technology

High above the clouds, some 12,000 miles from Earth, an array of 24 satellites continuously circles the globe. These space-based elements of the Global Positioning System (GPS) speed through the heavens at an orbital velocity of 8,600 miles per hour. Each transmits a microwave message, guiding travelers on land, sea, and air with remarkable accuracy.

Originally developed for the military, GPS was eventually approved for civilian use in 1983. Since then, GPS technology has revolutionized public point-to-point navigation, particularly for car travel, the most popular application. Other practical uses include programs like Google Maps, precise land surveying, telecommunications, public safety, and even measurements of continental drift with sub-centimeter accuracy.

Boris Pervan, associate professor of mechanical and aerospace engineering at IIT, is among those hoping to exploit the potential of GPS in some of the trickiest and most demanding situations.

GPS satellites get their power from the sun. Each carries an onboard atomic clock and transmits radio frequency signals, which propagate earthward, penetrating the atmosphere and even dense cloud cover. GPS receivers read a stream of signals from four or more such satellites. By measuring the distances from the subject to each satellite, precise location of the traveler can be determined through the technique of trilateration.

Despite GPS's accuracy, some conditions challenge its navigational prowess. While satellite guidance now oversees flight paths around the world, landing an aircraft is a delicate maneuver best left to a skilled pilot. What happens, however, when weather conditions reduce visibility to zero? Pervan, under the auspices of the Federal Aviation Administration, hopes to substitute GPS

technology for the pilot's compromised view of the ground in these precarious situations, allowing satellite navigation to bring the plane in for a pinpoint landing.

Such split-second applications require new heights of performance. "It's a real issue in terms of integrity," Pervan explains, "because the navigation is being provided by satellites that are about 20,000 kilometers away, and in this case, the pilot can't see anything out the window." Pervan emphasizes the life-and-death nature of such circumstances, stressing that the failure rate has to be reduced to one in a billion aircraft approaches.

Part of that effort relies on a modified form of GPS known as Differential GPS (DGPS). When signals reach the Earth from their source satellites, they often contain small errors relating to their travel time to Earth. With DGPS, two ground receivers are used, one of which remains at a stationary point whose location has been measured to very high accuracy. This receiver makes error corrections for the satellite signals it receives and sends the corrected information to the roving receivers.

Flying in poor visibility becomes riskier still when a plane is attempting to land on an aircraft carrier. The carrier has six degrees of freedom and can be moving in any direction, particularly in rough seas. Pervan has been working with the United States Navy on GPS solutions to this problem, which involves the development of high-accuracy algorithms, fault detection, and fault isolation systems to make such operations safe.

As the satellite stream is sent down, it passes through the troposphere, which actually changes the speed of light relative to a vacuum. The ionosphere—an electrically charged portion of the atmosphere—also acts to delay signal arrival and to pull the code and carrier phases of the signal away from each other. Finally, multi-path

reflections from the ground can also wreak havoc with GPS accuracy. All such discrepancies must be precisely adjusted in real time.

Perhaps Pervan's most challenging research applies to unmanned aerial vehicles, or UAVs, which he hopes to successfully refuel in midair by means of GPS. In addition to extreme demands of accuracy and integrity required to position precisely the vehicle under the tanker aircraft, Pervan points to another formidable challenge: "The tanker tends to block out the sky. Just when we need that higher accuracy, the GPS satellites get snuffed out."

Using phase measurements of the higher frequency GPS carrier signals, rather than the code phase signals used in standard GPS, Pervan has demonstrated the viability of this acrobatic feat. In 2007, flight tests using a Learjet as a surrogate for the UAV were conducted at Niagara Falls. Pervan's algorithmic innovations successfully guided the plane to its position beneath the Boeing KC-135 refueling aircraft. The system was shown to be accurate to within 30 centimeters.

Commercial use of GPS for approaches and landings in zero visibility will likely arrive within a decade. "The advantage of landing with GPS is that it provides a more or less seamless navigation system from takeoff to touchdown," Pervan says, "as long as we can solve all integrity issues and accuracy for the final phase."

—Richard Harth



## From the Heart: Jovan Brankov's Patient Observations

New techniques in diagnostic imaging have transformed the landscape of medicine, offering spectacular views not only of skeletal features, but also of virtually every organ and tissue in the body. The tricky part is deciding which images are most valuable for the task of diagnosis.

Jovan Brankov, assistant professor of electrical and computer engineering and member of the IIT Medical Imaging Research Center (MIRC), is an expert on cardiac nuclear medicine. His research, using a type of imaging known as SPECT (Single-Photon Emission Computed Tomography), hopes to add precision and efficiency to the diagnostic process.

During SPECT, the patient is injected with a biologically active substance, which travels through the blood stream to the heart. Because the substance is labeled radioactively, the heart essentially glows with this circulating fluid. A camera rotating around the body then captures the emitted gamma rays, and the data is assembled into a three-dimensional image.

While other modes of imaging, such as MRI, produce more highly detailed pictures, SPECT has enormous advantages in cardiology because it allows the physician to evaluate cardiac function. Multiple images can be integrated into a short video, for example, revealing the motion of the heart—critical for many kinds of diagnoses. Perfusion, the ability of the myocardium to receive substances from the blood stream, also can be observed. As the scanner's camera rotates, a full volumetric representation of blood flow through the heart can be generated.

"If you think about the heart as a cup pointing from left to right," Brankov explains, "and you take a slice through the body along the long axis of that cup, you will see a doughnut shape, which is bright where there is a lot of perfusion and dark where there is no perfusion." Darkened areas of the doughnut generally represent some degree of arterial blockage and restricted blood flow.

But is the image good enough for a full and accurate diagnosis? Has the system been fine-tuned in such a way as to produce the most clinically useful scan?

In the past, the only way to make such evaluations was to assemble many images from patients with known diagnoses and to ask trained radiologists to judge the diagnostic value of the images. The process is extremely time consuming, difficult to coordinate, and in general, prohibitively expensive.

Currently, Brankov is working on a solution to this problem. This spring he received a five-year, \$2.1 million grant from the National Institutes of Health for his project, "A New Class of Numerical Observers for Nuclear Cardiology."

Brankov's numerical observers (NOs) are mathematical algorithms based on novel techniques of machine learning. Their job is to examine SPECT images (supplied by the University of Massachusetts Medical School) and to assess their diagnostic value. Numerical observers are designed to predict the judgments a human observer would make based on the same collection of image variables.

The goal is to develop a suite of algorithms that will pore over numerous aspects of the images, like hundreds of eyes searching for diagnostic clues. Is a blockage present? What is the location and extent of this blockage? Has scar tissue already formed from an infarct or does the tissue remain viable? Is the motion of the heart healthy? On the basis of its findings, the numerical observer then selects the most diagnostically useful images, thus defining the protocol for future scans.

Brankov points out that the numerical observers at present only evaluate the properties of a given image. They are ignorant of other diagnostic factors, such as the patient's prior medical history, age, weight, sex, and specific health risks. Nevertheless, the preliminary results have been impressive, with

numerical observers performing some diagnostic tasks (like identifying the presence of certain defects) and input from a radiologist.

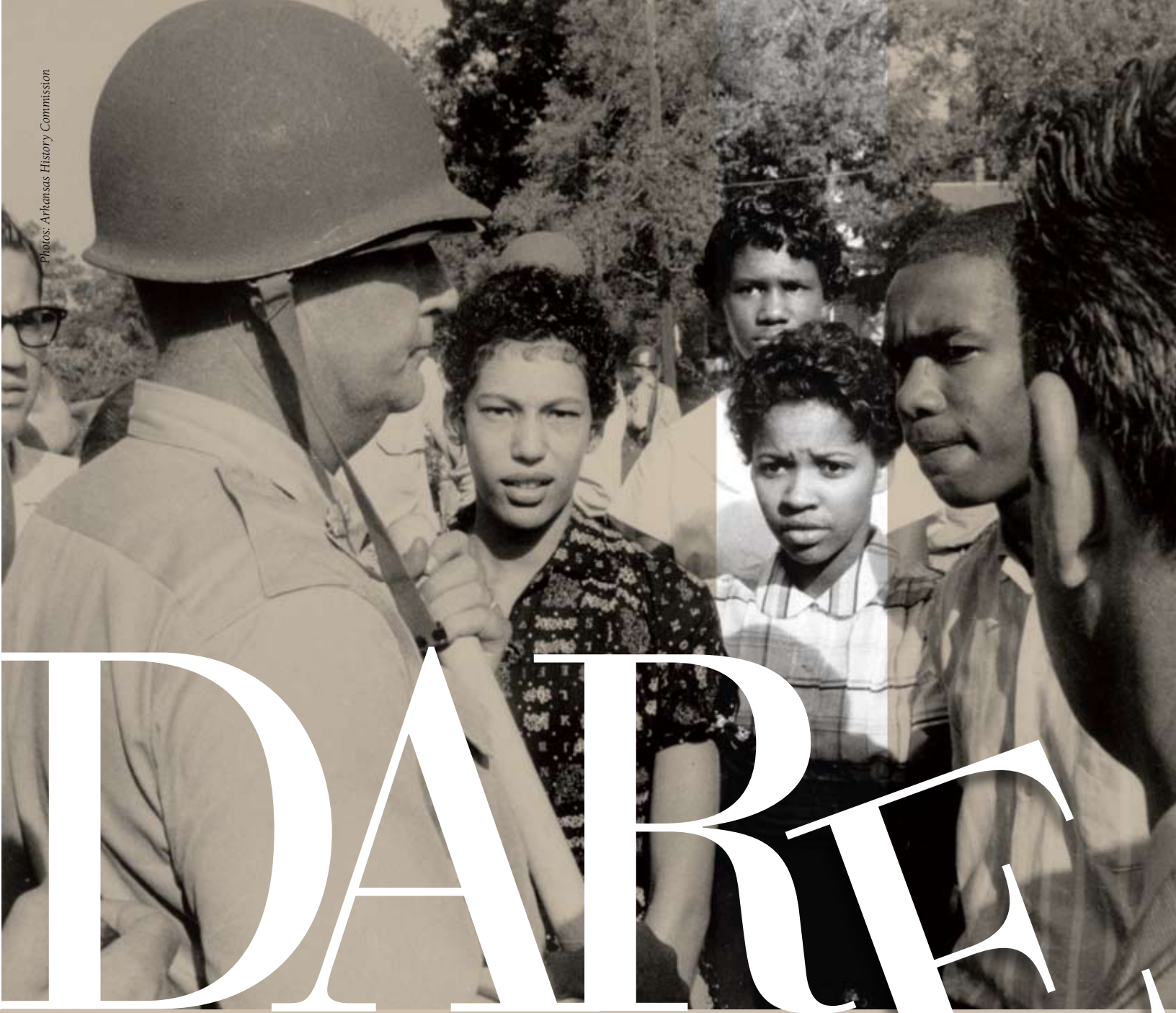
The German company Siemens, manufacturer of SPECT scanning devices, has taken a keen interest in Brankov's research, implementing some of his work in its software.

Brankov hopes that his research eventually can be expanded to other imaging modalities and to tasks beyond cardiac medicine. "My goal with the numerical observers is to combine them and make a computer software program for evaluating images in nuclear cardiology," he says. "I plan to share this program with the research community so that it can make use of and benefit from it."

—Richard Harth



Photo: Bonnie Robinson



**In the fall of 1957**, two girls in their sophomore year at Little Rock Central High School in Little Rock, Ark., passed notes to each other across the aisle of their classroom. Gloria's note read, "Becky, I see you in the hallway, but I don't know if you want me to say hello or not." Becky's response expressed more than a case of new-school-year nervousness. "Gloria, I see you, too, but please, don't say hello to me," the note read. "The white citizens' council has spies everywhere and I don't want to put my family in danger."

## to Object

By Marcia Faye

## Although it had been more than three years

since the United States Supreme Court ruled on the unconstitutionality of racial segregation in public schools with the *Brown vs. Board of Education of Topeka* decision of May 17, 1954, Arkansas Governor Orval E. Faubus resisted the ruling, which was to begin at the high-school level in the Little Rock School District (LRSD). On September 23, 1957, nine African-American students, including 14-year-old Gloria Ray, now Gloria Ray Karlmark (CHEM, MATH '65), decided to rightfully claim what the Supreme Court said was theirs. Against a crowd of some 1,000 protestors, they entered the all-white high school and into the chronicles of history.

went before the LRSD to begin integration. Karlmark's historic walk was delayed for two years as various strategies were initiated to prevent integration from happening. The LRSD immediately adopted the Blossom Plan, which called for gradual integration—to begin in high schools in 1957 and to be followed by grade schools in subsequent years. In early 1957, the Arkansas State Legislature continued to block integration by approving four “segregation bills” and instituting a 3 percent sales tax on the election ballot to ensure that funds would be available to continue its efforts. Citizens groups, such as the Mother's League of Central High School and the Capital Citizens Council, joined in the protest by placing anti-integration advertisements in newspapers and holding rallies. One month before school was scheduled to open, the governor of Georgia gave his support to Faubus, going so far as to commend those who supported a concept known as “state's rights,” that is, the right of a state to oppose the federal government.

After Karlmark and her classmates were denied entrance to Little Rock Central on September 2, federal judge Ronald Davies ordered integration to begin two days later. Again, on September 4 the way was blocked for African-American students. As increased chaos ensued, Davies began legal proceedings against Faubus and several guardsmen for interfering with integration. The rioting that occurred once the Little Rock Nine finally entered the school on September 23 was so intense that President Dwight D. Eisenhower ordered in units from the United States Army's 101st Airborne Division to help restore calm. Troops remained on campus for nearly one month to escort the nine throughout their school day.

Once the troops left, the problems returned and remained with the Little Rock Nine until the end of the academic year. Only one student in the group graduated from Little Rock Central before the school was officially closed for 1958–59 after Faubus signed into law a bill that allowed him to shut down a district school that was facing integration, pending a public vote.

Because of the many traumatic experiences Karlmark endured at Little Rock Central, it was well into adulthood before she could speak openly about her time at the school. “During that year, the nine of us didn't share with each other our problems,” she says, noting that each of them was assigned to separate classrooms, only getting together for lunch. “At the end of the day we'd say, ‘It was okay’ or ‘I managed.’ We were trying to keep up our morale and not say anything that was going to make somebody decide not to come back,” explains Karlmark. “We didn't want to worry our parents so we just kept it in.”

The nine suffered physical and mental abuse, as did those who associated with them. Karlmark recalls the kindness of Becky, who passed notes with her so many years ago. She shares what Becky meant in presentations she gives about bullying and the “silent majority” to grade school children in Sweden, where she has lived for more than 40 years with her husband, Krister (M.S. DESG '69), a former IIT Institute of Design faculty member.



## Turmoil-filled Years

Karlmark never expected the ugly reception she and the other “Little Rock Nine” experienced that day, or that by a direct order from Governor Faubus, the Arkansas National Guard would bar them from entering school on the first day of class, September 2, 1957. According to Karlmark, Arkansas of the 1950s was generally considered to be more progressive than other states, such as Alabama and Mississippi, and had already lifted its ban on such laws as those that relegated African Americans to the rear of buses.

“We lived in neighborhoods that were integrated; I had white neighbors,” explains Karlmark, who visited Main Campus of Illinois Institute of Technology in May to receive the IIT Alumni Medal. “I grew up with white kids and they grew up with me. We went to different schools, but we played together. No one expected what happened because people knew one another.” African-American students in Little Rock attended Dunbar High School, which had a good academic reputation but had fewer course selections and classrooms than Little Rock Central, and lacked an athletics practice field.

Shortly after the Supreme Court decision was made, the National Association for the Advancement of Colored People



# RAY KARLMARK

“Becky couldn’t say hello to me in the hallway, but she did show friendship to me in the classroom. She did what she could do,” says Karlmark. “I tell the kids not to sit back and watch it and talk about it. There’s bound to be some little thing, however little it might seem in your mind, that you can do to improve conditions. What Becky considered as just a little thing, for me, was my whole world. She was the only kid in any class I had who saw me. I used to look forward to that class because there would at least be one person who saw me as a fellow human being who bled when hurt and who had feelings.”

Karlmark acknowledged that while the majority of students weren’t cruel, most simply didn’t “dare to object to what was wrong.” One student stood out because she did object. Robin Wood, the daughter of a local journalist, was openly friendly to each of the Little Rock Nine. “She and her family were treated exactly as we were,” recalls Karlmark. “The difference was she didn’t have a soldier escorting her between classes—she was on her own. That took real courage.” A few years before the 50th anniversary of the Little Rock Nine on September 25, 2007, Karlmark was asked what she would like inscribed at the foot of a statue made in her likeness. Her answer? “Dare to object to prejudice and injustice.”

## Value of Education

With Little Rock Central shuttered for the 1958–59 academic year, Karlmark traveled to Missouri to live with her uncle and to attend the newly integrated Kansas City Central High School, where she was placed in the Advanced Studies Program. “It was a wonderful school,” says Karlmark. “It was that school that led to my coming to IIT.” Encouraged by her female chemistry teacher to apply to the university, Karlmark did and stepped into a realm of new possibilities.

“IIT taught me how to go about learning,” she says, explaining that with this skill, she was able to smoothly transition from a multifaceted technology career to a new one as a patent attorney. Upon her graduation, Karlmark spent four years at IIT Research Institute, where she worked as an assistant mathematician on the Automatically Programmed Tools IV Project. After taking a year’s sabbatical, Karlmark and her husband immigrated to Sweden, where she joined the IBM Nordic Laboratory and in 1975, completed the company’s Patent Examiner Program, moving into its international patent operations as a European patent attorney. In 1976, Karlmark cofounded the international journal *Computers in Industry*, serving as its editor-in-chief for 15 years. Before her retirement in 1994, Karlmark worked as a management specialist for Philips International, traveling to many countries in Europe.

The IIT Alumni Medal is just one of many honors Karlmark has received over the years. She and the Little Rock group have been commemorated on a postage stamp and a silver dollar, and memorialized in a bronze statue displayed on the grounds of the Arkansas State Capitol. In 1999, the nine visited the White House, where President

Bill Clinton bestowed upon them the Congressional Gold Medal, the highest form of civilian recognition. Little Rock Central High School, still part of the LRSD, is now a National Historic Site. Mother of two children—Elin, a marketing strategist, and Mats, an IT communications specialist—Karlmark wishes her own parents were alive to see the direction her life has taken since she walked up the steps of Little Rock Central. “It was totally beyond the realm of possibility,” she says. “I take it as another tribute to how great the United States is.”

The Little Rock Nine established a foundation to hold in the public’s memory their actions that September day and to provide scholarship and mentorship for youth in poor-performing school districts. Nine high school students from around the country were selected to receive \$10,000 scholarships at the 50th anniversary commemorative event, including Lindsey Brown, now a second-year physics major at Fisk University. One of only a few African-American students at her elementary school in Rhode Island and, as she recalls, the only African-American student in her fifth-grade class, Brown says that she was strengthened by the story of the Little Rock Nine during that time. “I did not face the adversity that they faced, but I do understand the discomfort they must have felt,” she explains. Because of the distance that separates them, Brown and her mentor, Karlmark, have relied upon electronic communication. “This has been one of the greatest experiences of my life,” says Brown. “I will forever cherish the emails and personal relationship with Mrs. Karlmark.”

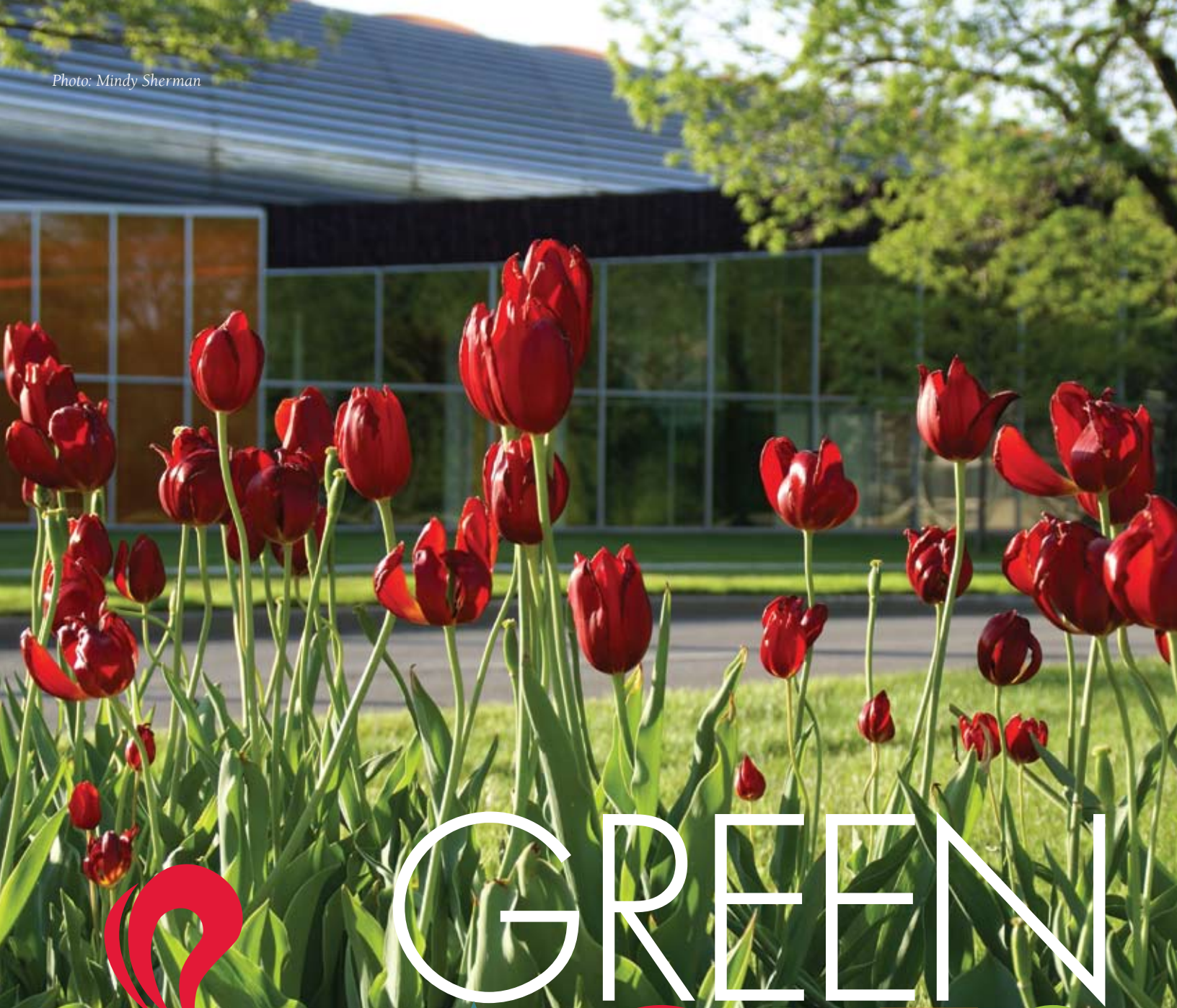
By means of scholarship and mentorship opportunities, the Little Rock Nine are continuing the legacy passed down to them by their parents and educators who helped them keep alive their dream of bettering themselves through knowledge. “We were willing to die inside that school,” says Karlmark, who explains that while it was her desire to obtain the best learning opportunities that she could, when she stepped inside Little Rock Central, her desire matured into something more: a principle. “It was the principle of being an American citizen, not a second-class American citizen but children of one and the same God, not children of a lesser god,” she says. “I was brought up that education was the way of the future.” ■



[Opposite page] Anti-integration rallies were a common sight in the Deep South of the 1950s.

[Left] Gloria Ray, as a Little Rock High School student, and [above] Gloria Ray Karlmark, as an IIT alumna

Photo: Mindy Sherman



GREEN

ACRES

IIT Sets New Goals for  
Greening Main Campus



**“There are two inexhaustible resources,”** says Joseph Clair (M.S. MAE ’95), who has joined IIT as its first director of campus energy and sustainability, “the sun—if it’s here, we’re here—and human ingenuity, which is infinite.”

It’s an appropriate philosophy for a technology-focused university, where innovation and creativity work to advance knowledge and society. In an effort to be a better steward of the environment and to improve the quality of life at the university, IIT is introducing a new University Sustainability Policy this fall. Arriving on the heels of the launch of IIT’s Wanger Institute for Sustainable Energy Research, the plan will shepherd operating initiatives that will help the university become greener and more sustainable.

“The program goal is to bring into our daily operating practices the innovation and creativity of our diverse student body, exceptional faculty, and talented staff,” says Vice President John Collins, whose Office of Business and Administration is coordinating the effort. “Joseph Clair is widely respected and brings to IIT a broad range of experience with energy and sustainability issues.”

Improved sustainability and energy-efficiency is growing among United States universities. According to the Energy Information Administration’s Commercial Buildings Energy Consumption Survey, each year American universities spend approximately \$2 billion on energy alone, in 2004 dollars. By going green, universities can significantly impact spending while increasing their pool of prospective students, who “have grown up in an era of environmental stewardship and are making discerning choices about whether the colleges they attend are green,” says Clair.

IIT’s Main Campus alone spans 120 acres—a system of people, buildings, vehicles, landscaping, and utilities. With the population of the university community expected to grow in the coming years, so too will its demand for energy and resources. The University Sustainability Policy will encourage and support a variety of practices—both tested, common-sense approaches as well as new and updated technologies—that will define and support a university-wide vision for sustainability, enable IIT to better document and measure its work, and ultimately serve as a model of sustainable living for other communities.

Greening a university, compared to other businesses and organizations, comes with its own unique set of challenges. First, and perhaps most fundamental, is determining a generally accepted definition of sustainability—“one man’s green is another man’s gray,” Clair says—which can differ from college to college based on varying disciplines and perspectives.

Other key challenges include reducing the use of natural resources—namely water, steel, and masonry—as well as energy use in business and facilities.

“We have a diversity of building styles—residential, commercial, industrial, retail—so it’s difficult to have a single energy-use strategy for

the entire campus,” Clair notes. Whereas determining a base pattern of energy use in a typical residential building is relatively straightforward, for example, students live and work at different times of the day, which makes assessing energy needs in student residences more challenging. Similarly, as opposed to many commercial businesses, IIT has some facilities with 24-hour use patterns, including labs, as well as other special energy requirements.

“We have to think at a micro level about how each building is used, and we have to use only the resources that we need. Our vision for sustainability has to be applied to everything at all levels of our operations,” he says. “If we do this we will increase the quality of life on campus, which advances our educational and research mission.”

“If you consider the three components of sustainability—environmental, social, and economical—IIT will benefit in all three aspects,” says George

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**“As a university with a history in this area, we have to walk the walk. We must practice sustainability and be a leader for IIT stakeholders, the community, and the rest of the world.”** Said Al-Hallaj

P. Nassos, director of the Center for Sustainable Enterprise at IIT Stuart School of Business. As part of its mission, the CSE advises business leaders about how they can alter their business practices to be more sustainable, thereby improving the environment as well as their company’s bottom line.

“By being environmentally sustainable, the university is utilizing fewer natural resources; if it’s social, we’re reducing our carbon footprint, which reduces climate change and impacts people, whether a change affects agriculture or rising flood waters. By using fewer natural resources, we are also being economically sustainable; we pay less, use less wattage, save on disposal, and prevent pollution.”

“If we look at the economic aspect even further, promoting and advertising our sustainability will contribute to attracting higher-quality students, which impacts our revenue and helps the bottom line. It’s good to do it, even if you don’t tell anyone, but even better if you do.”

Clair says successful sustainability is well within reach for IIT. “IIT has so much knowledge in this area and sustainability here is inbred,” he says. “Also, we’re an urban school. If we can show that we can make sustainability work here, in a diverse community within the city, using a forward-thinking model, we can establish a standard for other small communities in the Chicago area and urban centers all over the world.”

A partner in developing a more sustainable IIT is the University Sustainability Committee. Formed two years ago, the committee, headed by Said Al-Hallaj, research associate professor of chemical and biological engineering, is an interdisciplinary collective of faculty working in sustainability-related research. The committee’s goal is to educate faculty about the various sustainability initiatives being developed as part of IIT’s operations and to provide input into the decision-making.

“The most important message we emphasize is that sustainability shouldn’t be driven by saving costs only,” says Al-Hallaj. “As a university with a history in this area, we have to walk the walk. We must practice

## OPERATING A GREEN CAMPUS

The University Sustainability Policy will serve as a framework for a centralized greening plan, which includes the further development of IIT operations initiatives that have begun in the past year.

### PERFECT POWER PROTOTYPE

The Perfect Power Prototype—one of the more ambitious and comprehensive new endeavors at IIT—will redefine the way the university acquires, produces, distributes, and uses energy. This project, led by the Department of Electrical and Computer Engineering (ECE) and in partnership with the Galvin Electricity Initiative and Exelon, is funded in part through a sizeable grant from the Department of Energy (DOE) announced in June 2008. The research project aims to model a flagship Perfect Power solution to the country’s energy problems—using IIT as a living laboratory.

Power outages cost the United States an estimated \$150 billion annually. The one to three outages that IIT experiences each year result in nearly \$500,000 in restoration costs, irrecoverable experiments, and lost productivity.

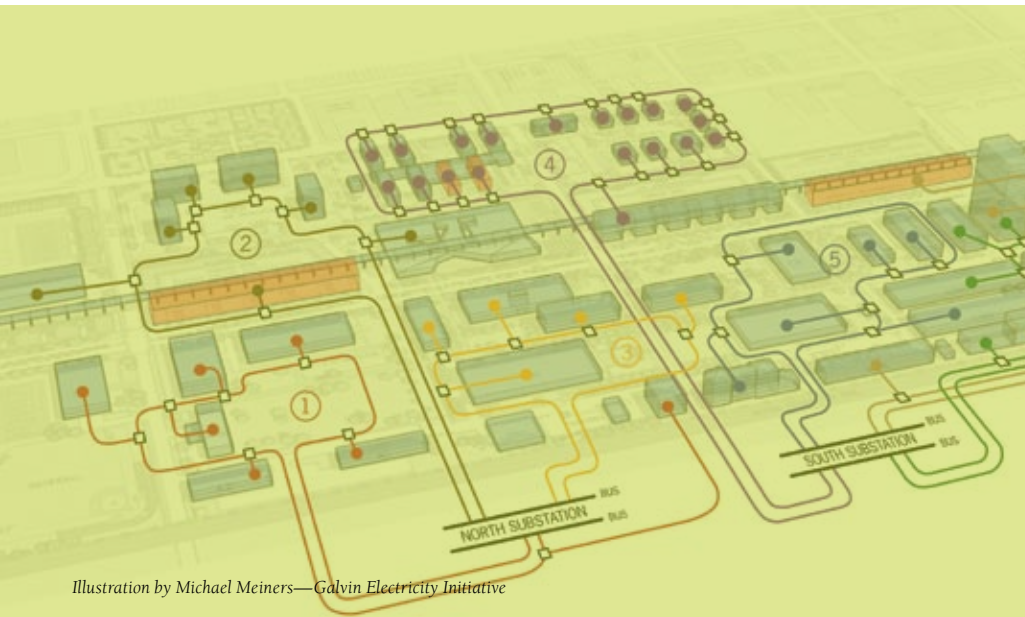


Illustration by Michael Meiners—Galvin Electricity Initiative

### PERFECT POWER PROTOTYPE

The high-reliability distribution system of the Perfect Power Prototype at IIT will integrate various energy platforms across Main Campus. Each numbered loop represents a redundant system designed to increase the security and reliability of energy delivery.

### IIT RECYCLING PLAN

A more robust recycling program at IIT will include a website, [recycling.iit.edu](http://recycling.iit.edu), to keep the university community aware of specific recycling initiatives and how individuals can become involved.



sustainability and be a leader for IIT stakeholders, the community, and the rest of the world.”

The committee has been working with the university to replace worn-out IIT vehicles with vehicles that use the best new green technology, including pure-electric small vehicles for parking, general operations, and security staffs. IIT currently has three all-electric vehicles in use.

Through these changes and other efforts, IIT aspires to be a “sustainable village”—a model for small communities that going green is feasible. This includes exporting successful strategies to other city neighborhoods, applying methods that have worked within IIT’s own grid within the cityscape to other areas. IIT plans to show the City of Chicago how planned upgrades at the McCormick Student Village student residence could be applied in the construction of a 2016 Olympic Village.

Ironically, when such sustainability is fully integrated, whether on IIT’s campus or applied elsewhere, observers may have to look hard to find it. “The best sustainability is the things people won’t notice,” Clair observes. “We’ll see it on a balance sheet—in the things we don’t purchase.”

The initiative will make IIT a prototype for improved efficiency, self-sustaining generation, and renewable energy applications based on a system of smart grids. Smart grids rely on a web of smart meters to monitor and dictate energy use at optimal times and costs. Mohammad Shahidehpour, ECE chair and a lead on the Perfect Power Prototype at IIT, likens smart meters to cell phone plans. “If you make a call on your cell phone after 9 p.m., the calls are cheaper,” he says.

With a smart grid, master controllers set up in every neighborhood receive signals from the utility company regarding the real-time cost of electricity. The master controllers communicate with chips inside home appliances, for example, and determine use based on the owners’ preferred schedule and optimal times relative to cost, reducing the amount of electricity in the neighborhood or the city at any given time. “That’s a smart grid,” says Shahidehpour. “The price is a function of time. You’ll pay less.”

Through Perfect Power, IIT would be self-sustaining and more efficient in its electricity generation as well. IIT currently has its own central power plant—a gas-fired combined unit that can generate about 8 megawatts of power but that is used only for heating and hot water due to the high cost of gas. Because IIT uses a maximum of 12–14 megawatts during peak

times, in the summer, this plant could provide approximately two-thirds of the university's power, as opposed to purchasing power from offsite providers—the current, cheaper option.

By purchasing electricity in real-time and using onsite generation, IIT estimates that it could save from \$500,000 to \$1.5 million annually.

The five-year DOE grant will support the improvement of the campus infrastructure—the purchase of additional generating units, enhancement of existing buildings, and an upgrade of the cable system. This involves reassessing the entire power grid at IIT, which consists of a low-voltage distributed system that relies primarily on old, overworked underground cables. The grant will support another aspect of Perfect Power, the installation of solar panels on the rooftop of Siegel Hall and exploration of other renewable electricity generation.

Through Perfect Power, the IIT model will show lawmakers how a more innovative approach to the energy dilemma, including new laws and regulations, is needed if the country is to eliminate power outages and drive down the cost and pollution associated with electricity. The Perfect Power Prototype is scheduled to begin this fall.

residences and common areas, increased training of support staff that handle recyclables, and an improved process for hauling, documenting, and reporting on the program's progress.

A component of the reporting includes the launch of [recycling.iit.edu](http://recycling.iit.edu) at the start of the academic year. The website will keep the community informed about the recycling initiative and what each person can do to make the program a success.

## WASTEWATER MANAGEMENT

IIT is working with the city to turn 31st Street on campus into a permeable street. This includes exploring new methods of wastewater management, which would help IIT make more efficient use of water procured on Main Campus. Currently, any water reclaimed at IIT must travel through Chicago's central water-reclamation facilities, located several miles away. ■

[www.galvinpower.org](http://www.galvinpower.org)

[www.sustainability.com](http://www.sustainability.com)



Joseph Clair (M.S. MAE '95), Director of Campus Energy and Sustainability

## HOW MUCH DOES YOUR CO<sub>2</sub> WEIGH?

The average American generates 47 pounds of CO<sub>2</sub> per day, enough to fill 47 2.5-foot-wide balloons. Gasoline accounts for a third of this, with each gallon of gas producing 25.3 pounds of CO<sub>2</sub>. Another source of our carbon output is the electricity from coal and natural gas power plants, which produces an average of 1.34 pounds per kilowatt hour when in use.

Source: *The National Geographic Green Guide*, September 2007

## ENERGY-EFFICIENT HEATING

The largest user of natural gas at IIT is the central heating plant, the culprit in many locales with long, cold winters. With modern hot-water systems running at 90 percent efficiency or greater, switching out old equipment saves both resources and money.

IIT has replaced a 60,000-pound boiler with two high-efficiency 20,000-pound boilers that can respond to seasonal changes in demand loads. This change alone is expected to save \$425,000 in fuel costs each year and to reduce carbon emissions by 3.5 million pounds annually. IIT also began construction to install a high-efficiency hot water/steam plant on the east side of Main Campus. By upgrading its system, IIT is expected to reduce CO<sub>2</sub> emissions by 10.4 million pounds annually while better accommodating any future system upgrades.

## RECYCLING

This fall, IIT will unveil a new recycling program that it expects will increase recycling rates considerably. The more pervasive, transparent program will feature three major components: enhanced presence of recycling bins and stations throughout





Graeme Port, IIT soccer striker and NAIA All-American

# IIT

## MEN'S SOCCER ON THE MOVE

By Christopher Darnielle

**S**occer on the South Side of Chicago? What's next, a construction-free Dan Ryan expressway? Believe it or not, both of these seeming oddities are a reality for IIT's student body this fall. And fortunately for the growing number of fans of the IIT men's soccer team, the best seats to be had aren't from traffic jams on the Dan Ryan, but rather a stone's throw away at beautifully manicured Stuart Field.

Although IIT's men's soccer program is entering only its sixth season of existence this fall, Head Coach Lee Hitchen isn't settling for platitudes like "growth" or "improvement"—he wants to win, and win immediately. "When we first started it was, 'Okay, here comes the geek squad, let's put our second team on the field, get some goals, and get a win under our belt,'" he says with a laugh. "In the past we were a guaranteed win, but now these teams get beat, and they don't like it."

Winning has become something of a habit for IIT, which finished with a 9-5-4 record last season. In fact, were it not for a miracle last-minute header by Judson University striker Leonardo Silva, the Scarlet Hawks would have captured their first Chicagoland Collegiate Athletics Conference (CCAC) title and an automatic birth in the

NAIA regionals. Instead, largely because of a cryptic NAIA rating system called “longo points,” the team was bounced from the regionals into a rematch with Olivet Nazarene in the CCAC tournament, which resulted in a season-ending 2–1 loss.

If anyone is still dwelling on last season’s disappointing finish, they’re not letting on. “When I first came in, the team was made up of a bunch of guys who just liked to play soccer,” says redshirt Andrew John Lichaj (BA, 3rd year) of the team’s evolution. “Now the team is full of guys that have all played at a high level, and Coach Hitchen has done a great job of recruiting; every year we get better.”

Edward Vucinic, head coach of conference rival St. Xavier University, calls the Scarlet Hawks’ improvement “impressive.” He adds, “They’ve become an upper-echelon team, the kind you have to fight for 90 minutes.”

This kind of respect and peer recognition isn’t just flattering, it’s crucial to any collegiate coach’s recruiting efforts. As Hitchen explains, “Until you build your reputation, you can’t recruit top talent.” So Hitchen, a Brit with a background as a professional player for the Blackburn Rovers of the English Premier League, adopted a unique recruiting strategy. He began using his network of former coaches and teammates as an international recruiting network, with the hopes that assembling a cast of seasoned international players would help him attract some of Chicago’s plentiful youth talent.

This brings with it entirely different challenges—challenges that your average coach in the United States, accustomed to soccer as a sport of the largely affluent suburban set, isn’t used to dealing with. “The problem

is that everywhere else in the world, nine times out of 10, these players are working-class kids who do not have the finances to support a \$35,000 a year education, especially when in their home countries, school is largely free,” he says. His approach

is paying dividends: Hitchen’s roster boasts 11 international student-athletes from locales as far-flung as England, Scotland, Brazil, Australia, Venezuela, and Spain as well as six returning players from the Chicago area.

As Hitchen points out, recruiting is further complicated by two other major factors: IIT’s sterling academic standards and the specialization of the university’s scientific disciplines. “I don’t think people realize just how small the pool of candidates actually is,” he says. “I could walk into any game of senior high-school athletes and say, ‘That kid’s awesome, I want him.’ If I were at any other university, I could probably get him. But I can’t do that here. The first step is, okay, what are his grades? I don’t even know his name yet, but I’m asking, ‘What are his grades?’ And then you have to hope that he wants to be an engineer, or a scientist, or an architect.

“We are competing not just against conference schools, but also schools like Northwestern, Drexel, and Carnegie Mellon,” he says—universities that IIT will likely never even face on the playing field.

Additionally, the NAIA’s relatively low admission requirements for athletes don’t do IIT any favors. “Academic standards for the NAIA are way below our standards,” Hitchen says, and he’s not kidding: NAIA student-athletes are not required to take the SAT or ACT exams as long as they graduate in the top half of their high-school class. This is a decided edge in favor of most of IIT’s competitors.

Despite the rigors of being student-athletes at a demanding university like IIT, Hitchen’s recruits have more than held their own, maintaining a 3.2 GPA last season; in fact, no student in the team’s five-year history has been disqualified from the program for academic reasons. Michael Tilatti (MMAE, 4th year) is perhaps the best example of the successful union between academics and athletics that Hitchen has achieved; the goalkeeper carries a 3.88 GPA while studying aerospace engineering. “The key is good time management,” Tilatti says. “You need to be disciplined; there is not a lot of time to fool around. IIT is very difficult, but there is still time to finish your work if you manage your time right.”

Academics aside, it’s hard not to admire the talent that Hitchen has assembled in such a short amount of time. Striker Graeme Port (HUM, 2nd year), a sophomore from Scotland, took the league by storm last season, scoring a remarkable 10 goals en route to being named both an NAIA All-American (the first such nomination in the history of IIT men’s soccer) and CCAC Freshman of the Year. Additionally, midfielder Steven Booher (ARCH, 5th year), forward Pedro Lima (BA, 5th year), and defender Phillip Brierley (BA, 3rd year) earned All-Conference honors.

This year’s prospects look bright. “This team is going to improve immensely this season,” predicts goaltender Tilatti. “We’re bringing in players from all over the world—the U.K., Ireland, Australia,

Brazil—which will increase the competition for places and force every player to work harder if they want to get on to the first team. This will only help the squad get better.”

Hitchen notes that the Scarlet Hawks’ recent success has attracted the notice of the two premiere youth soccer organizations in the Chicago area, which should help to provide an additional influx of fresh talent into the program. However, “It’s not enough success for me,” he says. “I want more, and I really think we’re on course to get there. We’ve raised the bar in the game. We’re not there yet, but we’re well on the way.” ■

*The Scarlet Hawks opened the 2008 season with a road match against perennial NAIA powerhouse, University of Rio Grande (Ohio) on August 23; their first home contest was versus Viterbo University (Wisconsin) on August 27. For a complete 2008 season schedule, visit [www.illinoistechathletics.com/schedule/6/4.php](http://www.illinoistechathletics.com/schedule/6/4.php).*

## Q&A with NAIA All-American and CCAC Freshman of the Year Graeme Port

### Describe your previous soccer experience.

I started playing soccer as soon as I could walk, just like everyone else back home [in Scotland]. I think I joined my first team when I was about 6. I played for various club teams when I was growing up and then progressed from there to play for several youth teams affiliated with professional clubs. When I heard about the opportunity to come to America, I jumped at the chance. It gives me the opportunity both to play soccer and continue my education, something that you can’t really do back in the U.K.

### How did you manage to have such a great season while adjusting to life in the United States?

The transition was surprisingly easy for me. I guess being 21 helped a lot as I’d already been living away from my parents for a couple of years prior to coming to the States. Coach Hitchen set up everything for all the new players that came in, and the fact that I was living with two other British lads also helped a lot. The soccer team in general is a great bunch of lads.

### Of all the universities you could have chosen, why did you choose IIT?

I had a couple of schools to choose from, but after I spoke with Coach Hitchen on the phone, there really was nowhere else that I wanted to go. The city of Chicago is a huge pull and having an English coach was also a big appeal for me. Coach Hitchen is a great coach and he really looks after all the lads both on and off the pitch. IIT is really lucky to have such a talented soccer team, and I just hope that this year we can finally win some titles to prove how good a side we actually have.

### Do you hope to play soccer at the next level?

If I were given the chance to continue playing soccer after college I would definitely take it. The MLS [Major League Soccer] is improving all the time, and I would jump at the chance if given the opportunity to play in it. Playing in Europe would be great, but honestly I’d play almost anywhere if given the chance. Playing for Scotland might be a stretch too far though, as—contrary to popular belief—the team is actually quite good.

**“We’re bringing in players from all over the world—the U.K., Ireland, Australia, Brazil—which will increase the competition for places and force every player to work harder.”**

**Michael Tilatti (MMAE, 3rd year)**

## Alumni Association Board of Directors

The newly reconstituted Alumni Association Board of Directors held its first meeting on May 19, 2008. The officers and members are:

**Adrian R. Nemcek** (EE '70)  
President

**Adrienne B. Naumann** (LAW '84)  
Chair, Governance Committee

**Linda Liang** (M.S. PSYC '76, Ph.D. '85)  
Chair, Nominating Committee

**Jimmy Akintonde** (ARCH '95)

**Jeffrey Anderzhon** (ARCH '73)

**Allen Friedman** (LAW '52)

**Jeff Karp** (CE '79)

**Xiomara Cortes Metcalfe** (M.S. ECON '79)

**Joseph P. Mulvey** (EE '91)

**Vasudevan "Raj" Rajaram** (LAW '91)

**Lee Sheridan** (CHE '65, M.S. '67)

**Bud Wendorf** (ME '71)

Alumni who are interested in serving on the Board of Directors may contact Tara S. Singer, director of alumni relations, at 312.567.5011 or [tsinger1@iit.edu](mailto:tsinger1@iit.edu). The next meeting of the board will take place in conjunction with this fall's Homecoming celebration, which will be held the weekend of September 26–27, 2008.

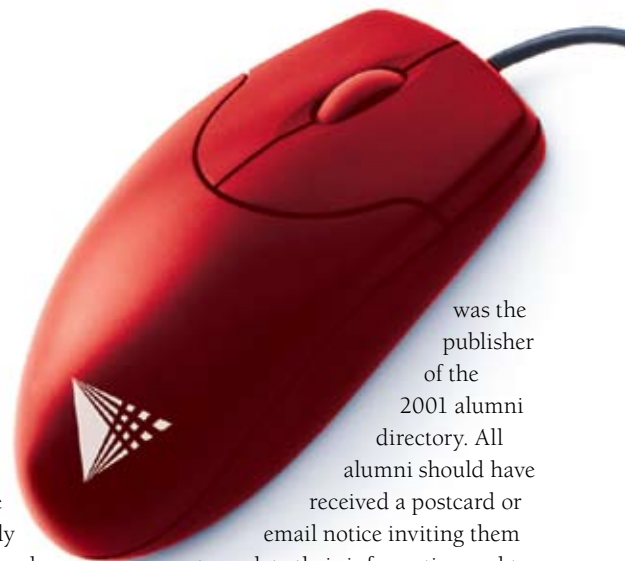
## New and Improved Website

The IIT Alumni Association will be launching its new and improved website and online community in October 2008. The new site will allow alumni to easily register for upcoming events, network with other graduates in regional areas, and sign-up to be a volunteer. The new alumni community will also include an online directory and information on other alumni services and benefits.

Watch your mailbox—both the one that handles print mail and the one that holds your electronic mail. In September we will be sending announcements about the launch of the new site and instructions for registering to access even more of the new services and opportunities provided by the IIT Alumni Association.

## Directory Coming Soon!

The Office of Alumni Relations has contracted with HarrisConnect to produce the 2009 IIT alumni directory. Harris is a leader in association publications and



was the publisher of the 2001 alumni directory. All alumni should have received a postcard or email notice inviting them to update their information and to purchase a copy of the directory.

If you have questions about the alumni directory project, contact the Office of Alumni Relations at 312.567.5040 or [alumni@iit.edu](mailto:alumni@iit.edu).

## Alumni Vendor Services

The IIT Alumni Association works with a number of outside vendors to provide programs and services to the university's alumni population. These companies are prohibited from using alumni contact information for any purpose other than to promote services developed specifically for IIT alumni. Presently, in addition to working with HarrisConnect, the association has contracted with Alumni Holidays International to provide group travel opportunities, and with Meyer

## alumni awards 2008



*Manu K. Vora (M.S. CHE '70, Ph.D. '75), chair of the IIT Alumni Awards Judges Team, visits with Professor Hamid Arastoopour (M.S. GE '75, Ph.D. '78), one of this year's recipients of the IIT Alumni Service Award.*



*President John Anderson visits with Roy Gignac (EE '52), the 2007 recipient of the IIT Collens Merit Award.*



and Associates to provide short-term medical insurance to recent graduates. Proceeds from such programs support the Alumni Association Scholarship Fund.

Should you wish not to have your contact information shared with these affinity program providers, please call 312.567.5040 or email [alumni@iit.edu](mailto:alumni@iit.edu).

## Volunteer Opportunities



Do you have time and talents that you'd like to donate to your alma mater? The IIT Alumni Association is always looking for graduates who have the time and interest

to serve their school. Alumni volunteers may assist in recruiting new students to attend IIT, judging IPRO presentations, and mentoring currently enrolled students through the Student Organization for Alumni Relations.

If you would like to serve as an alumni volunteer, please contact Tara S. Singer, director of alumni relations, at 312.567.5011 or [tsinger1@iit.edu](mailto:tsinger1@iit.edu).

## Nominations for the 2009 IIT Alumni Awards

Do you know an IIT graduate who is considered a leader or even a legend? If so, let us know who deserves recognition. There are seven categories of awards (see below). Nominations are due by October 15, 2008; next year's ceremonies will be held on Friday, May 1, 2009. Before submitting a nomination, please review official rules and page limitations at [www.iit.edu/alumni/updates/awards](http://www.iit.edu/alumni/updates/awards).

### IIT Alumni Medal

Awarded to an individual who has demonstrated an exceptional commitment to society through service or support, and who has achieved significant personal and professional success.

### IIT Alumni Service Award

Awarded to an individual who demonstrates continuous, selfless commitment to and devoted enthusiasm for the university through involvement in varied areas of the university, including but not limited to recruitment, support, service, and leadership.

### IIT Collens Merit Award

Awarded to an individual nominated by the staff and/or faculty as an individual who has demonstrated outstanding commitment to the future of IIT through philanthropic

contributions paired with involvement in his or her gift.

### IIT Global Service Award

Awarded to an individual who has contributed through extraordinary efforts to strengthening IIT's reputation on an international scale.

### IIT Lifetime Achievement Award

Awarded posthumously to an individual who has passed away in the past 12 months who during his or her life achieved personal success, made an outstanding contribution to his/her chosen field of endeavor, and achieved recognition by his/her colleagues.

### IIT Outstanding Young Alumnus/a Award

Awarded to an individual who has graduated with an undergraduate degree in the past 10 years and excelled beyond his/her peers in areas of leadership and professional success and/or has served his/her community or the university selflessly.

### IIT Professional Achievement Award

Awarded to an individual who has achieved personal success, made an outstanding contribution to his/her chosen field of endeavor, and achieved recognition by his/her colleagues.



Ingrida Martinkus visits with one of the guests who was at the event to honor her late father, John Martinkus (ARCH '61, M.S. '64), with the IIT Lifetime Achievement Award.



[Top] M. Zia Hassan (M.S. IE '58, Ph.D. '65) talks about the numerous and different jobs he has held from his student years until today in receiving the IIT Alumni Medal. [Bottom] Gloria Ray Karlmark (CHEM, MATH '65), who traveled from Sweden to attend the 2008 IIT Alumni Awards, discusses her experiences as an undergraduate in accepting the IIT Alumni Medal. [Right] IIT Global Service Award recipient Atul Thakkar (M.S. EE '71) and his wife, Kalpana, applaud another one of the honorees.



## Upcoming Alumni Events

For more information about upcoming alumni events listed below and other alumni activities, contact the Office of Alumni Relations at 312.567.5040 or [alumni@iit.edu](mailto:alumni@iit.edu).

### Fall Career Fair September 18, 2008

Hermann Hall, IIT Main Campus  
For more information, contact the Career Management Center at 312.567.6800 or [cmc@iit.edu](mailto:cmc@iit.edu).

### Golden Alumni Society Event (for the Class of 1958) September 18, 2008

5 p.m.  
The Bog, Hermann Hall, IIT Main Campus

### Golden Alumni Society Reunion Luncheon and Induction Ceremony (for the classes of 1920–1958) September 19, 2008

Noon  
Hermann Hall, IIT Main Campus

### Darsh T. Wasan Lecture Featuring David Edwards (Ph.D. CHE '87) September 19, 2008

3:30 p.m. registration; 4:15 p.m. luncheon  
Perlstein Hall Auditorium, IIT Main Campus

### Mies van der Rohe Society and the Glessner House Museum South Side Tour September 20, 2008

10 a.m.  
Glessner House, 1800 S. Prairie Avenue, Chicago  
For more information, contact the Mies Society at 312.567.5025 or [miesmembership@iit.edu](mailto:miesmembership@iit.edu).

## Homecoming September 26–27, 2008

### Friday, September 26, 2008

- Homecoming Carnival, 5–9 p.m.
- Alumni Association Board of Directors Dinner, 6 p.m.
- IIT<sup>10</sup> After Party, 9 p.m.–1 a.m.

### Saturday, September 27, 2008

- Alumni Breakfast and Greek Open Houses
- Volleyball, Women's Basketball, and Baseball Alumni Games
- ROTC Alumni Gathering
- Lunchtime Picnic
- Academic Showcases
- Campus Tours
- Men's and Women's Varsity Soccer Games
- Residence Hall Reunions
- Black Alumni Reunions
- Reunion receptions for more classes ending in 3 and 8 (1963, 1968, 1973, 1978, 1983, 1988, 1993, 1998, and 2003)

### Thirsty Thursday at Jimmy Fig's October 9, 2008

4–7 p.m.  
160 N. Franklin Street, Chicago

### IIT<sup>10</sup> and SOAR Business Etiquette Workshop November 5, 2008

Location TBD

### Thirsty Thursday at Jimmy Fig's November 13, 2008

4–7 p.m.  
160 N. Franklin Street, Chicago

### AIChE Alumni Reception November 17, 2008

Philadelphia, Pennsylvania

### IPRO Day December 5, 2008

For more information about IIT's Interprofessional Projects (IPRO) program, contact the IPRO office at 312.567.3986 or [jacobius@iit.edu](mailto:jacobius@iit.edu).

### Thirsty Thursday at Jimmy Fig's December 11, 2008

4–7 p.m.  
160 N. Franklin Street, Chicago

### Alumni Awards Luncheon and IPRO Day May 1, 2009

11 a.m., reception; noon, lunch  
Hermann Hall, IIT Main Campus



Mort Nemiroff (CHE '50) traveled from Hawaii to collect his IIT Alumni Service Award in recognition of his volunteer student-recruitment efforts.



Manu K. Vora congratulates Federico Vidargas (M.A.S. ARCH '76), IIT Alumni Service Award recipient.



# See the World with IIT

The IIT Alumni Association has launched a new Alumni Travel Program offering unforgettable trips through AHI International. Experience the camaraderie of traveling with other IIT alumni—a group of like-minded individuals who share your interests.

For more information, contact Marian Quirk at [quirk@iit.edu](mailto:quirk@iit.edu) or 1.800.448.2586, or visit AHI International at [www.ahitravel.com/iit](http://www.ahitravel.com/iit).

## Cruise the Panama Canal

January 25–February 5, 2009

Relax aboard the six-star Crystal Symphony as you chart a course to fascinating ports of call—Tortola, St. Barthélemy, St. Maarten, and Aruba—before traveling through the six locks of the Panama Canal to your final stop at Caldera, Costa Rica.

## Chianti in a Tuscan Villa

May 3–11, 2009

Imagine yourself amid the rolling hills of Tuscany, blanketed with verdant vineyards, olive groves, and cypress trees. From your hotel in the village of Tavarnelle Val di Pesa, spend eight days enjoying excursions into Volterra, quaint towns in the heart of Tuscany's hill country, Lucca, Florence, and Sienna.

## China and the Yangtze River Discovery

October 7–19, 2009

Discover China's finest cities, its exotic countryside, and storied history on this unique travel opportunity that showcases the many treasures of this fascinating country, all at an exceptional value. Highlights include visits to Beijing and the Forbidden City palace complex; the Great Wall; Xi'an, site of the Terra Cotta Warriors; the Three Gorges region; and Shanghai.



Betty Oldshue, her sons, and other family members accept the IIT Lifetime Achievement Award in memory of her husband, James Y. Oldshue (CHE '47, M.S. '49, Ph.D. '51). A chemical engineering laboratory in Perlstein Hall was dedicated in James Oldshue's memory on the same day as the 2008 Alumni Awards.



President Emeritus Lew Collens presents the IIT Collens Merit Award to Robert W. Schmidt (ME '36), photographed with his son, Steve, and his grandson, Mike.



## What's your interest?

- Your checking account—1.57%
- Your money market account—2.55%
- Your 5-year CD bought last year—4.03%
- Your IIT annuity that will pay you and provide a student a scholarship—6–10.1%\*

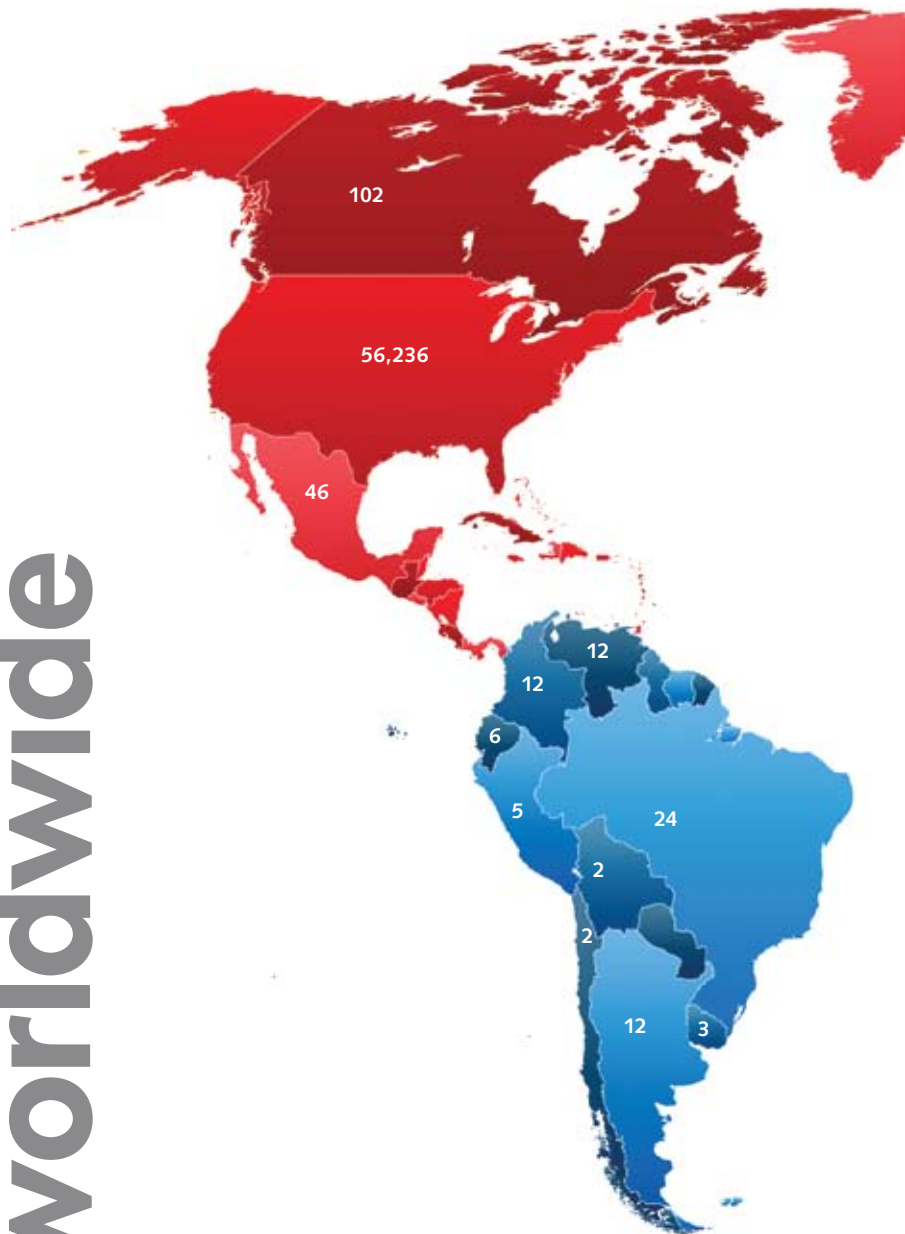
As you plan your retirement investment portfolio, don't forget that there are effective ways of generating income while making a gift to support Illinois Institute of Technology. Often, planned gifts can have a higher or guaranteed return compared to other investments.

**In the short term—**increase your income.  
**In the long term—**leave a legacy at IIT.

For more information about planned giving options and ideas, contact the IIT Planned Giving Office at 312.567.5028 or by email at [giving@iit.edu](mailto:giving@iit.edu).

\* Interest varies from 6% at age 68 to 10.1% at age 89 and above.

# iitalumni**worldwide**



### North America

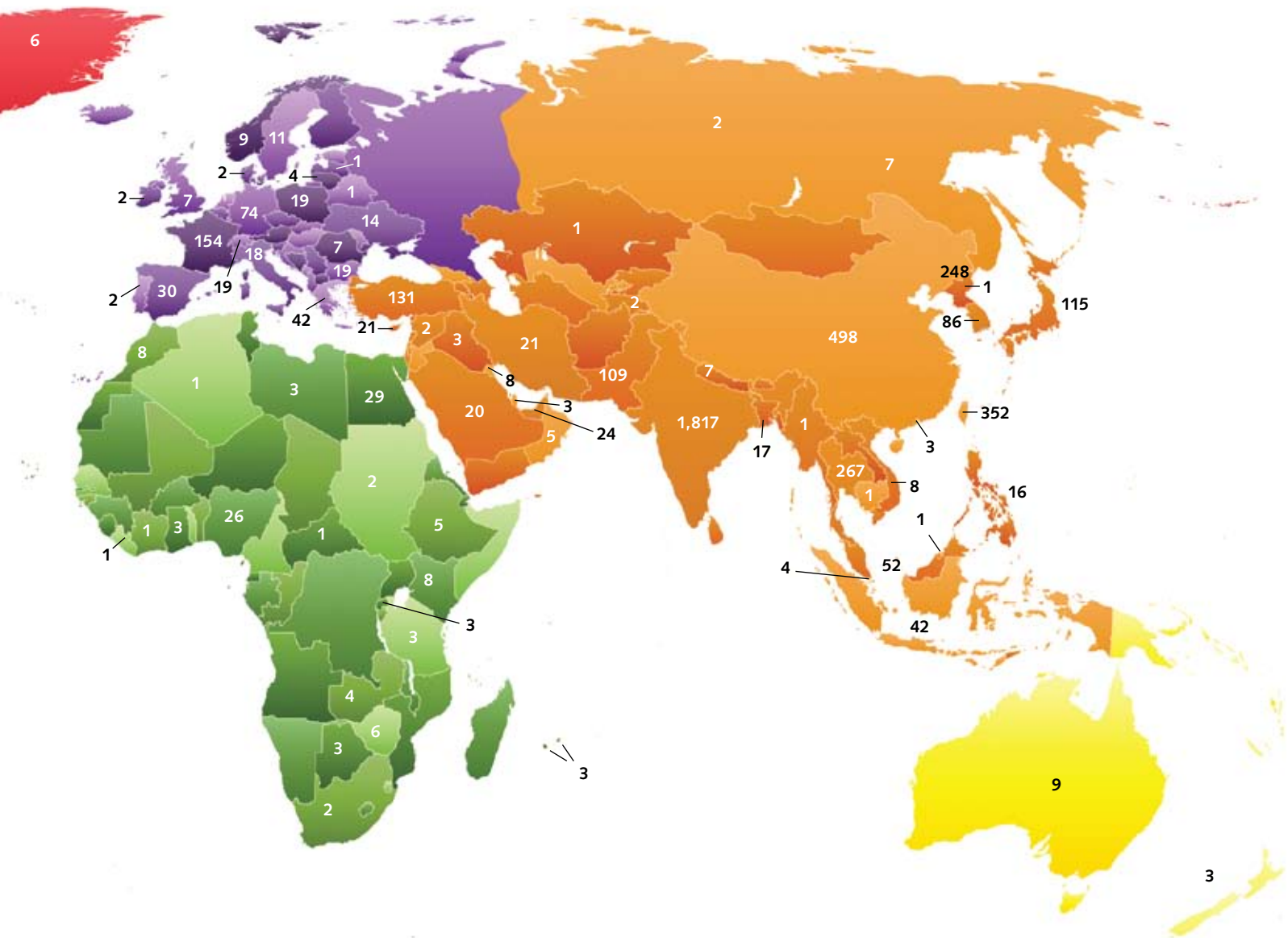
Bahamas .....	1
Barbados .....	1
Belize.....	1
Canada.....	102
Dominican Republic.....	1
El Salvador .....	2
Haiti .....	2
Iceland .....	6
Jamaica .....	4
Mexico.....	46
Panama.....	1
Puerto Rico .....	1
Saint Vincent & the Grenadines.....	1
Trinidad & Tobago.....	1
USA.....	56,236

### South America

Argentina .....	12
Bolivia .....	2
Brazil .....	24
Chile.....	2
Colombia .....	12
Ecuador .....	6
Peru .....	5
Uruguay .....	3
Venezuela .....	12

### Europe

Austria .....	7
Belarus .....	1
Belgium .....	6
Bosnia & Herzegovina ..	1
Bulgaria.....	19
Croatia .....	4



Cyprus.....	21
Czech Republic.....	2
Denmark.....	2
England.....	27
France.....	154
Germany.....	74
Greece.....	42
Hungary.....	2
Ireland.....	2
Italy.....	18
Latvia.....	1
Lithuania.....	4
Netherlands.....	9
Norway.....	9
Poland.....	19
Portugal.....	2
Romania.....	7
Serbia & Montenegro..	7
Slovenia.....	1

Spain.....	30
Sweden.....	11
Switzerland.....	19
Ukraine.....	14
United Kingdom.....	7

**Africa**

Algeria.....	1
Botswana.....	3
Cent. African Rep.....	1
Ethiopia.....	5
Ghana.....	3
Ivory Coast.....	1
Kenya.....	8
Liberia.....	1
Libya.....	3
Mauritius.....	3
Morocco.....	8

**Asia**

Nigeria.....	26
Rwanda.....	1
South Africa.....	2
Sudan.....	2
Tanzania.....	3
Zambia.....	4
Zimbabwe.....	6
Bahrain.....	8
Bangladesh.....	17
Brunei.....	1
Cambodia.....	1
Hong Kong.....	3
India.....	1,817
Indonesia.....	42
Iran.....	21
Iraq.....	3

Israel.....	31
Japan.....	115
Jordan.....	31
Kazakhstan.....	1
Kuwait.....	8
Lebanon.....	5
Malaysia.....	52
Myanmar.....	1
Nepal.....	7
North Korea.....	1
Pakistan.....	109
Palestine.....	1
People's Rep. of China.....	498
Philippines.....	16
Qatar.....	3
Rep. of Georgia.....	2
Rep. of Korea.....	248
Rep. of Singapore.....	27

Russia.....	2
Russian Federation.....	7
Singapore.....	4
South Korea.....	86
Saudi Arabia.....	20
Sri Lanka.....	7
Sultanate of Oman.....	5
Syria.....	2
Taiwan.....	352
Tajikistan.....	2
Thailand.....	267
Turkey.....	131
Utd. Arab Emirates.....	24
Vietnam.....	8

**Australia**

Australia.....	9
New Zealand.....	3

# classnotes

## 1950s

### Roy G. Gignac

EE '52, Danville, Va., shares that his beloved wife, Joan, passed away on January 11 from pneumonia. Gignac says, "We will miss her strength, guidance, and totally unselfish love for all" and asks alumni to keep him and his family in their thoughts and prayers.

## 1960s

### Robert P. Gordon

ARCH '63, M.S. CRP '67, Chicago, recently launched his new textbook *Perspective Drawing: A Designer's Method*. The book balances the need for detail with the need for spontaneity by establishing a connection between constructed perspective and freehand drawing. Gordon teaches architectural rendering and design at Columbia College Chicago.

& Thornburg, LLP, received his J.D. magna cum laude from Indiana University School of Law—Indianapolis in 1969.

### Stevan A. Resan

CHEM '65, Cross Junction, Va., retired from his position as senior examiner in magnetic recording media coatings technology at the United States Patent and Trademark Office. During his career, Resan received the Department of Commerce Bronze Medal and Exceptional Career Award. The American Intellectual Property Law Association also recognized him for outstanding contributions to the integrity of intellectual property law.

### Dibakar Bhattacharyya

Ph.D. CE '66, Lexington, Ky., has received the University of Kentucky (UK) Alumni Association Great Teacher Award. A three-time

### Frederic W. Widlak

PSYC '66, Nowy Sacz, Poland, has been named professor emeritus at National-Louis University (NLU), and is currently professor and academic director of the M.B.A. Program at Wyzsza Szkola Biznesu-NLU in Nowy Sacz. Widlak founded Encouraging Enterprise, a Krakow-based organization that conducts market research, trains managers, and publishes articles and reports aimed at promoting economic progress in Poland.

### John M. Bisinger

DSGN '68, M.S. '73, Naperville, Ill., has been named marketing and strategic planning director for PSA-Newberry, a nationally recognized architectural design firm.

### Robert B. Johnson

CE '69, M.S. '71, Buffalo Grove, Ill., provided hands-on, educational models and toys for budding engineers through the Structural Engineers Association of Illinois exhibit at the DuPage Area Engineers Week Expo.

## 1970s

### Gautam K. Mahajan

M.S. MECH '70, New Delhi, India, is the author of the acclaimed book *Customer Value Investment: Formula for Sustained Business Success*.

### Nicholas D. Kokonis

Ph.D. PSYC '71, Deerfield, Ill., was honored at a multimedia literary event on March 6 hosted by the Hellenic American Academy in recognition of his novel *Arcadia, My Arcadia*. The International Society of Greek Writers presented Kokonis with its First Prize and Golden Medal awards

recipient of the award and a fellow of the American Institute of Chemical Engineers, Bhattacharyya is UK Alumni Professor of Chemical Engineering.

### Stephen J. Dutton

PS '65, Indianapolis, Ind., was named one of Indiana's Super Lawyers 2008®, in a listing that appears annually in the March issue of *Indiana Super Lawyers* magazine. Dutton, a partner in the Indianapolis office of Barnes

## Share Your News!

We want to hear from you! Send us your class note at [alumni@iit.edu](mailto:alumni@iit.edu).

### MAJOR KEY

For a complete list of abbreviations for IIT's academic majors, visit [www.iit.edu/magazine](http://www.iit.edu/magazine).

### Federico Vidargas

M.A.S. ARCH '76, Evanston, Ill., is senior director of planning and design for General Growth Properties (GGP) International. GGP is the second-largest retail real-estate investment trust in the United States, having overseen the development of more than 200 shopping centers. Vidargas and his wife, Barbara, celebrated 29 years of marriage this past spring.

### Garlen D. Wesson

CHE '78, Tallahassee, Fla., has been appointed associate vice president for research at the Florida Agricultural and Mechanical University Division of Research. Wesson's research interests are in the area of computational fluid dynamics of confined swirling flows, with current projects that include the modeling of fluid flow and heat transfer in graphite foam matrices. Wesson and his wife, Lenita, were married in January.

## 1980s

### Tod M. Desmarais

ARCH '81, Wilmette, Ill., has been named a fellow of the American Institute of Architects. Desmarais is senior vice president of Optima, Inc., a development, design, and construction firm with projects in Illinois and Arizona.

### Thomas R. Samson

LAW '81, Chicago, is the first director of professional development for the City of Chicago's Department of



Attendees of the 2008 Remembering Karl Menger event



When Sylvia Davis (M.S. DSGN '67) went to her January commencement, she found that her graduation exercises had been snowed out. While she received her diploma at that time, she never received her master's hood. The IIT Alumni Association presented Davis with her hood at a luncheon held in her honor at the Pritzker Club on May 23, 2008.



## Susan Solomon

CHEM '77, Boulder, Colo., senior scientist in the Chemical Sciences Division of the National Oceanic and Atmospheric Administration, has been elected as a resident member of the American Philosophical Society (APS). The APS, the oldest learned society in the United States, was founded in 1743 by Benjamin Franklin for the purpose of "promoting useful knowledge." The society sustains this mission by honoring and engaging leading scholars, scientists, and professionals through elected membership and opportunities for multidisciplinary and intellectual fellowship; by supporting research, discovery, and education; and by serving members with a research library of manuscripts and other collections. The breadth of its past and present membership base is exemplified by such notable figures as George Washington, Albert Einstein, and Martin Scorsese. Along with former vice president Al Gore and her colleagues on the Intergovernmental Panel on Climate Change, Solomon was honored with the 2007 Nobel Peace Prize. She was also included in the 2008 *Time* 100, an annual list of the magazine's 100 most influential people in the world.

Law. Samson is responsible for providing minimum continuing legal education (MCLE) opportunities for the department's 280 lawyers by developing, coordinating, and facilitating training programs, instructing litigation lawyers, and administering compliance with the MCLE board and the Commission on Professionalism.

### Evie D. Barber

M.S. BIOL '82, Downers Grove, Ill., is currently employed as a high school teacher. Other positions she has held since graduating from IIT include clinical microbiologist, healthcare information systems regional sales and marketing specialist, and vice president of a museum exhibit-fabrication company.

### Miltiades E. Bolaris

ARCH '83, Northbrook, Ill., is president of Granite America, Inc., a natural stone import and distribution company, with two locations in Maywood and Northbrook to serve the needs of the interior design and architecture communities.

### Rizeq M. Abu-Shawish

CE '84, Abu Dhabi, United Arab Emirates, is working as a buildings and landscape project manager. He and his wife, Kholoud, were married on February 9, 1989, and have four children.

### Julius C. Washington

ARCH '84, San Diego, is a captain in the Civil Engineer Corps, Naval Facilities Engineering Command, United States Navy. In February, Washington was honored with the Professional Achievement in Government Award at the 2008 Black Engineer of the Year Awards Conference.

### John J. Carey

M.A.S. BA '85, Woodridge, Ill., has been promoted to associate vice president of support services responsible for human resources, information technology, and purchasing at Visiting Nurse Association (VNA) of Fox Valley, a nonprofit health center providing primary health care to more than 30,000 individuals. Carey and his wife, Barb, have two adult children.

### Peter M. Koliopoulos

ARCH '86, Scottsdale, Ariz., and Circle West Architects,

the design firm he founded, have been honored with two national design awards from the American Institute of Architects Housing Committee for their work on The Duke, an urban, multifamily environment in downtown Scottsdale.

## 1990s

### Sunil Dave

M.S. ENVE '93, Naperville, Ill., is working in New Jersey as director of the Air Quality Division of Burns and Roe Enterprises, Inc., a comprehensive engineering, procurement, construction, operations, and maintenance company providing services to private and governmental clients worldwide. Dave and his wife, Madhu, married in 1985 and have three children.

### Vishwanath M. Narendra

M.B.A. '94, Madras, India, is chief information officer (Asia) for General Electric Infrastructure in Bangalore.

### Ruben Díaz and Olga Loo-Díaz

BIOL '97 and CHE '97, respectively, West Orange, N.J., have partnered with Loo-Díaz's brother to open Bohemia, a critically acclaimed, upscale Peruvian

restaurant in Bloomfield, N.J. Díaz also works as a biochemist for Hoffman-La Roche while Loo-Díaz manages Bohemia.

### Brian C. Gee

M.A.S. MET '98, Vallejo, Calif., is a Ph.D. candidate studying bainite morphology and toughness as a function of austempering temperatures.

## 2000s

### Scott E. Waguespack

LAW '00, Chicago, has been elected as alderman of the city's 32nd Ward.

### Curtis Zufelt

ME '01, Oldsmar, Fla., manages field engineers for the power services section of Granite Services International. Prior to his current position, Zufelt spent five years in the United States Navy overseeing the construction and overhaul of nuclear reactors.

### Neel B. Patel

M.S. EE '03, Niles, Ill., is an electrical engineer for the Metropolitan Water Reclamation District of Greater Chicago. Before this position, Patel was a project engineer for General Motors

Electro-Motive Division. Patel and his wife, Daxa, were married in 2005.

### Michael D. Prince

ME '04, South Lyon, Mich., married Amanda Stieb in fall 2007.

### Don A. Cunningham

Ph.D. TECH '05, Radford, Va., joined the faculty at Radford University in Virginia, where he teaches undergraduate and graduate courses in business and professional writing. In addition, he has developed and presented seminars in technical communication for licensing professional engineers in several states around the country. His third book on Japanese history is scheduled to be released by Tuttle Publishing.

### Joshua D. Cunningham and Karen D. Kozminski

M.A.R. ARCH '06 and M.S. PHRD '06, respectively, Chicago, were married in August 2008. Cunningham is working as an architect in Chicago's River North neighborhood and Kozminski is employed at a small consulting firm in the city.

### Anthony R. Malizzio

BAAS, CS '07, New York, N.Y., is employed at Murex North America, a global leader in financial risk management and trading software.

For a number of years, a group of alumni composed largely of individuals who lived together as students in McCormick Student Village have gathered each summer to roast a lamb, a tradition they began as undergraduates.

This June, the group met in Detroit for the annual celebration. Mohammed Fakhreddine (CE '79, M.S. '80) and his wife, Lina, flew in from Lebanon. Couples Scott Cooper (PS '75, LAW '78) and Jumana Cooper (M.A.S. ARCH '80), Dan Huwel (MGT '77) and Tatijana Jacenkiw (ARCH '79), and Amy Lee Segami (ME '79, M.S. '82) and John Basic (ME '47) were all in attendance as were Susan Anthony (ARCH '90), Dan Hubert (FPSE '79), Mario Romero (CHE '79, M.A.S. '83) and his wife, Brigitte, and Deepak Patel (CHE '81) and his wife, Kirty. Bert Bell (IE '81) and his wife, Sue, along with their daughter Kimberly, also attended. Kimberly Bell has enrolled at IIT for the fall 2008 semester.



**Fred F. Herzog, Dean Emeritus**

**IIT Chicago-Kent College of Law**

On the nomination form recommending Fred F. Herzog to the Illinois Institute of Technology Hall of Fame, Herbert A. Glibberman (LAW '53) praised the former dean of IIT Chicago-Kent College of Law. "He was a great teacher, extremely bright and compassionate, who extended himself to making the law a living thing for students," said Glibberman.

Herzog was dismissed from his position as a federal judge in Austria after the Nazis came into power, and he fled Europe in 1939. Once in the United States, he studied law at the University of Iowa, graduating with high distinction in 1942.

Herzog joined the Chicago-Kent faculty as a professor in 1947 and remained there for 26 years. He also served as associate dean, then dean of the college from 1970–73. Herzog left Chicago-Kent to become the first assistant attorney general of Illinois, a role he held until 1976, when he became the dean of the John Marshall Law School for the next seven years, and interim dean from 1990–91. Herzog also served as special counsel of the Metropolitan Sanitary District of Greater Chicago from 1964–1972, representing the district before the United States Supreme Court in a landmark water pollution case.

Under Herzog's leadership, Chicago-Kent updated its curriculum and pedagogy, expanded its legal writing program, and instituted a trial-advocacy program that set the college apart from other law schools by giving its graduates an advantage in the professional world. During his tenure, the *Chicago-Kent Law Review* also began publishing an issue focusing on the work of the United States Court of Appeals for the Seventh Circuit, which remained as its annual theme for nearly 20 years.

Herzog received many accolades during his career, including the Illinois Attorney General's Award for Outstanding Public Service and, in recognition of Herzog's 100th birthday, a City of Chicago Proclamation declaring September 21, 2007 as Fred Herzog Day.

**Robert Allen Jones**

**EE '51, Indian Head Park, Ill.**

After serving in the United States Navy during World War II and graduating from IIT Armour College of Engineering, Robert Allen Jones began a successful engineering consulting firm. Jones also used his electrical engineering education to assist his community, helping to begin the WLTL radio station at Lyons Township High School. For 10 years, Jones headed the live radio broadcast at La Grange Bible Church, where he regularly attended services. Jones was active in missionary work and participated in short-term trips to Alaska, Aruba, Haiti, Italy, Japan, and Switzerland.

Jones is survived by his wife, Patricia, and her four children, his five daughters, one sister, 17 grandchildren, three great-grandchildren, and five nieces.

**Robert L. Raclin**

**IIT Life Trustee**

Robert L. Raclin's prestigious and longtime investment banking and brokerage career had its beginnings at H. L. Raclin & Sons, a cash vegetable-oil brokerage firm established by his father. Raclin joined the firm after serving for six years in the United States Marine Corps, where he rose to the rank of major. In 1950, the Raclin family business was sold to the World Commerce Corporation, which made Robert Raclin its director. Two years later, Raclin became a partner at Bache & Co., heading its Midwest commodity department, and began lecturing at Harvard Business School and other institutions. During that time, Raclin was also called upon to lend his expertise to a variety of organizations, including the New York Stock Exchange and the United States Department of State and Department of the Treasury.

In 1965, Raclin joined Paine, Webber, Jackson, and Curtis as national director of commodities, and remained with the company for 15 years before joining Merrill Lynch, where he held several high-level positions. Upon his retirement in 1985, Raclin became deputy undersecretary of health and human services under President Ronald Reagan and in subsequent years, served as a consultant to various financial service companies. Raclin held many other industry leadership roles in Illinois and Indiana, including director of the Chicago Board of Trade, and president of the Commodity Brokers Association and the Bond Club of Chicago. In addition to being an IIT Life Trustee, Raclin was a trustee of the Chicago Symphony Orchestra and other organizations, and an active campaigner for the United Funds and the Paraplegic Foundation.

Raclin's first wife, Jean Curran Raclin, preceded him in death in 1976. He is survived by his wife, Ernestine M. Raclin, four children, four stepchildren, 26 grandchildren, and 13 great-grandchildren.

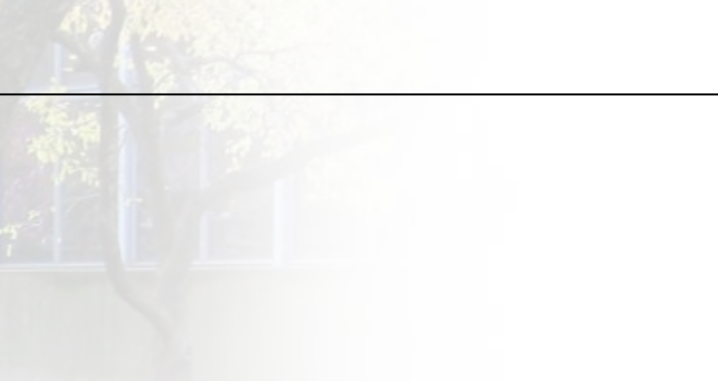
**Joseph L. LoCicero**

**Department of Electrical and Computer Engineering**

After obtaining his doctoral degree from the University of New York in 1977, Joseph L. LoCicero joined the faculty of IIT Armour College of Engineering, where he moved up the academic ladder from assistant professor to Motorola Chair Professor and for two years, acting chair of the Department of Electrical and Computer Engineering. LoCicero was also a cofounder of the Wireless Network and Communications Research Center.

Well-respected by colleagues and students alike, LoCicero had a natural talent for bringing together individuals to achieve a common goal. He served on many college and university committees, including the Undergraduate Studies Committee, of which he was a member for nearly 20 years. He enjoyed advising students and under his direction, many master's and doctoral students received their degrees.





LoCicero was widely recognized for his work on problems in signal processing and communications, particularly in the areas of speech processing, video systems, and wireless communications. A senior member of the Institute of Electrical and Electronics Engineers, LoCicero was honored with several awards from the organization. He received four patents in the area of high-definition TV and one patent in automatic speech recognition.

LoCicero is survived by his wife, Sandra, their daughter, Jennifer, one sister, and five nephews and nieces.

### **Wendell J. Campbell**

**ARCH '56, Chicago**

While architect and urban planner Wendell J. Campbell was nationally recognized, many of his most distinguished projects graced the city where he lived and attended college. Over the span of his 50-year career, Campbell oversaw hundreds of design and planning projects overseas, across the United States, and in Chicago, including the DuSable Museum of African American History, the Chicago Military Academy–Bronzeville, and the McCormick Place expansion.

Before entering IIT College of Architecture, Campbell served in the armed forces as the master sergeant of a combat engineer regiment that designed roads and bridges. From 1954–1966, he worked as an architect and planner for the Purdue-Calumet Development Foundation before beginning Wendell Campbell Associates. The residential and commercial architectural firm was later named Campbell and Macsai (1971–75) and renamed Campbell Tiu Campbell in recognition of the contributions made by his partners Domingo Tiu and daughter Susan Campbell (M.A.S. ARCH '92).

Campbell strived to increase the recognition of minority architects within the industry and to generate more educational and economic opportunities for minority design firms nationwide. In 1971, he helped to found the National Organization of Minority Architects and served as the group's first president. A fellow of the American Institute of Architects (AIA), Campbell was presented with the AIA's Whitney Young Medal of Honor in 1972. He was also a board member of numerous civic and professional organizations.

Campbell is survived by his wife of 54 years, June Crusor Campbell, their two daughters, five grandchildren, three siblings, and several nieces and nephews.

# inmemoriam

**William F. Andrews**  
CHE '47,  
Des Moines, Wash.

**Charles B. Arends**  
CHEM '52,  
Midland, Mich.

**Arthur C. Bastian**  
ARCH '44,  
South Bend, Ind.

**James E. Batz**  
EE '51, Northbrook, Ill.

**Adam J. Benish**  
MSE '07, Joliet, Ill.

**Louis L. Boldt**  
CE '44, Easton, Md.

**Ben G. Bomberg**  
LAW '38, Chicago

**Robert G. Burkhardt**  
ME '44, Chicago

**Thomas H. Butler**  
M.S. CS '89,  
Dacono, Colo.

**Neal P. Capria**  
LAW '72, Port  
Jefferson Station, N.Y.

**Bertram A. Colbert**  
BE '50, Mundelein, Ill.

**Loris B. Crisp**  
DSGN '51,  
Buffalo Grove, Ill.

**Dominick M. De Canio**  
CE '37, Oak Brook, Ill.

**Joseph B. Denenberg**  
LAW '34, Skokie, Ill.

**Melvin E. Dunn**  
LAW '71,  
Marco Island, Fla.

**Richard C. Fischer**  
ME '43,  
Watersmeet, Mich.

**Hadley W. Ford**  
Ph.D. CHEM '53,  
Apple Valley, Calif.

**Frank Gall**  
EE '35, Lake Forest, Ill.

**Marvin J. Glink**  
LAW '51,  
Rio Verde, Ariz.

**Edmund J. Grydyk**  
ME '44, Rockford, Ill.

**Donald W. Hansen**  
BE '48, Scottsdale, Ariz.

**Donald K. Hedeon**  
CHE '45, M.S. '47,  
Williamsburg, Va.

**Gerald N. Hoppenrath**  
CE '58, Villa Park, Ill.

**Jeff Hudson**  
MET '96, Beecher, Ill.

**Lee M. Hughes**  
ME '66, Savage, Minn.

**Nestor P. Jovanovic**  
ME '62, Grayslake, Ill.

**Edward I. Knorring**  
ME '41, Glen Ellyn, Ill.

**Norbert J. Kotulla**  
CHE '40, Third Lake, Ill.

**Matthew L. Lash**  
LAW '07, Novi, Mich.

**George Leppert**  
M.S. ME '52, Ph.D. '54,  
Palo Alto, Calif.

**Roy F. LoPresti**  
ME '44,  
Palos Heights, Ill.

**Harold M. Manasevitch**  
Ph.D. CHEM '59,  
Anaheim, Calif.

**Michael J. McTigue**  
BE '64, Burr Ridge, Ill.

**Clifford I. Mock**  
ME '50, Lemont, Ill.

**Robert C. Montgomery**  
LAW '47,  
Madison, Wis.

**Milton M. Nachbar**  
FPSE '54,  
San Diego, Calif.

**James P. O'Malley**  
LAW '85, Oak Park, Ill.

**William N. Otten**  
B.S. '38,  
Morton Grove, Ill.

**John Panegasser**  
LAW '71, Wheaton, Ill.

**Robert F. Peck**  
LAW '64,  
Western Springs, Ill.

**Mamie Phillips**  
PA '89, Country  
Club Hills, Ill.

**Jack D. Pomon**  
EE '48, M.S. '60,  
Elk Grove Village, Ill.

**Edward J. Rezabek**  
CE '37, Bristol, Wis.

**Benjamin Rifken**  
LAW '41, Elgin, Ill.

**Stephanie K. Rives**  
LAW '82, Lake Bluff, Ill.

**William F. Rush**  
CHE '43,  
Mount Prospect, Ill.

**C. J. Smith**  
IE '49, San Diego, Calif.

**George W. Soiya**  
ME '44,  
Georgetown, Ill.

**Tyzoon T. Tyejbjee**  
M.S. CHE '69, Elgin, Ill.

**James J. Walker**  
FPSE '42,  
Savannah, Ga.

**Cassandra L. Wash**  
LAW '91, Country  
Club Hills, Ill.

**Thomas J. Wonder**  
CHE '71,  
Young Harris, Ga.

By Catherine Bruck,  
University Archivist

## IIT Navy V-12

During the first half of the 1940s, at the request of the United States military services, IIT became an education center for both civilian and military personnel. This included offering a variety of short-term courses for civilian war workers so great in number that by August 1942, IIT had already become the “war training center of [the] Midwest.” Programs specifically for members of the military were so numerous that by June 1943, the U.S. Army and Navy were using 70 percent of IIT’s engineering facilities, and by the end of that year more than 40,000 people had taken defense-related training classes at the university.

Two primary factors contributed to IIT’s position at the leading edge of this effort. One was the academic programming that IIT could offer to supplement the military’s training, namely engineering courses. The second was Henry T. Heald, IIT’s dynamic young president.

Barely a week after the attack on Pearl Harbor, Heald wrote to Admiral Charles W. Nimitz, requesting that a Naval Reserve Officer Training unit be formed at IIT. Heald was no doubt inspired by patriotism and a desire to position the university to do whatever it could to help in the war effort, but his request was bolstered by the knowledge that this new war, unlike WW I, would not be won in the trenches. It would take engineers as well as soldiers to bring victory to the Allies. While Heald’s offer was initially declined, only a month later the Navy contacted him to learn how many men could be accommodated at IIT and how quickly the preparations could be arranged.

Heald responded that space could be made available for 300–600 men within 30–60 days, and cited programs in radio and communications, ordnance inspection, physics, chemistry, and shop, as those that IIT was prepared to offer enlisted men. Subsequently, radio and ordnance inspection classes became two of the most popular short-term courses taught at IIT to both soldiers and civilians.



Junior Week, 1944 Naval Review

It was, however, a newly created Navy program known as V-12 that was destined to become a scholastic component of the military’s training options for future sailors, apparently with Heald helping to guide its formation. The V-12 program offered men the alternative of attending a civilian college or university (vs. the U.S. Naval Academy) with the rank of apprentice seaman; they would become eligible for an officer’s commission upon graduation.

Eventually, the Navy created V-12 units on 131 college campuses across the country. During the three years the program existed, 120,000 men entered the program, about half of whom completed the strenuous training, which included academic work, physical conditioning, and leadership components. The V-12 program was a short-lived but significant component of the U.S. Navy’s effort to prepare men for active, junior officer positions during WW II. The program is also significant in military history for its admission of African Americans on equal basis with whites. IIT was one of the earliest schools to host a V-12 unit, educated among the greatest number of Navy engineers, and included African Americans in its ranks.

It would be more than a year after Heald’s initial offer before the V-12 option came to fruition, but when it did, it would significantly impact IIT both during the war and subsequently.

IIT’s ability to house and educate a unit of 600 trainees could be accommodated because of an arrangement that Heald had successfully negotiated with H. C. Coffman, president of George Williams College, to use his campus

as well as IIT’s State Street campus for housing and classroom space. IIT also assigned faculty members to the teaching staff at George Williams College, among them George Danforth, who taught technical drawing; Mollie Cohen and Helen Stevens, who taught English; and Haim Reingold, who taught mathematics.

V-E Day on May 8, 1945, and V-J Day, three months later on August 15, brought welcome news of the end of the conflict—and immediate jeopardy to the V-12 program. The Navy initially planned to liquidate the V-12 program without making accommodations for continued education of those men who had only recently joined the program, a decision based on both the government’s cost of educating the student trainees and the Navy’s sharply decreased need for junior officers in active duty positions. Heald appealed on behalf of the students that the decision be reconsidered.

The V-12 program officially ended at IIT with the June commencement in 1946. That didn’t end the Navy’s interest in having its student engineers trained at IIT, however, and today, 60 years later, IIT still has an active and highly visible Naval ROTC unit on campus.

*The information in this article was researched and written by IIT University Archivist Catherine Bruck. Corrections to any of the factual information, which may be in error, would be appreciated. Please contact [bruck@iit.edu](mailto:bruck@iit.edu).*

*An expanded version of this article and source citations is available on the IIT Archives website at <http://archives.iit.edu>.*

## Electric hybrid SUVs?



**Ask Ali.** Professor Ali Emadi is engineering hybrid and plug-in hybrid electric conversion kits for trucks, buses, SUVs, and other large vehicles.

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## ALUMNI AWARDS

**Nominations due October 15, 2008**

Do you know of an outstanding, accomplished alumnus or alumna? If so, nominate that individual for one of the 2009 IIT Alumni Awards. Nominations are due on October 15, 2008.

Information about how to nominate a graduate for one of the awards may be found at [www.iit.edu/alumni/updates/awards](http://www.iit.edu/alumni/updates/awards).

## THIRSTY THURSDAYS

**October 9, 2008**

**November 13, 2008**

**December 11, 2008**

Join recent and not-so-recent graduates for one of the monthly IIT<sup>10</sup> Thirsty Thursdays. IIT<sup>10</sup> is an organization for recent graduates (individuals who graduated within the last 10 years) but other alumni are welcome and often attend Thirsty Thursdays, which take place on the second Thursday of each month. The IIT Alumni Association provides food and the first drink.

4–7 p.m.

Jimmy Fig's Tavern and Restaurant  
160 N. Franklin Street  
Chicago

Our group gathers in the alcove at the rear of the establishment.

For more information or to RSVP, contact Dylan Easley at 800.448.2586 or [easley@iit.edu](mailto:easley@iit.edu).

## IPRO DAY CONFERENCE

**December 5, 2008**

Hermann Hall

All IIT undergraduate students must complete two three-credit Interprofessional Projects (IPRO) program courses to earn their degrees. Many graduate students enroll in these courses as well. An IPRO project course is a team-based learning environment in which students from various backgrounds and disciplines work together to study a real-world problem. On IPRO Day, the teams are evaluated by a panel of professionals, faculty, and graduate students, and winners receive awards of recognition for their hard work. Alumni and friends are welcome to participate in IPRO Day to review the presentations and to assist as judges.

For more information about the Interprofessional Projects program at IIT, contact the IPRO office at 312.567.3986 or [jacobius@iit.edu](mailto:jacobius@iit.edu)

FALL  
2008  
NOTABLES