

# New Grid in Town

PERFECT POWER SYSTEM  
RAMPS UP IIT

# Letter from the President



## Pursuit of Excellence in Tough Times

A prominent government official has been quoted as saying, “You never want a serious crisis to go to waste.” While many interpretations of this statement are possible, there is a kernel of wisdom here: tough times offer any organization an opportunity to examine itself—its vision, priorities, and practices. Difficult financial times have been and will always be with us. Although IIT is experiencing budget challenges, like other universities are, we must have the courage to pursue innovation if we are to achieve our goals.

While there is pain, there can also be gain. If we make the right moves, the outcomes of our good work may far exceed our initial expectations. This makes our commitment now—both to weather the economic storm and to be the best at what we do—all the more important, in spite of the difficulties we may experience along the way.

Our strategic plan, *Many Voices, One Vision*, will be presented to the Board of Trustees in May for adoption. We are already forming task forces to plan steps to bring initiatives to fruition. One example is the International Academy, a new initiative to bring an international culture to all students and faculty at IIT. We are also establishing task forces on redefining and reengineering our Interprofessional Projects (IPRO) program for undergraduates, defining university-wide themes for research and distinctive education, improving administrative services for students, and enhancing student participation in our sports programs. You will hear more about these activities in the fall.

One major campus-wide initiative we are pursuing actively is the IIT Perfect Power System, the cover story of this issue. To excel in this area will require a significant university investment even in this tough time. The concept of Perfect Power is relatively simple, but achieving a real system is a complex research and development project that requires the collaboration of many faculty, students, and staff across the university, and partnerships with outside organizations. While the current financial situation favors caution, the opportunity cost of not pursuing this initiative in a serious way could threaten our momentum toward leadership in this area.

It has been said that change is inevitable, but improvement is optional. IIT will definitely take the option of improvement, even in these times, and we will emerge stronger as a result.

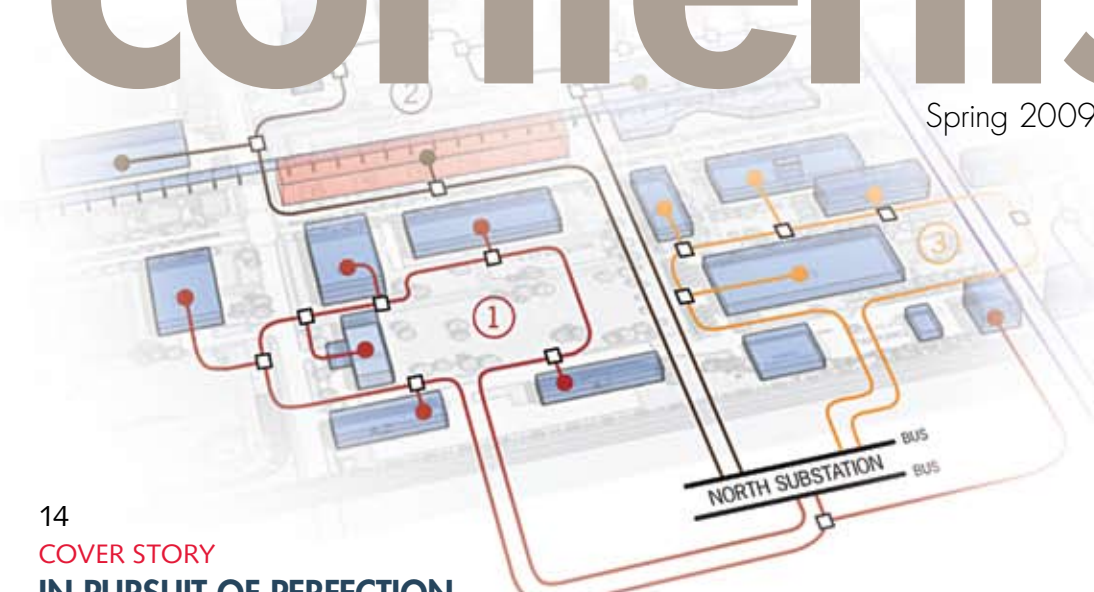
A handwritten signature in black ink that reads "John L. Anderson". The signature is written in a cursive, flowing style.

John L. Anderson  
President



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Spring 2009



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The flagship IIT Perfect Power System will join smart microgrids and pioneering technology in the quest to build the country's most sustainable, urban university campus.

### Cover Image

The high-reliability distribution system of the IIT Perfect Power System; each numbered loop represents a redundant system designed to increase the security and reliability of energy delivery.

Illustration by Michael Meiners—Galvin Electricity Initiative



## 12 MAKING MEMORIES

For alumnus Walter Nathan (ME '44), a chance encounter with the past reignited 70-year-old memories—and a quest to keep them alive.



## 18 I READ IT FOR THE ART

As founding designer and art director of *Playboy*, IIT Institute of Design alumnus Art Paul broke all the rules and inspired a generation of designers and illustrators.



### IIT MAGAZINE ONLINE-ONLY CONTENT!

A new Web-only component has been added to IIT Magazine online. Read extended coverage of stories featured in the print edition as well as special online-only content. Visit [www.iit.edu/magazine](http://www.iit.edu/magazine) and find more!

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## New Stuart Academy Seeks to “Ripple the Pond”

According to the Cooperative Institutional Research Program Freshman Survey, the environment is one of the topics 18-year-olds care about the most—even though they may not know why.

The new Academy for Future Leaders in Science and Technology will help young adults “connect the dots between their emotional passion for the environment and how that translates into careers,” says Tom Anderson, associate dean of Stuart School of Business and co-director of the academy.

Launched on June 15, the Academy for Future Leaders is an initiative of Stuart’s Center for Strategic Competitiveness. The lead sponsor of the project, the Toyota U.S.A. Foundation, awarded Stuart \$500,000—the largest gift in the school’s history—to develop the academy. Alumnus Donald Esmond (BE ’66), senior vice president of automotive operations for Toyota Motor Sales, U.S.A., played a key role in facilitating the gift.

With its first session taking place this summer, the academy will teach high school students ages 16–18 the importance of the environment, career development, and the opportunities that a college education affords. During the nine-week program, students will attend morning courses at Stuart on such topics as sustainability, science, engineering,



ACADEMY  
FOR FUTURE LEADERS  
IN SCIENCE & TECHNOLOGY

IIT STUART CENTER FOR STRATEGIC COMPETITIVENESS

and environmental management. In the afternoons, they will work at paid professional internships at Chicago-area businesses. Through a partnership with Dell and Microsoft, each student will be given a laptop along with associated software to support their continuing education through college. Students will receive long-term mentorship through an Academy Alumni Network.

“We expect that this will be a real confidence booster for the participants, who will be shoulder to shoulder with professors and college students,” says Marie Vanderford, Stuart program administrator and academy co-director.

The 25 students in the first cohort, nominated by their guidance counselors or science teachers, will come from seven partner Chicago public and private schools ranging from traditionally high-performing to more challenged schools. Up to 60 percent of the students will come from lower socioeconomic backgrounds and all will be primarily African American or Hispanic, with representation from both genders and with all students in good academic standing.

Anderson and Vanderford note the academy will address a number of issues—diversity, education, the environment, and workforce development—that are relevant to Stuart’s and IIT’s missions, as well as to the country’s needs.

## FollowUP

Updates on the people and places previously covered in *IIT Magazine*

### “Many Voices, One Vision” Winter 2009

On May 28, IIT senior administration will present its final version of *Many Voices, One Vision: A Strategic Plan for IIT 2010–2014* for approval by the Board of Trustees. At campus-wide meetings held in February, President John Anderson and Provost Alan Cramb presented the progress of the plan to date. All faculty and staff were invited and encouraged to offer feedback.

### FAST FORWARD

The upcoming fall 2009 issue of *IIT Magazine* will feature expanded coverage of the *Many Voices, One Vision* plan. Look for articles about the academic programs, new initiatives, and ambitious goals that will guide IIT in the next five years.

### “More Voices of the Holocaust Will Be Heard Through Grant” Winter 2009

The Illinois Holocaust Museum & Education Center in Skokie celebrated its grand opening on April 19 at a public event that featured former President Bill Clinton as keynote speaker. Clinton was joined by Illinois Governor Pat Quinn, Nobel Peace Prize Laureate Elie Wiesel, foreign dignitaries, Holocaust survivors, and members of the public. Former Secretary of State General Colin Powell delivered the keynote address at the museum’s Inaugural Gala, held on April 2.

The museum is dedicated to preserving the memories of those lost in the Holocaust and teaching current generations about the need to fight hatred, indifference, and genocide in today’s world. Materials from IIT’s Voices of the Holocaust project are on permanent loan to the new museum.



# campus

“All data indicate America is producing an insufficient number of college graduates—period. We need to grow that workforce,” Anderson says. “Half of the jobs that college grads get today didn’t exist when they were freshmen, and green jobs will be evolving in the next decade. If you look at the new presidential administration, a focus is on environmental issues. The academy very much aligns with where our country is going.”

The defined metrics for the academy’s success include the percent of participants that graduate high school and the percent that earn a college degree; 100 percent and 95 percent are anticipated, respectively. The number of students that go on to pursue careers related to environmental management and sustainability, whether in engineering, science, or business, will also be tracked.

“Our goal is to take students at the middle of the class and move them up,” Anderson says.

“We are looking for this to be a ripple on the pond,” Vanderford adds. “These students will go back to their schools and share their experiences, which will have an impact on their peers.”

● [www.stuart.iit.edu/csc](http://www.stuart.iit.edu/csc)

## Undergraduate Engineering to Benefit from Two Awards

Two recent gifts to IIT will provide new support to both undergraduate engineering and entrepreneurship initiatives at the university.

- **The Kern Family Foundation** awarded IIT a five-year, \$1,322,500 grant to support the Kern Innovation and Entrepreneurship Academy (KIEA) for undergraduate engineering students. The KIEA director is David Pistrui, Coleman Foundation Chair in Entrepreneurship.
- **Robert W. Kerney** (FPSE '42, EE '46, M.S. '48) made a \$100,000 commitment over four years to support the Robert W. Kerney Expendable Scholarship Fund. Kerney’s gift provides four years of tuition for two engineering students participating in the Collens Scholars Program. The Collens Scholars Program provides tuition assistance for Chicago Public School students whose families would not otherwise have the resources to send them to college.

## SNIFFING OUT ODORS

**T**he Stickney Water Reclamation Plant is the largest facility of its kind in the world. A team from IIT’s Department of Civil, Architectural, and Environmental Engineering (CAEE) is investigating strategies to improve the air quality for plant employees and community residents by studying the sources of odors from wastewater treatment operations.

“We are looking at the treatment practices and verifying the odor-monitoring program—what control systems are in place and perhaps recommending more optimized control systems,” explains Krishna Pagilla, professor and lead



investigator of the \$794,200 project awarded recently by the Metropolitan Water Reclamation District of Greater Chicago. One of seven water reclamation plants in the district, Stickney serves 2.38 million people in a 260-square-mile area that includes central Chicago and 43 suburban communities, and can process up to 1.2 billion gallons per day.

Once purified, the wastewater—from homes, businesses, industry, rain runoff, and groundwater seepage into sewer pipes—is discharged into the Chicago River, where it next flows into the Illinois River and then the Mississippi River, before reaching its final destination in the Gulf of Mexico. The IIT project team, which includes CAEE professors Kenneth Noll and Demetrios Moschandreas, will enhance the ability of the Stickney plant to treat wastewater while minimizing annoying odors to plant workers and community residents.

“If we can monitor and minimize the odors,” says Pagilla, “we can learn how to control them using engineering technology so that they are no longer a nuisance.”

MORE  ONLINE

Metropolitan Water Reclamation District of Greater Chicago:  
[www.mwrd.org/irj/portal/anonymous/Home](http://www.mwrd.org/irj/portal/anonymous/Home)  
IIT CAEE department: [www.iit.edu/engineering/cae](http://www.iit.edu/engineering/cae)

I I T A T H L E T I C S W I N T E R R O U N D U P

# Scarlet Hawks Close the Season with a Tidal Wave

To say the IIT Scarlet Hawks and Lady Scarlet Hawks swim teams made a splash this season is an understatement when one considers this tally of statistics: a first-ever relay national title for IIT (and the seventh swimming national title in school history) in the men's 200-yard freestyle relay, 20 national qualifiers, 13 university records, and three All-American recognitions.

"This team is one of the best I have ever coached," says Rob Bond, associate director of athletics and swim coach, about the Scarlet Hawks, whose powerhouse core of Dale Cuffe (BA, 3rd year), Andrew Mehr (PSYC, PS, HUM, 4th year), Kyle Pinsonneault (INTM, 3rd year), and Joe Taylor (PTC, 3rd year) took the nationals relay event and set a new school record with the time of 1:21.98.

"The relay win was definitely the memory of the meet," Bond adds. "We knew it would be difficult to win and that the race was very tight. In fact, the sixth-place team was less than a second behind us." Pinsonneault lead his team members in the relay while Mehr was strategically selected to be the final swimmer.

Mehr, a Camras scholar and triple-major who will be graduating in May, says the relay will likely be his most memorable swim race, even 10 years from now.

"All four of us swam amazingly, far better than I could have expected at the start of the season," he explains. "Winning a national title was the best possible way to end a four-year career with the Scarlet Hawks."

During his time at IIT, Mehr claimed several school records in the sprint freestyle events and all five school relays, and was named a National Association of Intercollegiate Athletics Academic All-American for 2008 and 2009.

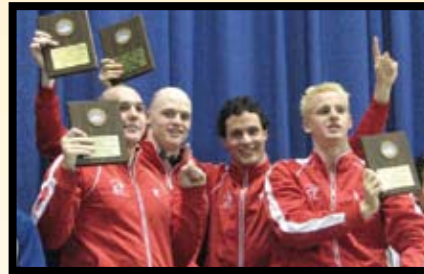
Teammates Taylor and Cuffe garnered the other two All-American honors, with Taylor taking second in the men's 100-yard fly and Cuffe placing third in

the men's 500-yard freestyle. Overall, the men's team placed sixth. The Lady Scarlet Hawks, led by Captain Nicolle Mallinger (CE, 4th year), took 10th place at the nationals.

Although Mehr and Mallinger will be leaving IIT this spring, Bond is looking forward to other talented male

and female student athletes rising to the challenge.

"I have even bigger expectations for next year," he says, "as 16 of the 20 national qualifiers will be back with a strong recruiting class joining them."



National champions [left to right] Joe Taylor, Andrew Mehr, Kyle Pinsonneault, and Dale Cuffe

While IIT's athletes know the moves to score victories against the opposing team, Union Board President Ray Ballard (CHE, 3rd year) knows of another secret weapon in the university's athletics arsenal.

"People love it when the Scarlet Hawk shows up at games because the Hawk is ego unmasked," explains Ballard. "The Hawk knows how to distract the opposing players, flirt with the referee, and add energy to the crowd."

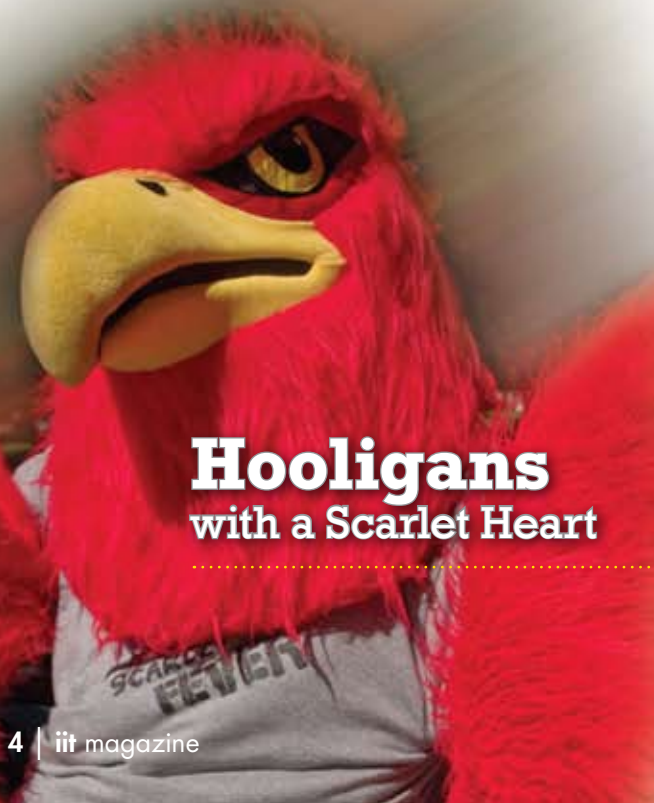
The formidable-yet-friendly red mascot is one member of a group of dedicated IIT supporters who can be found on the sidelines, ensuring that the athletes and spectators are sufficiently fired up: the Scarlet Fever squad.

"Scarlet Fever combined with the student body has provided Illinois Tech athletic teams with the energy and passion needed to be victorious in the pool and the gym, and on the field," says Kelly Fitzgerald, head volleyball coach. "They have financed student body transportation to support our teams at away games, have distributed Illinois Tech water bottles and T-shirts, and have provided pizza to our fans and supporters. As a coach, I always am aware when Scarlet Fever is present at an event; the students have their faces painted red and white, and I continuously hear their support for the Hawks."

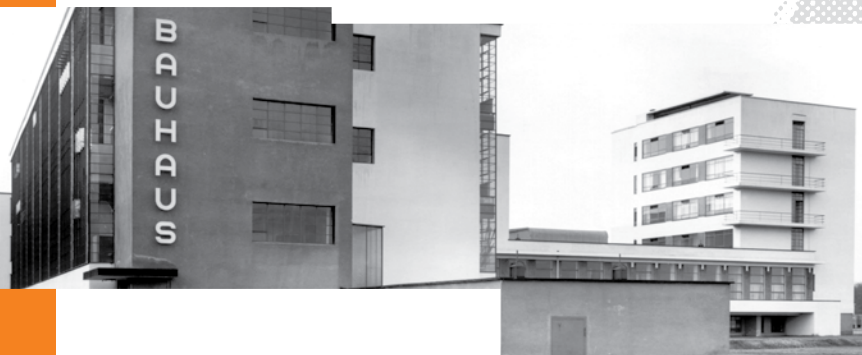
When asked to describe Scarlet Fever in one word, Ballard does so with a laugh. "Hooligans!" he says, adding that their rowdy intentions are purely good ones. "Scarlet Fever is in your face; we let you know that we're here. We try to get the crowd excited."

Scarlet Fever comprises nine students and is under the aegis of the Union Board and the leadership of Vice President Kaleo Pedrina (EE, 2nd year). Students help raise awareness for IIT's sports teams by fundraising and getting the word out via Facebook. While Scarlet Fever also provides important emotional support for the athletes, Ballard says that its purpose goes even deeper.

"It's not only about the fun and games, and putting on face paint," he explains. "At the end of the day, we know that our name is only as good as our institution. When we graduate, we need to have every other graduating student feel the same way and commit 110 percent of themselves to bettering the institution back home and bettering the name of IIT abroad."



## Hooligans with a Scarlet Heart



## Living Modern Celebrates Bauhaus and Modernism in Chicago

### Modernism—it's so 1919.

It's also so 1930s, '40s, and '50s, when Ludwig Mies van der Rohe and László Moholy-Nagy, masters of Germany's Bauhaus school, brought the school's concepts—the fundamentals of modernism—to IIT's College of Architecture and Institute of Design, respectively. And it's so now: to recognize Chicago's role in the current Modernist resurgence, the Mies van der Rohe Society and the School of the Art Institute of Chicago have launched Living Modern Chicago, which runs March 2009–May 2010.

Living Modern Chicago coincides with the 100-year anniversary of Chicago's Burnham Plan and the opening of the Art Institute of Chicago's Modern Wing, and features a yearlong series of events, exhibitions, and tours. As major celebrations in Germany and Tel Aviv this year recognize the 90th anniversary of the Bauhaus, Living Modern Chicago focuses on Chicago and IIT's own role in developing Bauhaus and Modernist principles.

"The Bauhaus valued form and function, creativity, interdisciplinary teaching, and new technology, all of which are extremely relevant now," says Justine Jentes, director of the Mies Society. "Education today is being challenged to play a more responsible role in our society. That's what the Bauhaus sought to accomplish, and Chicago's place in this history, then and now, offers a compelling story."

Living Modern Chicago events at IIT include the Bauhaus to Green Haus speaker series, Bauhaus Labs lectures and workshops, and daily tours of IIT's Mies-designed campus. The Mies Society is also organizing a trip to New York, December 4–6, 2009, for the Museum of Modern Art exhibition, *Bauhaus 1919–1933: Workshops for Modernity*.

Information about all Living Modern Chicago events, taking place throughout the city, is available at [www.mies.iit.edu](http://www.mies.iit.edu).

*Photo of the Bauhaus Dessau (by Lucia Moholy, 1927) courtesy of Bauhaus-Archiv Berlin. © VG Bild-Kunst Bonn*

utp@watch

**F**ollowing on the heels of the successful Hybrid & Electric Vehicle Trade Mission sponsored by the French government in November 2008, University Technology Park at IIT (UTP) hosted Matra–Motor Sports, Global Electric Motorcars (GEM—a Chrysler Company), and All Cell Technologies, LLC (a UTP tenant) on April 6, 2009, as part of a press conference to announce their collaborative efforts to develop and promote electric vehicles.

In addition to supporting startups with wet and dry lab space within the Incubator building, UTP has opened furnished offices and cubicles (with dedicated conference rooms) for emerging companies within IIT Tower at 10 West 35th Street. This space is referred to as the UTP Co-op; Co-op-North (1,651 square feet) is nearly full with a variety of software companies, and Co-op-South (2,201 square feet) is in development.

UTP, in conjunction with IIT's External Affairs, Community Affairs, and Knapp Entrepreneurship Center, as well as O-H Community Partners, is launching TechAdvantage@IIT. This Small Business Administration-funded initiative provides targeted business assistance to minority- and women-owned, technology-based businesses located in the area surrounding IIT. For more information, visit <http://techadvantage.iit.edu> or email [techadvantage@iit.edu](mailto:techadvantage@iit.edu).

## FDA Acceptance of NCFST Food Sterilization Process



[From left] Dan Brown, group manager, laboratory services, Hormel Corp.; Eduardo Patazca, process engineer, NCFST/IIT; and Zhongbin “Ben” Zhang, process engineer, Hormel Corp. load mashed-potato pouches into the high-pressure carrier in preparation for treatment by the novel pressure-assisted thermal sterilization process.

It may be safe, but how does it taste? Although food sterilization decreases the risk of toxic bacteria in packaged foods, it typically requires a high dose of heat, which can sacrifice both the flavor and nutritional content of the food.

In February, the IIT National Center for Food Safety and Technology (NCFST) received acceptance from the Food and Drug Administration on a filing of the NCFST’s new food sterilization process. This process uses high pressure to deliver a level of heat that renders low-acid food products commercially sterile. The first-of-its-kind process, dubbed pressure-assisted thermal sterilization (PATS), is the result of a seven-year study in collaboration with the food industry, government, and the U.S. Army Natick Soldier Center.

Botulism contamination is a particular concern with low-acid foods, such as potatoes and other vegetables, as their low acid content provides the ideal condition for the growth of dangerous bacteria. Making such foods shelf stable—commonly known as ready-to-eat from shelf to table—has proven difficult without exposing foods to levels of high heat (retort) necessary to kill any bacteria.

“The PATS process is unique in that it uses a pressure-driven heating method for sterilization. This method results in improved quality of product produced as a result of both the rapid delivery of heat during sterilization and the rapid elimination of heat during decompression cooling,” says NCFST Director Martin Cole. “PATS is unique due to its exquisitely short sterilization cycle when compared to conventional retort-based techniques. The short cycle time results in minimizing the thermal degradation of the food, which produces products that demonstrate better quality and nutritional characteristics.”

The next phase of the PATS project includes the development of demonstration food samples in rationing packets for U.S. Army combat soldiers. The two- to three-year phase is expected to show that the PATS process will increase the variety of foods that can be made stable for consumption by soldiers, while also allowing these foods to be of higher nutritional value.

● [www.ncfst.iit.edu](http://www.ncfst.iit.edu)

# Mentorship

## is the Nuts and Bolts of Robotics Club

When he was a high school student, his robotics team earned a provisional United States patent for the “Crazy Chicken Transmission,” a continuously variable gear assembly that enabled the group’s automaton to pull a nearly 700-pound load half the distance of a basketball court. Now, as an Illinois Institute of Technology biomedical engineering doctoral student and president of the Illinois Tech Robotics (ITR) club, Christopher Jones (AE ’07) ensures that younger generations of students realize there’s a lot more that goes into the building of a robot than the requisite motors and drive trains.

Jones and clinical psychology doctoral student Karina Powell (PSYC ’08) established the club in 2004. Both attended the Utica Center for Mathematics, Science, and Technology, a Detroit magnet school, where they assembled robots for the FIRST Robotics Competition (FRC). Founded by Segway inventor Dean Kamen, FIRST (For Inspiration and Recognition of Science and Technology) organizes a series of mentor-based robotics game-solving competitions across the country for high school students. As FIRST participants and advocates, Jones and Powell knew they wanted the IIT club to focus on mentoring youth.

“We wanted to take the robotics that we learned on our own and the education we were getting from IIT, and give some of that back to the high school students,” says Jones. Although the ITR team builds robots for events such as the collegiate Jerry Sanders Design Competition, providing guidance to students is its top priority. Members help prepare high school students who are building robots for the FIRST Tech Challenge and the FRC, and coach students ages 6–9 for Junior FIRST LEGO League and ages 9–14 for FIRST LEGO League robotics events. Jones and Earl Fairall (AE, 3rd year) mentored students from the new Perspectives/IIT Mathematics and Science Academy four to five days each week for six weeks in preparation for the regional FRC, held the last weekend of February.

“FIRST Robotics is not about building robots—its underlying purpose is to get students excited about science and technology,” explains Fairall, ITR president emeritus. “As IIT students, we are excited about science and technology. Mentoring a FIRST team is a fun and effective way of sharing this excitement with young people.”

Jones notes that the most prestigious honor at the FRC is not that of first place but the Chairman’s Award, which recognizes the team that has most displayed “gracious professionalism,” a term that recognizes attitude, spirit, and community, more than just event performance. “As mentors,” says Jones, “that’s what we try to teach the students, that it’s more than just nuts and bolts or screwing things together.”

● [www.iit.edu/~robotics](http://www.iit.edu/~robotics)



Photo: Bonnie Robinson



# Creativity Key to Good Science for New CSL Dean

Last August, Russell Betts came to IIT with a clear vision: to make the College of Science and Letters a model of education, discovery, invention, and scholarship within the context of a university with a focus on science and engineering. His background has prepared him for the challenges of his new position as CSL dean: 20 years at Argonne National Laboratory as a physicist and then senior physicist, visiting scientist at Niels Bohr Institute at the University of Copenhagen, assistant professor at Yale University, and university lecturer in nuclear physics at Oxford University. He was most recently a professor of physics and vice provost for planning and programs at the University of Illinois at Chicago (UIC).

The British-born Betts has lived in Chicago for more than 20 years, and appreciates the city on both a personal and professional level. Professionally, he is aware of the exciting partnerships the city affords IIT, including those with Argonne Labs, Chicago Public Schools, and a number of businesses for research, partnership, and student internships and externships. Personally, it gives him, his wife, Katherine, and their two grown children the opportunity to indulge their love of theater, concerts, and other cultural events. Music is especially important to the Betts family: Betts' wife teaches music appreciation at IIT and UIC, and is a musician herself.

IIT's new CSL dean talks about why he came to the university, the role he sees for CSL, and why he thinks creativity is a fundamental principle of science.



Photo: Michael Goss

## What drew you to IIT?

As a representative of UIC, I attended President John Anderson's inauguration and was extremely impressed with both him and the interest and commitment of the trustees. In contrast with the University of Illinois, which of course is a large public institution, I liked that IIT is small, private, and very nimble.

## What, in particular, interests you about the sciences?

It's a mixture of rigor and practicality. And as I found out later, it involves both sides of the brain. There is a great deal of creativity involved. You are given clues for a problem, and with scientific rigor you can make an inspired guess. It's approaching problems in a holistic way.

## What's an example of the intersection of creativity, science, and engineering?

Internet technology, for one. The Internet had its roots in basic science thinking about ways to communicate and share information. It depended on a deep understanding of the properties of materials like silicon and our ability to manipulate its properties in the form of miniaturized electronics used to create digital devices. What amazes me is how quickly this happened.

## How will this manifest itself going forward?

It is important to realize that today's quality of life depends in large part on the application of basic science and technology. It was remarked on the bicentennial of the birth of Michael Faraday, a pioneer in the study of electricity and magnetism, that roughly 40 percent of Great Britain's GDP could be directly linked to the application of discoveries he made more than 150 years ago. Thus, we need a continuous investment in basic science, even though the connection to tangible results and to the marketplace is usually unknown at the outset.

## The university is currently developing its next strategic plan. What role do you anticipate CSL playing?

I've set up a group to carry out planning exercises for the college. I see CSL playing a vital role, not only in the fundamental disciplines and in interdisciplinary activities, but also through the ways in which we engage our students, our partners, and our collaborators. That obviously carries with it a lot of dimensions. I would hope that CSL can be a model both within the university as a whole and outside IIT.

—Linda Packer

Photo: Michael Gross

Vijay Ramani

**A**lthough polymer electrolyte membrane (PEM) fuel cells may eventually power everything from mobile phones to automobiles to unmanned aerial vehicles, they “have always been two to five years away from commercialization,” says Vijay Ramani, assistant professor of chemical engineering at IIT. He suggests that the principal obstacles to widespread use of fuel cells—namely fuel storage, durability, and cost—remain key challenges, despite advances over the past decade.

Ramani was recently awarded a National Science Foundation (NSF) 2009 Faculty Early Career Development (CAREER) Award, the highest honor bestowed by the NSF on junior researchers. His prior contributions to the field of fuel cell technology have focused in part on the issue of component durability, with an emphasis on developing a fundamental understanding of the mechanism of electrolyte and electrocatalyst degradation during fuel cell operation. He has used the mechanistic insights he obtained to develop successful mitigation strategies that lower degradation rates by an

order of magnitude or more. The CAREER award allows Ramani to prepare and study multi-functional materials for electrochemical energy conversion and adopt an approach designed to boost fuel cell performance and durability, while lowering costs.

“A fuel cell is similar to a battery,” Ramani explains, “except that the fuel source and the oxidant source are continuously supplied.” Four components must be present at the same place and time for the electrode reactions that sustain the fuel cell. These are hydrogen or oxygen (reactant), protons (reactant or product), electrons (which balance out the protons), and

MORE  ONLINE

Fuel cell basics: [www.howstuffworks.com/fuel-cell.htm](http://www.howstuffworks.com/fuel-cell.htm)

Auto fuel cells interactive website: [www.pbs.org/wgbh/nova/sciencenow/3210/01.html](http://www.pbs.org/wgbh/nova/sciencenow/3210/01.html)

Ramani's Polymer Electrolyte Fuel Cell Research Group: [www.chbe.iit.edu/~ramani/index.htm](http://www.chbe.iit.edu/~ramani/index.htm)

It's All **Materials**

a catalyst (usually platinum). Ramani says efficiency is limited in part because good proton transport in the electrode comes at the expense of good oxygen transport, or vice versa. Additionally, the fuel cell operating environment is very complex, with a strong reducing agent—hydrogen on one side (known as the anode), and a strong oxidizing agent, air or oxygen, on the other (the cathode). Sandwiched between these electrodes is the proton exchange membrane, which is fewer than 100 microns thick. The aggressive and corrosive environment created by the interaction of reactants threatens the durability of the membrane. This is further aggravated by common contaminants, including chloride ions and sulfur dioxide.

Through his CAREER award, Ramani will develop a mixed conducting material—one that is able to conduct both protons and electrons on its surface simultaneously. In addition to efficiency improvements, the new material will be superior in its durability. “Not only will it improve performance because you solve the proton-oxygen transport and proton-electron transport tradeoffs, but it can be made of materials that don’t corrode,” he says, citing potential automotive applications.

While Ramani’s success in this endeavor will be a step forward for automotive fuel cells, he stresses that other significant hurdles remain, from the lack of a nationwide hydrogen infrastructure to the as-yet unsolved problems of hydrogen storage.

Ramani is more optimistic about the immediate prospects for smaller, portable fuel cells that could power a vast range of consumer electronics by serving as a substitute for conventional batteries. “Fuel cells are great for niche applications where you can clearly outperform the competing technology in terms of reliability, weight, and volume,” Ramani says, noting the successful military and space applications for this technology.

Unlike automotive applications, which require high power outputs, the portable applications require considerably less power, making fuel cells reasonable from a cost perspective. “If you can package the fuel cell right, and it’s only going to cost you an extra hundred dollars for a reliable power supply that you don’t have to recharge out of the wall, that’s great,” Ramani says. “That’s where the initial markets are going to be.”

—Richard Harth

## Marshall Brown

Marshall Brown, assistant professor at IIT College of Architecture, has been awarded the prestigious Rotch Travelling Studio Grant. The grant will help to fund a trip for 12 students to Agadir, Morocco, to help strategize the city’s Modernist urban core in ways that consider the urban and ecological challenges of current tourism-related coastal development.

## Ali Emadi

Ali Emadi, Harris Perlstein Professor of Electrical and Computer Engineering and director of the Electric Power and Power Electronics Center at IIT, has been named a “Chicago Matters” Global Visionary for helping to make Chicago a center for hybrid technology research, development, and application. In its 19th year, “Chicago Matters” is a public-information series broadcast on WBEZ 91.5 FM Chicago Public Radio and WTTW Channel 11.

## Frank Lane

Frank Lane, assistant professor in the IIT Institute of Psychology Rehabilitation Counseling Program, is the new president-elect of the American Rehabilitation Counseling Association.

## Leon Lederman

Leon Lederman, IIT Pritzker Professor of Physics and the 1988 Nobel Laureate in Physics, is the recipient of the 2009 National Space Grant Distinguished Service Award. The award was established in 2003 to recognize individuals whose life and career have had a long-lasting impact on a science, engineering, or education field that is related to aeronautic, aviation, or space endeavors.

## Norman Lederman

Norman Lederman, professor and chair of the Department of Mathematics and Science Education, has been appointed honorary professor in the Department of Mathematics, Science, Social Sciences, and Technology at the Hong Kong Institute of Education. Lederman was also awarded a 2009 Fulbright Fellowship to work at the University of Pretoria and Limpopo University in South Africa this June.

## Warren D. Wolfson

Illinois Appellate Court Justice Warren D. Wolfson is the recipient of a lifetime achievement award from the Center for Excellence in Advocacy at Stetson University College of Law. Wolfson is founder and director of the trial advocacy program at IIT Chicago-Kent College of Law and a member of Chicago-Kent’s Board of Overseers.

## Judith Zawojewski

Judith Zawojewski, associate professor in the Department of Mathematics and Science Education, has been elected to a three-year term on the Board of Directors of the National Council of Teachers of Mathematics.

In Ancient Greece, citizens would occasionally assemble in public, each bearing a shard of pottery known as an ostrakon. These jagged objects acted as ballots in an unusually solemn election that decided the fate of a particular person, who would be exiled—ostracized—from the community should the vote go against him.

While such complete community banishment is rarely practiced in modern society, individuals belonging to various groups are often set apart from others through stigmatization. The process is a complex one, and a focus of research for IIT Professor of Psychology Patrick Corrigan.

Corrigan came to the study of stigma through his long-term involvement with rehabilitation psychiatry. For more than a dozen years, he directed the University of Chicago's Center for Psychiatric Rehabilitation. More recently, he became chief of the Joint Research Programs in Psychiatric Rehabilitation at IIT.

Corrigan has found that those with mental illness are often prime candidates for stigmatization, which can cause the person to avoid treatment, hamper treatment once it has begun, exacerbate symptoms, and increase the daily challenges patients face.

Unfortunately, Corrigan says, mental illness continues in many places to be viewed as a social problem rather than as a serious health concern. Those afflicted with mood disorders, autism, schizophrenia, or substance abuse issues may be singled out for ridicule and—as Corrigan stresses—for blame. Further, people with serious mental illness frequently adopt society's prejudices toward their afflictions in a process known as self-stigmatization.

One focal point of Corrigan's work has been finding adequate housing and meaningful employment for those suffering the stigma of mental illness. In a recently completed five-year study initiated in 2003, Corrigan compared employer attitudes toward the mentally ill in a cross-cultural study of three cities: Chicago, Hong Kong, and Beijing.

Corrigan stresses that results of his research on cross-cultural stigmatization are preliminary, though his hunch is that while stigmatization is ubiquitous, modes of operation are probably culture-specific. "There may be a big difference between Asian and Western European ways of looking at this issue," he observes, "because it represents a collectivist versus individualist cultural viewpoint."

In each city, 300 employers were identified, representing six key business sectors: manufacturing, education, health care, high tech, low tech, and business office work. The three-city survey examined degrees of mental illness stigma, comparing these with employer perceptions of other stigmatized groups, specifically, those with HIV/AIDS or substance abuse. As a control, Corrigan also examined attitudes towards victims of bone cancer, who typically are not stigmatized.

Corrigan found that substance abuse cases tend to be the most severely stigmatized in all three cities, followed by schizophrenia, HIV, and lastly, bone cancer. Stigmatization appeared to be similar in severity regardless of the work sector examined. Pending more complete data analysis, the results will be used to fine-tune programs to combat workplace stigmatization within each culture.

He views stigma as a fundamental issue of societal injustice. An irrational fear of contagion—either moral or physical—often lies at the core of the problem. Corrigan insists the most effective conditions for counteracting societal stigma and overturning preconceived notions occur when the public comes in direct contact with those harboring a harmful stereotype.

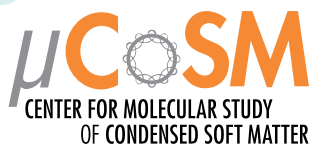
Corrigan's in-depth investigations of stigma have appeared in numerous academic papers as well as in his book, *Don't Call Me Nuts! Coping with the Stigma of Mental Illness*. Much of his ongoing research is carried out under the auspices of the Chicago Consortium for Stigma Research (CCSR), for whom he is principal investigator. CCSR is funded by the National Institute of Mental Health, features behavioral and mental health services researchers from seven Chicago area universities, and is currently engaged in more than 10 interdisciplinary projects.

—Richard Harth



## CHALLENGING STIGMA

# HEART OF THE **MATTER**



**Condensed soft matter** is as amorphous as its applications are infinite. Generally defined as solids or liquids that are non-crystalline, soft matter includes colloids, liquid crystals, and molten polymers, and appears in everything that is sticky, slimy, squishy, and gooey—from rubbers and adhesives to paints and fuel additives.

Soft matter is also ubiquitous in living tissue, which makes its study key to understanding the behavior of living systems under conditions of trauma or stress. This is the central focus of the interdisciplinary IIT Center for Molecular Study of Condensed Soft Matter (μCoSM).

Professor of Chemical and Biological Engineering Jay Schieber, Professor of Physics Larry Scott, and Marco Saraniti (now at Arizona State University) founded the center in 2007, marshaling a cross-disciplinary team to investigate theoretical and computational aspects of both synthetic and biological condensed soft matter. Since then, other experts in experimentation have joined them, including Assistant Professor of Biology Joseph Orgel, Professor of Chemical and Biological Engineering David Venerus, and Associate Professor of Chemical and Biological Engineering Victor Perez-Luna.

“μCoSM was put in IIT’s University Technology Park to encourage the sort of multidisciplinary projects that could come from people in electrical engineering, chemical engineering, biological engineering, biology, and physics,” says Schieber, center director. The center’s computational facilities include a new 256 CPU computing cluster, and μCoSM recently joined IIT’s Pritzker Institute of Biomedical Science and Engineering.

The behavior of condensed soft matter is complex and tricky to adequately model and predict. Such material has the capacity to self-organize at the mesoscopic level—that is, within a broad range spanning from the atomic to the macroscopic level, the latter observable without the use of a microscope. Further, soft matter often displays a curious, time-dependent quality not found in other types of matter. This

allows it to respond over intervals ranging from milliseconds to minutes or even longer, when subjected to deformational stress. Schieber explains this property, known as viscoelasticity, by the behavior of a rubber band. “If I take a rubber band and I stretch it,” he explains, “the tension in the rubber band can take many days to reach a constant value.”

The wide range of length scales that must be addressed, from the atomic to the macroscopic, makes the group’s research particularly challenging. Each μCoSM researcher contributes expertise at specific points along the way. Orgel examines the structure and behavior of viscoelastic fibrous networks such as collagen via X-ray diffraction experiments conducted at Argonne National Laboratory. The resultant data is then applied to atomic-level simulations aimed at determining the mechanical properties of these networks, Scott’s area of expertise.

Schieber uses this information to develop theories describing mechanical properties at the macroscopic level. Finally, μCoSM faculty David Gidalevitz, Venerus, and Perez-Luna verify the theoretical and computational work.

“We’re spanning many areas in experiments, theory, and computation,” Schieber notes, stressing that the collaborative efforts will enable accurate predictions of soft matter behavior. Researchers in Greece and Switzerland have already verified the theoretical predictions of Schieber and graduate student Renat Khaliullin about the nature of polymer-polymer interactions using atomic-level simulations. A growing body of experimental data is in agreement with the theory.

The functions of living cells and transfer through cell membranes figure among the investigations of Gidalevitz, assistant professor of physics. Condensed soft matter in the form of actin filaments and fibrils contain long-chained molecules that provide cells with their mechanical structure, something Gidalevitz is hoping to better understand.

μCoSM researchers will further explore issues including the modeling and simulation of intracellular protein and DNA dynamics, mechanical properties of the cytoskeleton, synthetic polymer property modeling, and membranes and membrane proteins. Additional applications of soft matter research are under investigation at μCoSM, including potent alternatives to conventional antibiotics and antiviral drugs, ocular drug delivery, and wound-covering materials for the treatment of burns.

—Richard Harth

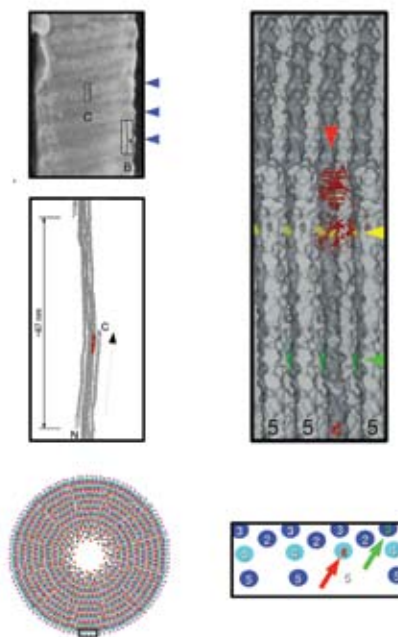


Image courtesy Joseph Orgel

#### KEY

- ← x3 ridge/C-terminus
  - Points to MMP1 whilst located at collagenase binding-interaction region
  - MMP cleavage site
  - Integrin binding site
- Cross-section of one microfibril at the MMP cleavage-site. 1-5 refers to the five D-staggered collagen molecules that make up 1D period of the microfibril. D-67 nm

*Molecular architecture of the type I collagen fibril and its interaction with collagenase*

## MORE ONLINE

IIT Center for Molecular Study of Condensed Soft Matter: [www.grad.iit.edu/researchcenters/ucosm/index.html](http://www.grad.iit.edu/researchcenters/ucosm/index.html)  
General background information about condensed soft matter: <http://physicsworld.com/cws/article/print/169>

# FORGET-ME-NOT

## TRUSTEE MEMORIALIZES ANCESTORS FOR FUTURE GENERATIONS

BY MARCIA FAYE

History holds many dark secrets, but sooner or later, truth finds a way to shine through. One such lucid moment revealed itself to Walter Nathan (ME '44) on a transatlantic flight in early 2006. Nathan, a member of IIT's Board of Trustees, was reading an article in the *Financial Times* about how Germany's Dresdner Bank was instrumental in the Aryanization of Jewish-owned enterprises in the 1930s. By 1938, the Nazis, in their radical idea to bring about a non-Jewish Caucasian or Aryan so-called master race, had prohibited Jews from operating trades and businesses, and from offering goods and services in Nazi Germany. Initially, the Nazis allowed the businesses to be sold to non-Jewish owners, with valuable assets being sold far below market value.

Founder and chair of RTC Industries, Inc., a Rolling Meadows, Ill.-based company that provides a wide range of business services to brand and retail clients the world over, Nathan was initially dumbstruck by the words in front of him and became overwhelmed by memories that conjured a looming possibility.

"When I read the article and all of the details, I said to myself, 'That's what happened to my father,' says Nathan, whose love of family runs deep. "Even though I was a little boy at the time, and parents did not tell kids too much about their business, I had heard bits and pieces of the occurrences."

Not able to get the *Times* article out of his mind, Nathan contacted the reporter to learn more about what he felt certain was a link to his family's past. The reporter put him in touch with the two academicians interviewed for the article, one of whom confirmed what Nathan had suspected: the Ada-Ada Shoe Company, founded by his father, Richard, and one of the largest shoe manufacturers in Germany, had fallen victim to Aryanization. He also told Nathan that he had written about this case in a book commissioned by the Dresdner Bank.

With that discovery, Nathan arranged to meet the researcher in Berlin, taking with him his youngest daughter, Betsy; her husband, Daniel; his oldest grandson, Ben; and one cousin. Nathan was invited to visit the archives of the Dresdner Bank, where he obtained the complete details of the business transaction between his father and the Nazis. Before the group returned home, Nathan took his family to the fifteenth-century Jewish cemetery in the town of Gau-Algesheim, his father's birthplace, which he had last visited with his father 70 years earlier.

During that 1936 visit to the cemetery, Nathan took along his new 35mm camera, a recent bar mitzvah gift. He took photos of the many Nathan family headstones found throughout the cemetery, which held nearly 150 graves of Jews from Gau-Algesheim and the neighboring town, Ockenheim. Less than one year later, with the persecution of German Jews rampant and the Holocaust imminent, Nathan and his family fled the country to settle in Chicago.

Nathan recalls the sweltering day in summer 2006 when he returned to the burial grounds. His grandson and cousin, who accompanied him, helped the 83-year-old patriarch climb over the low wall that ringed the small cemetery. Inside, the devastation took his breath away. Only a few Nathan family headstones remained, propped up against the wall.

"I immediately remembered that I had photographs of the graves that I took when I was 13 years old, and assumed that I saved them," says Nathan.

The group spent the next couple of hours contemplating the damage and trying to decipher the Hebrew inscriptions on each headstone. Returning to the town, Nathan saw three men approximately his age seated at a table in the local café. On a hunch, he approached the trio, telling them that his father was born in the town and asking if any of them could share

information about the cemetery. One of the men put him in contact with Alois Ebert, the town's historical records keeper, who gave Nathan the booklet *Judaica: The History of the Jews in Gau-Algesheim*, which provided extensive information on Nathan's ancestors.

Nathan and the booklet's author, Ludwig Hellriegel, a retired Catholic priest who served in Gau-Algesheim for 30 years, met during the autumn of 2006. Hellriegel shared with Nathan his grief over the murderous treatment of the Jews by the Nazis. After their conversation, there arose in Nathan a conviction that justice must be served. The only way this could be done, he felt, was to punish those who were responsible for the desecration of the cemetery. Nathan was so convinced that this was the correct approach that he sought the help of the Honorable Dieter Faust, mayor of Gau-Algesheim.

"I told the mayor that I would like to find the perpetrators who did this. He just kind of looked at me," says Nathan, thinking back to that day with a wry smile. "I guess he thought that I was crazy."



Walter Nathan at the ceremony memorial in Gau-Algesheim, Germany

The mayor instead helped Nathan realize that too many years had passed between the vandalism at the cemetery and today. As his anger began to ebb, Nathan focused on his living family and came up with a new idea: a memorial that would pay tribute to all who were buried there—a reminder to visitors that hope prevails despite the sometimes heinous conduct of humankind. The mayor offered to contribute and gave his approval for a monument to be erected at the cemetery. He suggested that Nathan choose November 9 as the day for the unveiling ceremony.

“The ninth of November is now a memorial day in Germany because during that night in 1938, the Nazis stormed into Jewish homes, businesses, and synagogues all over Germany, and ransacked and burned them,” explains Nathan, a benefactor of IIT’s Voices of the Holocaust archival project, which opened

in April at the Illinois Holocaust Museum & Education Center in Skokie. “That marked the beginning of the physical persecution of the Jews. Many were sent to concentration camps that night, never to be seen again.”

Known as *Kristallnacht*, “the night of broken glass,” by some and Pogrom Night by others (to denote organized violence against a minority group, particularly Jews), the event signaled the early stages of the Holocaust. It is estimated that during *Kristallnacht* nearly 30,000 men were sent to the camps, and many were murdered. More than 200 synagogues were burned, along with thousands of homes and businesses. Physical evidence from that night was rare until last year, when an Israeli researcher found mounds of looted possessions in a refuse dump in Klandorf, Germany.

Once a date for the unveiling ceremony had been selected, Nathan sent a letter to his

immediate family of three daughters and a son, inviting them and their spouses, children, and grandchildren to Germany for the memorial service. Some weeks later, Nathan began receiving emails and phone calls from Nathans around the world, telling him they had heard about the event. All told, 55 relatives, many of whom had never met previously, gathered for a Nathan Family Reunion Party at the Dorint Hotel in Wiesbaden the night before the memorial dedication service.

On November 9, 2008, the extended family took a chartered bus for the 20-minute ride to the cemetery, where other honored guests and nearly 150 townspeople joined them. After a local horn trio played a traditional Israeli song, the monument was unveiled—a bronze plaque affixed to a single, five-foot-tall stone cut from the local quarry. Adorned simply with the Star of David, the plaque tells the story of the Jews buried there whose graves were defiled, both during the Nazi regime and again sometime after. It also recognizes those never laid to rest in graves—the legions of Jewish citizens murdered in the *Shoah*, or Holocaust. During the ceremony, the names of the Gau-Algesheim and Ockenheim residents known to have been killed in the Holocaust were recited. Also unveiled were three panels fastened to the wall next to the cemetery gate and which tell the names of the Gau-Algesheim and Ockenheim victims of the Holocaust, and the history of the Jewish families buried there.

For Nathan, the ceremony was also a way for his grandchildren to know why they were born in the United States and not in the land of their ancestors.

“I want them to understand what happened. Many in my family are kids who just finished high school,” explains Nathan. “To them, what happened 70 years ago is ancient history as the Civil War was to me. But it is really recent history. We have to know it, we have to understand it, and we must remember it. Otherwise, it will happen again.” ■

“WE HAVE TO KNOW IT,  
WE HAVE TO UNDERSTAND IT, AND  
WE MUST REMEMBER IT.  
OTHERWISE, IT WILL HAPPEN AGAIN.”



## MORE ONLINE

Aryanization:

<http://chgs.umn.edu/educational/brokenThreads/aryanization.html>

“Refuse Heap Is Archive for Night of Hatred”:

[www.nytimes.com/2008/10/28/world/europe/28germany.html?\\_r=1](http://www.nytimes.com/2008/10/28/world/europe/28germany.html?_r=1)

“Profits and Persecution: German Big Business and the Holocaust”:

[www.ushmm.org/research/center/publications/occasional/1998-02/paper.pdf](http://www.ushmm.org/research/center/publications/occasional/1998-02/paper.pdf)

Illinois Holocaust Museum & Education Center:

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



# New Grid in Town

## MAIN CAMPUS TO BECOME A PERFECT POWER SHOWPIECE

**T**HE GREEK PHILOSOPHER ARISTOTLE IS CREDITED WITH AUTHORIZING THE EARLIEST DEFINITION OF THE WORD PERFECTION, WHICH HE SAW AS BEING COMPOSED OF THREE CONCEPTS: “THAT IS PERFECT—WHICH IS COMPLETE, WHICH CONTAINS ALL THE REQUISITE PARTS; WHICH IS SO GOOD THAT NOTHING OF THE KIND COULD BE BETTER; AND WHICH HAS ATTAINED ITS PURPOSE.” IN DISCIPLINES FROM AESTHETICS TO ETHICS, HOW INDIVIDUALS DEFINE PERFECTION RANGES FROM BEING AN APPROXIMATE IDEAL TO SOMETHING SO AMBITIOUS AS TO BE UNATTAINABLE.

A group of energy visionaries comprising the Galvin Electricity Initiative (GEI) subscribe to Aristotle’s bold and decisive definition in regard to perfect power and their innovative plan to reinvent the nation’s electricity transmission, generation, and delivery network. Three years ago, GEI members and IIT faculty developed their idea to create a Perfect Power System on the university’s Main Campus. The group then elicited help from the United States Department of Energy (DOE), creating a three-faceted partnership between government, education, and industry to make the Perfect Power energy-distribution system the first of its kind in the country.

“We own our own power plant, distribution systems, and wires throughout the campus,” says Mohammad Shahidepour, professor and chair of the Department of Electrical and Computer Engineering (ECE), and Perfect Power principal investigator, of IIT’s 120-acre Main Campus. “The university is like a city. So whatever we can do here can be replicated in cities and other large entities across the country.”

The Perfect Power transformation will be completed in four phases over the next five years. Central to this conversion is a technology touchstone—a smart microgrid—that ultimately will be a model for revamping our nation’s antiquated and outage-ridden power grid.

BY MARCIA FAYE





## SOME POWERFUL STATISTICS

- 41 percent more outages affected 50,000 or more consumers in the second half of the 1990s than in the first half of the decade.
- If the grid were just 5 percent more efficient, the energy savings would equate to permanently eliminating the fuel and greenhouse gas emissions from 53 million cars.
- In 2000, the one-hour outage that affected the Chicago Board of Trade resulted in \$20 trillion in delayed trades.

SOURCE: U.S. DEPARTMENT OF ENERGY

## SIX-SIGMA PERFECTION

“Perfection—and let me define that as we have defined it for GEI—is that every consumer of electricity, large or small, can be absolutely assured of getting the quantity and quality of electricity that they need at the fairest price without any concern about it ever failing. That is, in our judgment, a very achievable goal,” said Kurt Yeager, GEI executive director, at a press conference announcing the launch of Perfect Power at IIT. The conference was held November 19, 2008, in Siegel Hall, the first building that will be reconfigured in the Perfect Power plan.

At the conference, Yeager was joined by IIT President John Anderson; GEI founder and IIT University Regent Robert W. Galvin, former chair and CEO of Motorola, Inc.; representatives from project partners Commonwealth Edison (ComEd), Endurant Energy, and S&C Electric Company; and Shahidehpour. Perfect Power at IIT is one of nine projects that received DOE funding for smart grid research. In addition to the \$7 million DOE grant, Perfect Power received \$5 million in funding from the university.

Galvin told conference attendees that he was inspired to form GEI after his wife, Mary, became one of the estimated 40 million Americans affected by a blackout that shut down cities in eight Northeastern states in the summer of 2003. During his tenure at Motorola, Galvin was instrumental in significantly improving quality standards through implementation of Six Sigma, a business philosophy that values defect prevention over defect detection. According to the GEI, the nation’s current electricity system accounts for at least \$150 billion lost each year on power outages and interruptions. Smart grid technology could ramp up system reliability to 99.99 percent.

The application of Six Sigma quality principles, coupled with the support of IIT’s electricity supplier, ComEd, in the goal of achieving a perfect system sets the university’s smart microgrid project apart from power conversions taking place at two other schools. After attending Six Sigma training courses, IIT team members established a basis for the microgrid by developing electricity system performance metrics based on consumers’ needs, applying error proofing to the IIT electricity system design, and developing cost-effective means to lessen failures and system shortcomings.

## WANTED: A SYSTEM FOR TWENTY-FIRST CENTURY NEEDS

IIT’s Main Campus averages three power failures each year at a cost of \$500,000 annually in restoration expense, lost productivity, and ruined experiments. IIT is currently operating at capacity and in order to accommodate the increasing power requirements and digital demands, a new \$5 million substation has been considered for the east side of campus to supplement two existing substations. Although Main Campus has the capability to generate essential power if there is a ComEd failure, its cogeneration plant is only cost effective at producing hot water, not the hot water, steam, and electricity it was originally meant to generate.

“Perfect Power consists of more than just the infrastructure upgrades that we are currently implementing on campus; however, the infrastructure improvements provide the foundation for every other electrical energy project that we will pursue over the next decades,” says Joseph Clair (M.S. MAE ’95), director of campus energy and sustainability.

The nation’s century-old electric grid, hailed by the National Academy of Engineering as “the most significant engineering achievement of the twentieth century,” is dominated by central generation through largely fossil fuel-driven power plants, which deliver electricity via a system of regional grids that are owned or run by utility companies. Its 300,000-mile network of transmission lines, subject to weather conditions and physically sagging under the burden of increased usage demands, crisscross the country on their way to delivering electricity to homes and businesses.

According to the DOE, since 1982, growth in peak demand for electricity needs has exceeded the construction of new transmission lines by 25 percent. When an outage occurs, large populations of grid users can be left without power, sometimes for days at a time. Additionally, the centrally located design of the grid leaves it more vulnerable to terrorist attack. More numerous microgrids supplying power to cities and essential buildings would make such an attack far less widespread.



[Left to right] John Kelly, Mohammad Shahidehpour, Bob Galvin, John Anderson, Rita Stols, Tom Tobin, and Kurt Yeager at the conference launching the Perfect Power System



## PERFECT POWER TRIO

While the IIT community can expect to see some physical changes in the campus landscape as Perfect Power unfolds, other modifications will occur at the cyber-level as the microgrid works to advance and integrate a powerhouse composed of three technologies: a high reliability distribution system (HRDS), smart metering, and renewable energy sourcing.

Serving as the core of the smart microgrid, the fully automated HRDS will operate as an electrical feeder loop system that sequesters power faults and reroutes power flows, essentially functioning as a self-healing circuit. Vista® Underground Distribution Switchgear developed by S&C Electric will replace outdated manual switches and breakers, sensing electrical changes and shifting power without interrupting usage in IIT's buildings.

Distribution lines, visible above many neighborhoods in the Chicago area, are located underground on Main Campus. Each building and the cogeneration plant will be outfitted with an external, above-ground switch, protected from the elements in a watertight metal box, which will manage power throughout the underground lines. Another external unit—a master controller—will send information to the switches to ensure that the grid remains in an ideal mode of operation and also provide information to ComEd to help manage power during periods of peak usage or emergency situations, such as threatening weather. If a power outage occurs, a signal will be sent via a wireless connection from the controller to ComEd, making it easier for the utility to pinpoint the damaged circuitry. Research to enhance this automated distribution system is being led by Alex Flueck, ECE associate professor, coupled with research on fault detection in the buried distribution lines being led by Zuyi Li (Ph.D. EE '02), ECE assistant professor.

A second controller will work to increase energy efficiency by communicating with intelligent sensors attached to equipment such as water heaters; heating, ventilation, and air conditioning equipment; and lighting devices. On-off power switches will become a thing of the past, as the sensors will even determine whether a room is occupied and adjust the lights accordingly. Chi Zhou, ECE assistant professor, is working on these and other sensors that can be programmed to complete a task—be it washing laboratory glassware or completing an experiment—by a certain time, with the controller-sensor unit deciding the most efficient time to run.

Siegel Hall will also be fitted with a smart meter that, like a standard electric meter, will indicate power is being used, but unlike a standard meter, will record usage in real time. This additional feature will enable IIT to determine the most cost-effective schedule for using power. Though the cost of electricity is currently fixed, using the new system, the university will have the choice to buy or generate and sell back power depending on the real-time price.

“The Siegel Hall component of the current phase will give us in campus operations a view into what is possible as we look to make IIT the most sustainable, urban university campus in the country,” says Clair.

At current power costs, avoiding peak-period usage will save the university at least 15 cents on each kilowatt-hour. Projections indicate that Perfect Power at IIT will effect a 15 percent reduction in overall demand and a 50 percent reduction in peak demand from ComEd. The smart meters will also measure the power generated by renewable energy sources, such as the solar panels being planned for the roof of Siegel Hall, which will be used to fuel a plug-in hybrid vehicle charging port set up next to the building.

“Smart grid technology is based on making the electric grid safer, more reliable, more efficient, and more secure,” says Brianna Swenson (EE '04, M.S. '05), who served as an electrical/design engineer on Perfect Power at IIT during her employment with S&C Electric. “Any one of these improvements is beneficial to the average person all on its own, but tying all four together is what the smart grid movement is all about.”

Hamid Arastoopour (M.S. GE '75, Ph.D. '78), Henry R. Linden Professor of Energy and director of the Wanger Institute for Sustainable Energy Research (WISER) at IIT, notes that the project is in line with WISER's mission to advance the quality of life for all citizens.

“As a WISER initiative, the Perfect Power system demonstrates the institute's commitment to improving the energy efficiency and security of our nation,” he says.

## PERFECT POWER TIMELINE (2008–2013)

**PHASE I**—Improve overall efficiency of Main Campus and the reliability of the ComEd system

**PHASE II**—Modify existing IIT turbines for fast-start ability and add additional substation generation capabilities to carry campus demand

**PHASE III**—Create the HRDS to interface with the dynamic campuswide energy system controller

**PHASE IV**—Provide local uninterrupted power supplies, solar power, and demand response capability to complete the project



# CURRENT AND SMART GRIDS: A COMPARISON

## GLOBAL GRID LEADERSHIP

While eliminating costly power outages and reducing dependence on traditional energy sources are good enough reasons for the United States to take steps toward perfecting its present power system, there is another compelling reason: global leadership.

“Electricity infrastructure is a way of measuring the progress of any country in the world,” says Shahidehpour. “The power systems of India and China are by far more advanced than what we have in the United States because these countries have spent more money and have revamped their systems in recent years.”

Power Grid Corporation of India Limited, a state-run company established by the government in 1989 to create a unified power grid, has already maintained network availability for power transfer at 99.65 percent, which places it among the most efficient transmission utilities in the world. China’s target year for the unification of the country’s regional and provincial grid system is 2020. Plans include a possible link to Thailand’s power grid network, as well as to Russia’s grid.

In the United States, President Barack Obama signed into effect the American Recovery and Reinvestment Act of 2009 on February 17 that includes \$11 billion in credits and incentives for smart grids. In his “New Energy for America” plan, the president specifies investing in advanced smart grid technologies such as smart metering and distributed storage to help ensure that both energy use and costs will be significantly lower than they are now. That smart grid technology encourages user participation increases opportunities for consumers to actively partner with the government in the effort to increase the country’s energy efficiency.

And on the South Side of Chicago, one town-like university campus will be leading the way for all Americans to count on having power that is, in essence, perfect.

“The Perfect Power development and demonstration project provides a unique opportunity for DOE, Exelon, IIT, and the Galvin Electricity Initiative to work together to develop and demonstrate the distribution system of the future,” says Terence Donnelly, ComEd senior vice president of transmission and distribution operations. “IIT is ideally suited to serve as a test bed for joint research and demonstration activities, and we see significant potential for the collaboration to produce advanced distribution system technologies that can be applied to the ComEd system to improve reliability and reduce operating costs.” ■

## MORE ONLINE

United States Department of Energy: [www.oe.energy.gov/smartgrid.htm](http://www.oe.energy.gov/smartgrid.htm)

Galvin Electricity Initiative: [www.galvinpower.org](http://www.galvinpower.org)

Gridwise® Architecture Council: [www.gridwiseac.org](http://www.gridwiseac.org)

IIT Perfect Power System: [www.iit.edu/perfect\\_power](http://www.iit.edu/perfect_power)

## CONSUMER PARTICIPATION

- C Passive plug-in consumers
- S Participatory, informed consumers

## GENERATION OPTIONS

- C Restrictive, central generation
- S Multiple distributed-energy stations for plug-in technologies

## COST CHOICES

- C Limited wholesale pricing
- S Developed wholesale pricing, with new real-time market options

## POWER QUALITY

- C Emphasis on preventing outages
- S Emphasis on powering digital economy

## RESPONSE TO SYSTEM DISTURBANCES

- C Focus on preventing further damage post-problem
- S Focus on automatically detecting potential failures

## SECURE OPERATIONS

- C Central design susceptible to attack
- S Multiple-unit design more resilient to attack

# ENTERTAINMENT

## The Artistry of *Playboy's* Art Paul: a 29-Year Retrospective

BY MARCIA FAYE

PHOTO: MICHAEL GOSS



**T**he year 1953 produced its share of world-rocking events: James Watson and Francis Crick unraveled the structure of DNA, color television sets went on sale, and the Soviet Union detonated its first hydrogen weapon. In Chicago, two men set off a bomb of a different sort, blasting newsstands with a modest 72,000-issue run of a new publication at 50 cents per copy. With a smiling and waving Marilyn Monroe on its cover (and a less-than-modest nude photo of Monroe as Sweetheart of the Month on its centerspread), editor and founder Hugh Marston Hefner and art director Art Paul launched their magazine, *Playboy*.



From the suave and sophisticated bachelor-about-town swagger of *Playboy*, no one would guess that Hefner came up with the idea for the publication as a young married man with an infant daughter and that Paul was also married, with a child on the way. Hefner learned of Paul, who was a freelance illustrator and designer at the time, through a mutual acquaintance and pursued Paul with the offer to design and art direct his magazine. The chance to assemble and lead the creative team of an exciting new magazine that featured popular culture, edgy fiction, profiles of the day's most compelling personalities, and, well, photos and art-erotica of beautiful women, grew on Paul. It also allowed him to apply the best of what

he learned at a local school founded by the Hungarian painter, photographer, and professor László Moholy-Nagy—the IIT Institute of Design (ID).

"I heard exciting things about ID—the 'Chicago Bauhaus'—about its busting out of traditional methods of teaching and its stress on experimentation, discovery, and unleashing oneself from old habits and conventions," explains Paul, a bit of an art rebel who found a good educational match in the bold philosophy espoused by ID. "I'd started drawing as a child and always felt that opinions on what defined popular art and fine art as separate entities weren't valid," he says, noting that he admires the works of Norman Rockwell and Michelangelo alike.

Born on the Southwest Side of Chicago, Paul later moved to the Rogers Park neighborhood, where he attended Roger C. Sullivan High School and met an art teacher who thought him gifted enough to earn a scholarship to the Art Institute of Chicago. Then World War II summoned him and after a stint in the Army Air Corps, Paul chose to enroll at ID. Acknowledging that he may have been one of the students most anxious to express himself in the world of commercial art, it is no surprise that Paul created a symbol that has achieved worldwide recognition: *Playboy's* rabbit head. He says that the rabbit almost began life as an adult male deer.

"Hef was very insistent that the magazine be called *Stag Party*—I told him it was madness," recalls Paul with a chuckle. There was already an outdoor magazine named *Stag*, so the two men began thinking of other titles and animals that would represent a frisky slice of life. Eldon Sellers, another of Hefner's founding associates who went on to become a company executive, came up with the name *Playboy*. It took Paul about one hour to sketch his famous rabbit profile with the cocked ear and tuxedo tie. Paul intended originally for the symbol to be used as a characteristic endpoint to articles, but those plans changed, with the rabbit head instead becoming *Playboy's* corporate visual identity as well.

As Paul settled into his position at *Playboy*, he tapped into the many resources available to him as a result of his education. "My four

Enterprises, Inc., says that Paul's influence reached beyond the covers of *Playboy*. "Arthur, quite frankly, was responsible for changing the nature of commercial illustration," he says. Hefner likens Paul to another multitalented artist who produced work for some of *Playboy's* best-selling editions. "He blurred the lines between fine art and commercial art just as the painter Andy Warhol did."

If there was one word during Paul's *Playboy* years that further motivated him to bring the "high art of low art"—as Paul described it—to readers, it was "entertainment." The subtitle, "Entertainment for Men," which has been part of each cover since its debut, served to crystallize the very essence of *Playboy* for Paul and charted a direction for him and his team. "The 'entertainment' word is really the one that sparked me," he says. "The word 'playboy' itself is not a serious one. The rabbit is not serious; it was basically a signal that we could make fun of ourselves."

After his retirement as a vice president of the magazine in 1982, Paul continued to imprint his artistic style onto other projects, working on movie titles and designing posters for the Chicago Film Festival and the Art Institute. He has lectured widely across the country and internationally at universities, design schools, and art directors' clubs, and has served on the

of Publication Designers. Last year, Paul was recognized as a fellow of the Chicago Chapter of the American Institute of Graphic Artists.

And the man who knocked on Art Paul's door more than five decades ago, bringing with him an idea for a magazine focusing on "Entertainment for Men," pays Paul his own personal tribute. "Quite simply, he was the right guy in the right place at the right time," says Hefner. "I couldn't have done it without him." ■

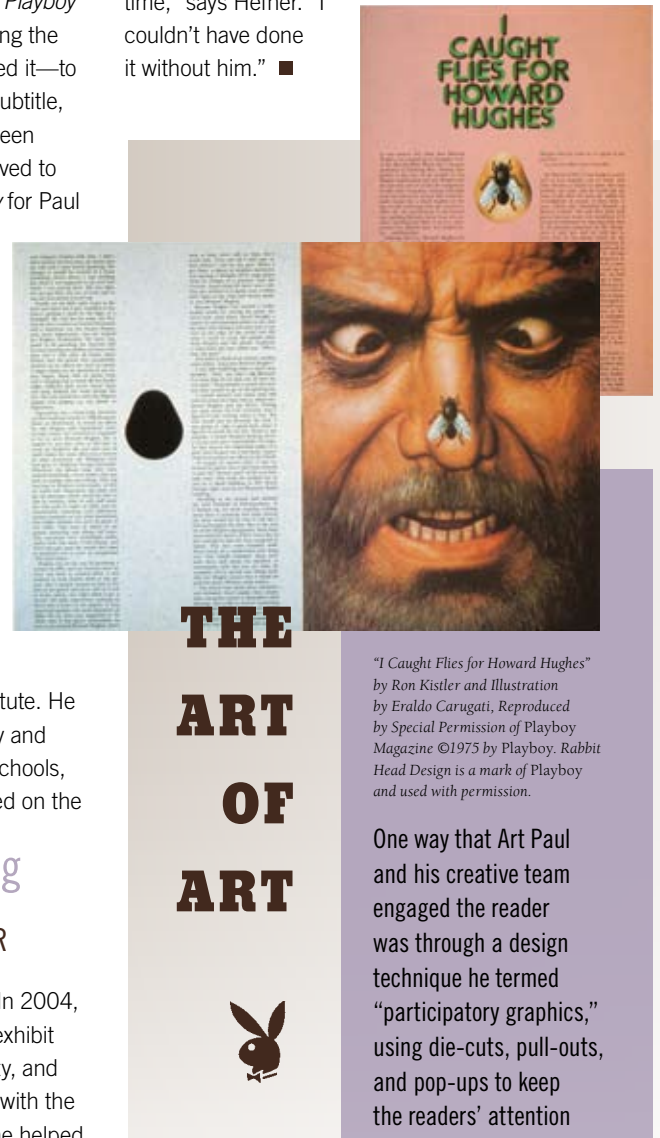
## "Arthur, quite frankly, was responsible for changing the nature of commercial illustration." — HUGH HEFNER

years at ID had connected me to much of the art and design talent in Chicago, and the rest of the world," explains Paul, who received a Professional Achievement Award from the IIT Alumni Association in 1983. "In my first years at *Playboy*, I commissioned artist and ID student Franz Altschuler to do several illustrations and artist and ID student Leon Bellin to illustrate *Playboy's* continuing 'Ribald Classic' feature. Chicago-area painters and sculptors such as Roy Schnakenberg, Ed Paschke, and Seymour Rosofsky were frequent contributors. I also commissioned printmaker Mish Kohn and photographer Arthur Siegel, former ID instructors, to do work for *Playboy*."

Hefner, who is publisher, editor-in-chief, and chief creative officer for *Playboy*

boards of various local organizations. In 2004, the Hyde Park Art Center hosted the exhibit I Read It for the Art: Chicago, Creativity, and *Playboy*, featuring Paul's works, along with the works of many of the Chicago artists he helped to establish.

Among the many honors given to Paul include induction into the Art Directors Club Hall of Fame and the Herb Lubalin Lifetime Achievement Award from the Society



"I Caught Flies for Howard Hughes" by Ron Kistler and Illustration by Eraldo Carugati, Reproduced by Special Permission of Playboy Magazine ©1975 by Playboy. Rabbit Head Design is a mark of Playboy and used with permission.

One way that Art Paul and his creative team engaged the reader was through a design technique he termed "participatory graphics," using die-cuts, pull-outs, and pop-ups to keep the readers' attention focused on more than just the pin-ups. The article "I Caught Flies for Howard Hughes," which appeared in the December 1975 issue, featured a cut-out that revealed a fly on the nose of an annoyed-looking man—an example of the participatory graphics work Paul art directed.

### MORE ONLINE

**AIGA Fellow Art Paul:**

[www.aiga.org/content.cfm/fellow-art-paul](http://www.aiga.org/content.cfm/fellow-art-paul)

**Playboy classic art:**

[www.playboy.com/worldofplayboy/features/i-read-it-for-the-art](http://www.playboy.com/worldofplayboy/features/i-read-it-for-the-art)

# Engineering Provides Edge in Litigation



Janice Mitrius

With her varied background in engineering, business, and law, Janice Mitrius (ME '88) has brought a unique blend of educational acumen and work experience to the firm of Banner & Witcoff, Ltd., where she has been employed since 1997 as an attorney concentrating on intellectual property (IP) litigation. Earlier this year, the firm gave Mitrius its highest collective vote of confidence, making her the first female president in Banner & Witcoff's 89-year history.

Although Mitrius is incorporating more management responsibilities into her daily schedule as president, she remains active in litigation and counseling for clients. She credits her years at Armour College of Engineering with giving her an edge in her legal career representing clients such as Allstate Insurance Company, Husky Injection Molding Systems, Ltd., and Kimberly-Clark Corporation.

Mitrius works primarily with utility patents in her litigation practice. Utility patents are used to protect a new invention or a functional improvement made to an existing product. As part of her litigation efforts, Mitrius often interprets the results of product testing and analyses as well as a product's properties and overall structure.

"My knowledge of science and mathematics helps me to understand information on new materials I may not be familiar with," she says. "It also makes it easier to explain aspects of the case in layman's terms to the jury and to the judge."

Extracurricular activities had a hand in her success, literally. "Playing volleyball for four years at IIT helped me to develop and hone important team-oriented skills that are imperative to success in business," says Mitrius, who also acknowledges that the classes she had with Marvin Camras, a pioneer in the field of magnetic recording, set an example for her in later years in helping people obtain patents and enforce their rights.

Mitrius became aware of the IP field and patent law while at IIT and though she was intrigued by the subject, decided to accept a project engineer position at AlliedSignal Engines (now Honeywell), where she stayed for five years. She expanded her career options with an M.B.A., but still felt she needed more from her career. A conversation with Paul

Nykaza (ME '88), who went on to become a patent lawyer, helped Mitrius to redefine her goals and go on for her law degree, which she obtained from Arizona State University.

"Work hard, do good work, and pay attention to the details' is a constant for me," says Mitrius. "This mantra started with my engineering background. In engineering, you cannot gloss over details or things will not work. In the law, the details are equally important."

"My knowledge of science and mathematics helps me to understand information on new materials I may not be familiar with.

It also makes it easier to explain aspects of the case in layman's terms to the jury and to the judge."

# alumni

## Alumni Travel Program

### Tour the Yangtze in October

Alumni Holidays International and the IIT Alumni Association are offering a tour of China and the Yangtze River. This is a great chance to marvel at Beijing's Imperial Palace and Great Wall, as well as to cruise the scenic Yangtze River. The tour will begin on October 7, 2009, with prices beginning at \$2,950 per person.

More information about the Alumni Travel Program may be found at [www.iit.edu/alumni](http://www.iit.edu/alumni).

# BUCKMINSTER FULLER

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MARCH 14-JUNE 21, 2009

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HUMANITARIAN. VISIONARY.

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This exhibition is organized by the Whitney Museum of American Art, New York, in association with the Department of Special Collections of the Stanford University Libraries.

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OFFICIAL AFFILIATE OF THE  
MUSEUM OF CONTEMPORARY ART



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alumni**news**

# Velocity *on a roll*

As featured in the last issue of *IIT Magazine*, IIT launched Velocity, a massive alumni reengagement effort, in January. In this initiative, new IIT graduates and current students, serving as Velocity ambassadors, are interviewing IIT alumni across the country about their personal and professional lives, as well as their thoughts on their alma mater. Armed with fresh, in-depth information about what's on the minds of our alumni, IIT plans to direct this information toward more exciting, relevant alumni programming.



In the first three months of Velocity, nearly 300 alumni participated in 45-minute interviews with ambassadors. The best news: 80 percent of the alumni participants want to become more engaged with IIT, whether serving as mentors and guest speakers, planning and attending regional alumni events, or learning more about innovative teaching and research at IIT.

The three full-time alumni ambassadors have been spending time in New York, California, Arizona, Florida, Washington, D.C., and Texas, meeting with an interesting and diverse cross section of IIT alumni. Thirty-two current student ambassadors have been visiting with Chicago-area alumni.

Ralph P. Norris (CE '57) was among the first alumni to be interviewed through Velocity. He says his interview with student Ciaran Shaughnessy (CHE, 2nd year) "restores my faith in the younger generation. Quite amazingly, our educational tracks were very similar. [Ciaran] embraces music with the same fervor as I, as a release from the rigors of engineering."

Watch future issues of *IIT Magazine* for updates on Velocity and participating alumni. For more information, please contact Molly Galo, manager of the Velocity initiative, at 312.567.5065 or mgalo@iit.edu.

● [www.iit.edu/giving/velocity](http://www.iit.edu/giving/velocity)

93% of IIT students would be unable to attend college without scholarship assistance.

Our students rely heavily on the generosity of alumni and friends to achieve their own dreams of an IIT education. In addition to outright gifts, realized estate gifts have made it possible for a significant number of students to receive scholarship awards.

Estate plans from today's Gunsaulus Society members continue to ensure the future availability of scholarship funds. Whether you choose to add to an existing scholarship fund or to establish a named fund of your own, creating a planned gift through your estate will help keep classroom seats filled while leaving a long-term legacy at IIT.

To discuss how to include IIT scholarships in your estate plan, please contact **Catherine Marquis**, director of planned giving, at 312.567.5080 or cmarquis@iit.edu.

GUNSAULUS SOCIETY



# ALUMNI AWARDS

## 2009 Alumni Medal Recipients

*The IIT Alumni Medal is 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.*

### FRANK CROSSLEY AND ROBERT PRITZKER



Frank Crossley (CHE '45, M.S. MET '47, Ph.D. '50) is a pioneer in the field of titanium metallurgy, and his life achievements have inspired social changes in America that will continue to affect many generations to come. In 1950, at the young age of 25, he became the first person to earn a Ph.D. in metallurgical engineering

at Illinois Institute of Technology. He was also the first person of African ancestry in the world to earn a Ph.D. in metallurgy. During Crossley's military career, he became one of the first African-American officers to serve in the United States Navy, and his success in this leadership role helped convince President Harry Truman to issue the executive order in 1948 desegregating the United States Armed Forces. Crossley's work in the field of titanium metallurgy earned him seven patents, five of which were significant contributions to the aircraft and aerospace industry.



Robert Pritzker (IE '46, Hon. Ph.D. ENG '84) is a world-renowned businessman, philanthropist, and civic leader. He is the chief executive officer and president of Colson Associates, Inc., a group of companies that includes the world's largest wheel and caster company as well as manufacturers of medical devices and hardware products.

Pritzker's service to the Chicago community is legendary, and his philanthropy and leadership have helped shape the city's modern identity and culture. In addition to being one of only three IIT University Regents, Pritzker is a life trustee of the Chicago Symphony Orchestra and Rush University Medical Center. He was awarded an honorary doctorate in engineering from IIT in 1984 and inducted into the IIT Hall of Fame in 2002.

### ALSO HONORING

#### Alumni Service Award

**Jerry Frank** (M.S. MATH '69, Ph.D. '72)

**Bruce Liimatainen** (ME '77)

**Earl Zwicker** (M.S. PHYS '52, Ph.D. '59)

#### Global Service Award

**Tetsuyuki Hirano** (ARCH '79)

**Timothy Zamb** (BIOL '68, Ph.D. '78)

#### Lifetime Achievement Award

*(awarded posthumously)*

**Richard Bergstrom** (CE '42, M.S. '52)

**Wendell Campbell** (ARCH '56)

**Paul Finfer** (ARCH '60, M.S. CRP '61)

#### Outstanding Young Alumnus/a Award

**Ankit Mehta** (CHE '03)

**William Mustain** (CHE '02, Ph.D. '06)

**Diane Piszczor Rink** (EE '99)

#### Professional Achievement Award

**Prasad Kodukula** (Ph.D. ENVE '84)

**George Langford** (M.S. BIOL '69, Ph.D. '71)

**Aesop Rhim** (M.S. DSGN '70)

**George Schutter III** (ACCT '92)

**Madhava Syamlal** (M.S. CHE '81, Ph.D. '85)

**Nick Thomopoulos** (Ph.D. IE '66)

**Anthony Trozzolo** (CHEM '50)

To learn more about the winners of the 2009 Alumni Awards or to nominate alumni for next year's ceremony, visit [www.iit.edu/alumni](http://www.iit.edu/alumni).



Share Your News!

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

# classnotes

## 1940s

### Herbert S. Levinson

(CE '49), New Haven, Conn., gave the seventh Armour College of Engineering Distinguished Lecture, entitled "Managing Access: Broadening the Perspective," in May 2008.

## 1950s

### C. C. Rila

(Ph.D. CHEM '55), Mount Pleasant, Iowa, has been living in Mount Pleasant for 42 years. He retired from the Iowa Wesleyan College Chemistry Department in 1992 and then worked as a full-time consultant at the Iowa Army Ammunition Plant for nine years. He still does some consulting. He enjoys his huge vegetable garden, and last fall went on his fifth Alaskan wilderness canoe trip, to the John River, located nearly 150 miles above the Arctic Circle.

## 1960s

### Joseph C. Benedyk

(MET '61, M.S. '63), Lake Zurich, Ill., was appointed editor in 2007 of *Light Metal Age* magazine, an international trade journal devoted to reporting on technical and business developments in the light metals industry. In January 2008, he also completed and published a chapter on 6061 aluminum alloy for the *Air Force Structural Metals Handbook*. For this article, much of his research data was obtained at the MMAE's Thermal Processing Technology Center, and it included the application of the localized and rapid retrogression heat treatment process that he invented for improving 6061 formability in hard tempers (five United States patents).

### Rudolph J. Dichtl

(EE '61), Boulder, Colo., sends word of the passing of his wife of 48 years, Joan Lottie Smith Dichtl, on September 16, 2008. The two were married while he was a student and Air Force ROTC member at IIT. Joan worked as a secretary in the IIT Department of Chemical Engineering until the birth of their first child in 1961.

### Bhakta B. Rath

(Ph.D. MET '63), Washington, D.C., was conferred with the Padma Bhushan, an Indian civilian decoration that is third in the hierarchy of civilian awards in India. It recognizes distinguished service of a high order to the nation, in any field. Rath is the head of Materials Science and Component Technology Directorate and associate director of research of the Naval Research Laboratory. He has published more than 200 technical papers, has received two publication awards, and has edited and co-edited more than 20 books on diverse topics in materials science and engineering. Rath is a member of the National Academy of Engineering.

### Gintaras V. Reklaitis

(CHE '65), West Lafayette, Ind., was named to the National Academy of Engineering in 2007. Reklaitis is the Edward W. Comings Distinguished Professor of Chemical Engineering at Purdue University and serves on the Advisory Board of the IIT Department of Chemical and Biological Engineering.

### James S. Nasby

(EE '67), Skokie, Ill., recently resigned from the position of director of engineering at Master Controls and is actively seeking new opportunities to help or assist people or organizations. He has presented numerous seminars and has written articles and co-authored books on fire pumps and controllers. Nasby is also owner of Columbia Engineering.

### Steven B. Poster

(DSGN '67), Virginia Beach, Va., exhibited his black-and-white photography at *Around the Edges*, an exhibition held last June through August at AFP Galleries in New York City. Poster is perhaps best known for work as a cinematographer for the Hollywood studios, where his credits include director of photography for *Someone To Watch Over Me* and *Donny Darko*.

### Kishor M. Kulkarni

(M.S. MAE '68, Ph.D. '72), Carmel, Ind., retired as president of Advanced Metalworking Practices, the company he founded in 1984. The company has produced ready-to-use feedstocks for metal injection molding since 1988.

### Leon J. Hoffman

(M.S. PSYC '69, Ph.D. '70), Chicago, continues to enjoy his thriving private practice of psychology and psychotherapy, and consultation with individuals and groups in the Chicago area. A frequent presenter and writer of articles related to psychology, Hoffman also maintains his active lifelong involvement as a chamber music cellist.

### Peter C. Pran

(M.S. ARCH '69), Lawrence, Kan., and his company, Peter Pran Design, along with NBBJ, was included in *Phaidon Atlas of 21st Century World Architecture* in fall 2008, which includes the best buildings built in the world since 2000, for their work on the Telenor headquarters. The 70-story The Sail at Marina Bay, Singapore, designed by co-design principals Pran and Tim Johnson of NBBJ New York, was completed in February 2009. In fall 2008, this building received the two highest MIPIM Design Awards for Asia.

## 1970s

### Hansraj C. Maru

(M.S. CHE '70, Ph.D. '75), Brookfield, Conn., delivered the plenary address, titled "Where are the Fuel Cells?" at the launch of the IIT Wanger Institute for Sustainable Energy Research in March 2008.

### Dennis J. Bieschke

(MAE '72), Lemont, Ill., joined NetGain Technologies, LLC in 2005. He and the other four owners now have a newly developed patent-pending technology that converts existing gasoline or diesel-fueled vehicles into hybrid vehicles. The EAS system, installed in less than one day, can save 15–25 percent of normal fuel consumption and lower the emissions from the engine.

### Scott W. Petersen

(LAW '72), Chicago, works as an international trademark and copyright counsel with the Chicago office of Holland & Knight. He has been performing for nearly three years in the Chicago production of *Pleading for the Future*, a one-act play based upon the closing arguments in the famous 1924 trial of Leopold and Loeb, at which Clarence Darrow represented the defendants.

### Michael J. Belcher

(Ph.D. PSYC '73), Marion, Ohio, opened the nightclub Marion Crossroads Bar and Restaurant last September.

### Henry T. Kohlbrand

(CHE '73), Midland, Mich., global R&D director of engineering and process sciences in core R&D at The Dow Chemical Company, has been elected president of the American Institute of Chemical Engineers (AIChE). He will assume the role in 2010 after serving a one-year term as president-elect. Kohlbrand is the third alumnus of the Department of Chemical and Biological Engineering (ChBE) to be elected president of the association. He also serves as the chair of the Advisory Committee for ChBE.

### Stephen B. Ruben

(LAW '73), San Francisco, is serving as a member of the Elkins Family Law Task Force, a commission directed by California Supreme Court Justice Ronald George. The purpose of the task force is to address current family-law practice and court processes and procedures, to ensure access and fairness to all litigants in California. Ruben is a certified family specialist and one of six attorneys in private practice serving on the statewide commission.

**Candace J. Fabri**

(LAW '75), Chicago, was retained as a judge in Cook County Circuit Court in the election of November 2008.

**Deborah A. Sperlak**

(LAW '76), Denver, in solo practice concentrating in the area of alternative dispute resolution, served as an adjunct professor at the University of Denver Sturm College of Law during the fall semester of 2008. She also coaches student mediators in role-playing situations for the Colorado Bar Association, as well as for the University of Denver University College, the Mountain States Employers Council, and with various individual trainers.

**Ronald A. Stevens**

(LAW '76), Alexandria, Va., is the president of ChangeWays, LLC, a private consulting firm.

**Michael L. Abramson**

(M.S. DSGN '77), Chicago, had his photography showcased in a cover story of the *Chicago Tribune Magazine* in May 2008.

**Pamela E. Loza**

(LAW '77), Palatine, Ill., was elected as a new Cook County Circuit Court judge in the election of November 2008. She will fill the 12th Subcircuit vacated by the Honorable Donald Devlin.

**Kathleen M. McGury**

(LAW '77), Chicago, was retained as a judge in Cook County Circuit Court in the election of November 2008.

**Daniel P. O'Sullivan**

(LAW '77), Washington, D.C., is the deputy sergeant at arms for the United States Senate. The office provides security for the members, guests, and visitors to the Senate and commands a security force of approximately 1,000 officers. He and his wife, Diane, and their two dogs live in Washington, D.C.

**Roger Retzlaff**

(ARCH '77), Shorewood, Wisc., joined Berners-Schober Associates, Inc. in Green Bay as a project architect. Retzlaff is registered in the state of Illinois. One of his recent notable projects was the exterior detailing for the Milwaukee Art Museum.

**Michael J. Gallagher**

(LAW '78), Chicago, was retained as an Illinois 1st District Appellate Court judge in the election of November 2008.

**Suellen M. Kelley-Bergerson**

(LAW '78), Evergreen Park, Ill., is celebrating the recent birth of her first grandson, Braedan Kelley, to her daughter, Mary Clare, and the upcoming wedding of her son, Martin Dugan, to Sarah Harrigan, a Buffalo, N.Y., native.

**Susan O'Leary**

(LAW '78), Joliet, Ill., was retained as a judge in Will County in the election of November 2008.

**Kazimer Ignarski**

(CS '79), Orland Park, Ill., co-authored a book about the Chicago Cubs, *Cubs By the Numbers* (March 2009). The book is a complete history of the Cubs since 1932, when the team first wore uniform numbers; each chapter is about the players who wore a specific number.

## 1980s

**Ronald B. Schwartz**

(LAW '80), Deerfield, Ill., a former faculty member of the IIT Chicago-Kent Legal Clinic, is an employment law lawyer at Katz, Friedman.

**David W. Kash**

(LAW '81), Scottsdale, Ariz., was appointed to the Foundation Board of the International Association of Defense Counsel (IADC), where he also is the chairman of the Alternative Dispute Resolution Committee. He is leading his committee to develop the IADC International ADR Academy, planned to be held in Chicago in November 2009.

**Alice K. Kush**

(LAW '81), Ottawa, Ill., is now vice president and general counsel of Ottawa Regional Hospital and Health System.

**Shelley L. Sutker-Dermer**

(LAW '82), Skokie, Ill., was retained as a judge in Cook County Circuit Court in the election of November 2008.

**Anne M. Burke**

(LAW '83), Chicago, was retained as an Illinois State Supreme Court judge in the election of November 2008.

**Gary C. Cathey**

(CE '83), Sacramento, Calif., was appointed as chief of the Division of Aeronautics of the California Department of Transportation (Caltrans).

**Katherine S. Dedrick**

(LAW '83), Hinsdale, Ill., was named among the 2008 "Women to Watch" by *Business Insurance Magazine*.

**Joseph R. Lopez**

(LAW '83), Chicago, celebrates the recent birth of his son, Rocco. Lopez also appeared in *Marquis Who's Who in American Law* for the third year.

**Michael Plesniak**

(ME '83, M.S. '84), Washington, D.C., professor of engineering and applied science, and chair of The George Washington University's Department of Mechanical and Aerospace Engineering, was named a fellow of the American Physical Society.

**William T. O'Brien**

(LAW '84), Skokie, Ill., was retained as a judge in Cook County Circuit Court in the election of November 2008.

**David J. Pyrcz**

(M.B.A. '84), Murrieta, Calif., was named as chief executive officer and member of the Board of Directors of Nexsun Corp, a leader in renewable energy and biofuels development and production.

**Edward A. Arce**

(LAW '85), Markham, Ill., was elected as a new Cook County Circuit Court judge in the election of November 2008.

**Anita M. Alvarez**

(LAW '86), River Forest, Ill., was elected as Cook County state's attorney in the election of November 2008.

**Margaret A. Brennan**

(LAW '87), Indianhead Park, Ill., was retained as a judge in Cook County Circuit Court in the election of November 2008.

**Major R. Coleman**

(LAW '87), St. Thomas, U.S. Virgin Islands, received the Attorney General's Special Commendation Award for his service in Iraq. The award honored his work as resident legal advisor to the Law and Order Task Force in Rusafa, Iraq. Coleman currently serves as Assistant United States Attorney.

**Steven A. Lee**

(LAW '87), Westfield, N.J., was recently admitted to the bar of the United States Supreme Court through the sponsorship of the National Association of Criminal Defense Lawyers.

**John Noverini**

(LAW '87), Carpentersville, Ill., was elected as a new Circuit Court judge in Kane County in the election of November 2008.

**Abbey F. Romanek**

(LAW '87), Wilmette, Ill., is running for the position of judge in the 9th Subcircuit. The primary is in February 2010.

**Laura M. Sullivan**

(LAW '87), Oak Lawn, Ill., was retained as a judge in Cook County Circuit Court, having served since 2002, in the election of November 2008.

**Cynthia B. Lafuente**

(LAW '88), Wilmette, Ill., has joined the Congressional Joint Committee on Taxation, the bi-partisan, bi-camera group that advises Congress on tax legislation and advises the Senate on proposed income tax treaties.

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

## Janice V. Mitrius

(ME '88), Westchester, Ill., was elected as the first woman president of Banner & Witcoff, Ltd., a leading intellectual property law firm.

## Barrett F. Pedersen

(LAW '89), Franklin Park, Ill., was a candidate for mayor of Franklin Park in the April 2009 election.

## Peter J. Roskam

(LAW '89), Wheaton, Ill., was retained as an Illinois Congressman, representing the 6th District, in the election of November 2008.

## 1990s

### Everette James

(LAW '90, M.B.A. '90), Harrisburg, Pa., was confirmed as Pennsylvania health secretary.

### Eileen M. O'Neill-Burke

(LAW '90), Chicago, was elected as a new Cook County Circuit Court judge in the election of November 2008.

### Patricia S. Kocour

(LAW '91), Chicago, was recently elected to the Board of Directors of the Illinois Society of Trial Lawyers.

### Mark M. Burden

(LAW '92), Chicago, was named among the top attorneys in Illinois for 2009 by *Illinois Super Lawyers* magazine and was featured in the February issue of *Chicago Magazine*. Only five percent of the lawyers in the state are named by *Super Lawyers*.



## Masud A. Kushabi

(ARCH '93), Evanston, Ill., married Margo Schaefer in August 2008.

## Christopher E. Tracy

(LAW '93), Kalamazoo, Mich., joined the firm Honigman Miller Schwartz and Cohn, LLP (Honigman) as a partner in its litigation department.

## Ursula H. Walowski

(LAW '93), Chicago, was elected as a new Cook County Circuit Court judge in the election of November 2008.

## Scott W. Johnston

(LAW '94), Minneapolis, Minn., was named one of the "Top 50 IP Attorneys Under 45" in the May 2008 issue of *IP Law & Business*. He and his wife, Brigitt Orfield, welcomed a new baby to their family.

## Julie M. Nichols Matthews

(LAW '94), Chicago, was named as a partner at Wildman, Harrold, Allen, and Dixon, LLP.

## Kathleen M. McDonough

(LAW '94), Chicago, was named among the top attorneys in Illinois for 2009 by *Illinois Super Lawyers* magazine.

## Daniel Seltzer

(LAW '94), Oak Park, Ill., accepted a fellowship position at the Center for Bioethics, Science, and Society at Northwestern University.

## Valerie L. Mason-Robinson

(CHE '97), Piscataway, N.J., launched the natural, eco-friendly skincare line, Eden Organix, of which she is also chief executive officer.



## Charles Bezerra

(Ph.D. DSGN '00), Sao Paulo, Brazil, published the book *The Humble Designer: Logic and Ethics for Innovation in Brazil* (Rosari), which covers many aspects of design, including multidisciplinary perspectives, problem identification, methodology, and sustainability. Bezerra and Motorola won the 2008 IDEA/Brazil Award for MotoID, an application for Motorola cellular telephones.

## Dorothy A. Brown

(LAW '96), Chicago, was retained as clerk of Cook County Circuit Court in the election of November 2008.

## Karen M. Lynch Calton

(LAW '97), Washington, D.C., celebrated the birth of twin daughters Katherine and Caroline in April 2008.

## Karen S. Coffey

(LAW '98), Chicago, became a foster parent in November 2008.

## Tanye Harrison

(CHE '99), Chicago, was named as the managing director of the IIT Career Management Center.

## Athar A. Khan

(EE '99), Chicago, married Denise Alameddine in August 2008.

## Thomas Poulos

(M.A.S. STE '99), Park Ridge, Ill., was promoted from vice president/principal to senior vice president/principal of Thornton Tomasetti, a company providing structural design, building evaluation, and remediation to optimize building efficiency and performance.

## 2000s

### Cameron B. Clark

(LAW '00), Chicago, was recently elected to the Board of Directors for the Workers' Compensation Lawyers Association and was selected as a Leading Illinois Attorney in the area of workers' compensation law.

## John H. Gountanis

(LAW '00), Naperville, Ill., was recently promoted to deputy chief counsel at the United States Department of Homeland Security, U.S. Immigration and Customs Enforcement's Office of the Chief Counsel located in Chicago.

## Brent R. Gustafson

(LAW '00), Chicago, and his wife, Heather, welcomed their first child in February 2009.

## Michele S. Katz

(LAW '00), Chicago, is now a partner with the firm Husch Blackwell Sanders Welsh & Katz. She also won the Corporate Woman of Achievement award in 2008 from the National Association of Women Business Owners.

## Joshua R. More

(LAW '00), Chicago, was just elevated to partner at Schiff Hardin, LLP. He and his wife are expecting a third child in June.

## David J. Mulvihill

(LAW '00, LL.M. FS '05), Chicago, recently accepted a position as assistant general counsel with Bank of America (BOA) following BOA's acquisition of his former employer, Chicago-based LaSalle Bank Corporation.

## Kristyna C. Ryan

(LAW '00), Oak Park, Ill., was elected as a new Cook County Circuit Court judge in the election of November 2008.

## Leanne M. Striegel-Baker

(LAW '00), Des Moines, Iowa, was married in November 2008.

## Shital H. Thakkar

(LAW '00), Oak Lawn, Ill., and his wife, Lisa, celebrated the birth of their son Kaden in March 2008.

## Jerome J. Chiecchio

(AE '01), Atlanta, and Professor David Williams, with the input of Professor Emeritus John Way, found and photographed the Richat Structure in the Sahara Desert last May.

## Inga Kacevska

(LL.M. LAW '01), Riga, Latvia, opened the Law Office of Inga Kacevska in April 2008.

## Tina G. Stavrou

(LAW '01), Washington, D.C., accepted a position as assistant general counsel with the North American Securities Administrators Association.

## Eric T. Harstad

(LAW '02), Boston, and his wife, Liz, celebrated the birth of their first child, Nora, in April 2008.

## Jamie L. Ryan

(LAW '02), Riverside, Ill., was recently named as a Rising Star for 2009 by *Illinois Super Lawyers* magazine. She and her husband, James Wideikis (LAW '02), celebrated the birth of their baby girl, Angela, in September 2008.

# Your gift helps keep the lights on.

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Thousands of alumni make annual gifts to the IIT Fund in support of scholarships, laboratories, and, yes, even the cost of energy-efficient light bulbs to keep our students out of the dark.

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you're transforming lives.



Taylor, first-year psychology major

Trey, third-year architecture major

## Neil E. Jenkins

(M.S. FM '03), Kenilworth, Ill., was named to the Board of Directors of the Shivas Irons Society, a nonprofit organization dedicated to providing members with opportunities for community, discovery, and transformation through golf.

## Dirk Pauli

(LL.M. LAW '03), Stuttgart, Germany, is a senior associate at CMS Hasche Sigle, a leading German law firm.

## Angie S. Rhee

(LAW '03), Chicago, was elected to the Board of Directors of SmithGroup, one of the nation's leading architecture, engineering, interiors, and planning firms.

## Cindy S. Stuyvesant

(LAW '03), Chicago, married her husband, George, on September 20, 2008, and continues to practice at Vedder Price in Chicago.

## Traci P. Nixon

(M.P.A. '07), Chicago, was recently hired as a vocational coordinator and qualified mental retardation professional by Easter Seals.

## Brandon D. Lloyd

(AE '08), Houston, is engaged to Jenna Jones.

## Rachel H. Solomon

(LAW '08), Studio City, Calif., became engaged to her fiancé, Mark, an orthopedic resident at Northwestern Memorial Hospital, in fall 2008.

## Taeho Wang

(DSGN '08), Republic of Korea, and Min-Joong Kim (DSGN '09) won second place in the Microsoft/IDSA Next-Gen PC Design Competition, for WITHUS, a computer helping preschool children shape values and human relationships by encouraging them to play and learn through multi-user interactions.



### AICHE Conference Reception

IIT alumni, friends, and faculty at the IIT alumni reception in conjunction with the 2008 American Institute of Chemical Engineers conference in Philadelphia



### AITU Alumni Reception

[Left to right] Brad C. Krygier (MGT '80), Diane Krygier, Pat Anderson, and IIT President John Anderson at the Association of Independent Technological Universities IIT alumni reception in Orlando, Fla.



### A Day at the Races

Marian Marum and Robert Mellott (ARCH '69) at the Southern California Chapter alumni event A Day at the Races at the Del Mar Thoroughbred Club



### IIT<sup>10</sup> Wine Class

IIT<sup>10</sup> alumni and friends practice aerating and swirling wine during the IIT<sup>10</sup> wine class and tasting event in S. R. Crown Hall.



### CAEE Networking Dinner

[Left to right] William Lavicka (CE '67), Kenneth Johnson (CE '67), and Robert Johnson (CE '69, M.S. '71) at the 10th annual civil, architectural, and environmental engineering networking dinner



### Seattle Mariners Game

Luke Ransom and Scott Ransom (EE '91, M.S. '95) at the Seattle Mariners game at the IIT Seattle Chapter alumni event at Safeco Field



### Mies' 123rd Birthday Party

[Left to right] Justine Jentes (director of the Mies Society), model showing dress inspired by Dirk Denison Architects' Culver House (Dirk S. Denison, ARCH '83, M.B.A. '85), and Chandra Goldsmith Gray (adjunct faculty, landscape architecture)



Ron Krueck (ARCH '70) with model and IIT staff member Lisa Christiano, wearing a dress inspired by the Spertus Institute of Jewish Studies

Dress design inspired by Carr Memorial Chapel, the current restoration project of the Mies van der Rohe Society



Photos: Dan Kuruna

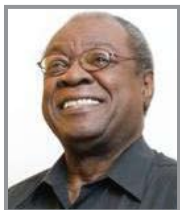
# Upcoming Alumni Events

For 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.

## Nate Thomas Tribute Event

**Saturday, June 27, 2009**

IIT Main Campus  
Chicago



*This special event honors Nate Thomas, who served at IIT for 22 years in various staff positions and was responsible for greatly increasing first-year student enrollment in the 1970s and '80s. His innovative*

*and spirited recruitment work was instrumental in increasing the number of African-American and Hispanic students who enrolled and graduated from IIT and went on to become successful professionals. Members of IIT's Black Alumni will also host a reception. For more information about this event, please visit [www.iit.edu/alumni](http://www.iit.edu/alumni).*

## Northern California Alumni Chapter Event

**July 2009**

San Francisco

## Southern California Alumni Chapter Event

**July 2009**

Encino, Calif.

## White Sox vs. Detroit Tigers Alumni Lunch

**August 2009**

Detroit Regional Alumni Chapter

Detroit

## Jimmy Fig's

160 North Franklin Street  
Chicago

*Join other Chicago-area alumni every second Thursday of the month for our Thirsty Thursday events from 4–7 p.m.*



### Upcoming dates

June 11, 2009

July 9, 2009

August 13, 2009

September 10, 2009

October 8, 2009

## Career Fair

**Thursday, September 17, 2009**

IIT Main Campus  
Chicago

*The Career Management Center is hosting the fall Career Fair. Companies in the areas of engineering, science, business, psychology, architecture, and liberal arts are looking to talk to potential candidates regarding co-op, internship, and full-time employment opportunities. If your employer is interested in being a part of the Career Fair, please contact ReLandra Lindsey at 312.567.6490 or online through the Career Management Center website at [www.cmc.iit.edu](http://www.cmc.iit.edu). All alumni are welcome to participate.*

## Alumni Awards Nominations Due

**Friday, October 16, 2009**

*Do you know of an outstanding accomplished alumnus or alumna? If so, nominate him or her for one of the 2010 IIT Alumni Awards. Nominations are due on October 16, 2009. Information about how to nominate an individual for one of the awards can be found at <http://alumni.iit.edu/awards>.*

## Fifth Annual Pumpkin Launch

**October 2009**

IIT Main Campus

Chicago

## IIT Lecture

**October 2009**

Detroit Regional Alumni Chapter

Detroit

## Biomedical Engineering Alumni Reception

**Wednesday–Friday, October 7–9, 2009**

*In conjunction with the Biomedical Engineering Society annual meeting*  
Pittsburgh

## Alumni Holiday International Alumni Campus Abroad Program

**Wednesday, October 7, 2009**

China and the Yangtze River

# Homecoming September 2009

Homecoming weekend brings alumni and students together to celebrate their lifelong connection to IIT. If you have not visited IIT in recent years, this is the perfect opportunity to see the many changes to its landmark campus. Join IIT students in showing your school spirit, and rediscover the traditions that made your time at IIT memorable. Homecoming activities include the following:

## Golden Alumni Society Reunion

The Golden Alumni Society recognizes alumni who are celebrating the 50th anniversary of their graduation from IIT. Members of the Class of 1959 will receive their Golden Alumni Society medallions, be recognized for this anniversary milestone, and have a chance to visit with President John Anderson.

## IIT Former Varsity Athlete Alumni Reunion

Former players from IIT varsity athletic teams are invited to come back to campus, see old teammates, and watch the former players from the men's baseball teams scrimmage against the current varsity team.

## IIT<sup>10</sup> Party in the Bog

Join other graduates from the past 10 years (earlier graduates are welcome, too) in the campus bar and recreation area. There will be entertainment and snacks, and the first couple of drinks are on us.

## Family Fun Carnival

Bring the whole family to a carnival with rides, games, and the annual golf cart parade. Meet current students, visit with old friends, and spend time with your family.

## Barbecue lunch and more!

Please keep an eye on your email and your mail for more Homecoming information in the next few months. If you are interested in volunteering your time at this year's event, please contact **Dylan Easley** at alumni@iit.edu or at 800.IIT.ALUM (448.2586).

## Daniel Koblick

Department of Biology  
(Department of Biological, Chemical, and Physical Sciences)  
Chicago



Daniel Koblick led a distinguished life in both science and music. At Illinois Institute of Technology, he served as associate professor of physiology from 1963–1991 and taught in the Science and Mathematics Initiative for Learning Enhancement for several summer terms. Before coming to IIT, Koblick held a variety of positions at what is now San Francisco State University, as well as at the University of Oregon (UO),

the University of Missouri–Columbia, and the University of California Berkeley. Koblick received his undergraduate degree from Berkeley in 1944 and his doctorate from UO in 1957.

Upon his retirement from IIT, Koblick gave his full attention to his avocation—music—earning a master’s degree in musicology from Roosevelt University and pursuing advanced studies in that field at the Sorbonne and the University of Chicago. Years earlier, Koblick studied piano and conducting, and played viola with the San Francisco Youth Symphony Orchestra. He also played viola with the Hyde Park Chamber Orchestra and the University of Chicago Symphony Orchestra.

Koblick is survived by Joan Lesser Koblick, his wife of 48 years, two daughters, a granddaughter, a sister, and a brother.

## Rodolfo M. Soria

Ph.D. EE '47  
Kents Hill, Maine

After receiving bachelor’s and master’s degrees from Massachusetts Institute of Technology, Rodolfo Soria went on to obtain his doctorate in electrical engineering from Illinois Institute of Technology in 1947. He was employed at the Amphenol-Borg/Bunker-Ramo Corporation, one of the largest interconnect product companies in the world, and rose to the position of vice president of research and development. Soria was widely recognized for his scientific contributions and was named a fellow of the Institute of Technical Scientists in 1958.

Upon retiring to Maine, Soria continued his involvement with the Unitarian Universalist Church and enjoyed many cultural opportunities. He is survived by many family members, including Faith, his wife of nearly 61 years, two sons, a daughter, and two grandsons.

## Lionel Shub

EE '48  
Williamsville, N.Y.

Lionel Shub spent his entire career at Bell Aerospace, where he served as chief engineer of the company’s Advanced Systems, Niagara Frontier Operations, from 1949–1987. After earning his bachelor’s degree in electrical engineering from Illinois Institute of Technology in 1948, Shub went on to obtain a master’s degree from the University of Illinois and did a year of postgraduate study at Massachusetts Institute of Technology.

Shub was very active in his community, holding leadership roles within the Service Corps of Retired Executives, counseling older persons in tax matters, and serving on the board of the Amherst Senior Center Foundation. Shub is survived by his wife, Ann Lyon Shub, and other family members.

# obituaries

## James S. Peters II

M.S. PSYC '52  
Storrs, Conn.



One of James Peters’ proudest moments was in 2005, when Connecticut Governor Jodi Rell nominated him as one of the first 10 inductees in the state’s newly established Veterans’ Hall of Fame. The induction honored work Peters did during World War II that brought about the end of segregation in the United States Navy in 1945, three years before the other armed forces were mandated to do so. He conducted this work at

Naval Station Great Lakes in Illinois.

After the war, Peters served as a counselor for Chicago’s Veterans Administration and obtained a master’s degree in psychology from Illinois Institute of Technology in 1952. Peters attended IIT during the tenures of Philip Shurrager, chair of the Department of Psychology, and his wife, Harriet, professor of psychology, both of whom Peters credited for his warm welcome and excellent experience during a time when other universities in the Chicago area were not as welcoming to African-American students. Two years after graduating from IIT, Peters obtained a doctorate from Purdue University.

He was appointed director of the State of Connecticut vocational rehabilitation program in 1957. Twenty-five years later, Peters retired from his position with the state as deputy commissioner of education and established a private practice in psychology. In addition to being the first African American to receive a faculty appointment at Springfield College, Peters held faculty positions at the University of Hartford, the University of Connecticut, and Southern Illinois University. The author of 30 books on a wide variety of subjects of professional and personal interest, Peters also served on the boards of several community organizations, including the Greater Hartford Urban League, which he helped to found. Peters returned to IIT in April 2006 at the age of 89, with his daughter, Kimberly, to attend the 40th anniversary of the Division of Rehabilitation Counseling.

Peters was preceded in death by his wife, Marie Ferguson Peters. He is survived by two daughters, one son, four grandchildren, and many nieces and nephews.

## James F. Quetsch

LAW '59  
Geneva, Ill.

James Quetsch began his practice of law in Chicago, where he worked for four years before joining the law firm of Gates Clancy in Geneva and then Corrigan & MacKay in Wheaton. Several years later, and with a solid reputation as a trial lawyer, Quetsch became a partner in the expanded firm of Corrigan, MacKay, Quetsch, and O’Reilly. From 1975 to his retirement in 1994, Quetsch advanced in a series of judgeship roles, from his appointment as a Kane County Court associate judge to his election to full judge of the 16th Judicial Court. In 1992, Quetsch was promoted to Illinois Appellate Court Justice in the Second District.

Quetsch is survived by Patricia Quetsch, his wife of 52 years, four daughters, two sons, 10 grandchildren, a great-grandson, a sister, a brother, and his cherished dog.



## William A. Nash

CE '44, M.S. MECH '46  
South Hadley, Mass.



As a structural researcher at the Bethesda Naval Institute from 1953–57, William Nash participated in a unique experience: the deepest recorded (and still classified) naval dive and reverse engineering operation of recovered Soviet submarines off the coast of Norway. In addition to his work at the naval institute, Nash served as a research engineer at the Naval Ship Research and Development Center in Washington, D.C.

A Chicago native, Nash attended Roger C. Sullivan High School. After graduating from IIT, where he was valedictorian in 1944, Nash went on to obtain a doctorate in mechanical engineering from the University of Michigan before joining the faculty of the University of Notre Dame. He continued his academic career at the University of Florida, where he headed and served on the faculty of the Department of Mechanical Engineering from 1958–1967. He then joined the faculty of the University of Massachusetts, where he was professor of mechanical and civil engineering from 1967–1995. He also was an honorary professor of engineering at Shanghai University of Science and Technology for his work on seismology. Throughout his career, Nash served as a consultant to the military, Lockheed International, General Electric, and the Jet Propulsion Laboratory.

Nash authored the engineering textbook *Strength of Materials*, which sold more than 1 million copies in nine languages, and founded and edited the *International Journal of Non-Linear Mechanics*. Among the awards he received were the Curtis W. McGraw Research Award, the Alexander von Humboldt Award, and in 2006, the IIT Distinguished Alumni Award.

Nash is survived by Verna Nash, his wife of 55 years, a son, a daughter, and five grandchildren.

# in memoriam

**George W. Boucek**  
LAW '33  
Milwaukee, Wisc.

**Earl W. Gosswiller**  
ME '34  
Westmont, Ill.

**Chedo P. Graham**  
CE '35  
Deerfield, Ill.

**John J. Lannon**  
LL.B. LAW '37  
Glen Ellyn, Ill.

**Nils K. Anderson**  
CHE '38  
Ozark, Mo.

**Liberty B. Dvorak**  
LAW '39  
Riverside, Ill.

**Norman A. Freeman**  
LAW '40  
Naples, Fla.

**Leonhard W. Holmboe**  
EE '41  
Roscoe, Ill.

**Michael W. Larinoff**  
ME '41  
Trinity, Fla.

**Edward W. Ruhe**  
ME '41  
Carefree, Ariz.

**Ben T. Prather**  
ME '42  
Barrington, Ill.

**Bert W. McCleneghan**  
ME '43  
Portage, Mich.

**Raymond H. Schultz**  
ME '43  
Grand Junction, Colo.

**Leroy Simpson**  
ME '43  
State College, Pa.

**Edward B. Ahlers**  
ME '44  
Chicago

**James P. Barris**  
CE '44  
Northbrook, Ill.

**Michel A. Coccia**  
IE '44  
Phelps, Wisc.

**William R. Atchison**  
ME '45  
Greensboro, N.C.

**John J. Schilf**  
CHE '46  
Gulf Breeze, Fla.

**Henry J. Gens**  
EE '47  
Chicago

**Constantine N. Kangles**  
LAW '47  
Chicago

**Glenn M. Neiswander**  
ME '47  
Ada, Ohio

**Robert D. Teasdale**  
M.S. EE '47, Ph.D. '49  
Fullerton, Calif.

**Bernard M. Brenner**  
EE '48  
Alamo, Calif.

**Robert H. Waghorne**  
CHE '48  
Baton Rouge, La.

**Henry J. Barten**  
M.S. MECH '49  
Gainesville, Fla.

**Joseph F. Oles**  
ME '49  
Canton, Ohio

**Harry E. Ritter**  
ME '49  
Rockford, Ill.

**Richard W. Smith**  
ME '49  
Lakeland, Fla.

**Edmund M. Burke**  
ARCH '50  
Orland Park, Ill.

**Robert E. Cronin**  
LAW '50  
Chicago

**Robert M. Grossmann**  
LAW '50  
Burr Ridge, Ill.

**James D. Josephs**  
CE '50  
Port Charlotte, Fla.

**Harry W. Lamberty**  
EE '50  
Orlando, Fla.

**Clifford Mock**  
ME '50  
Maywood, Ill.

**Jack T. Castronovo**  
CE '51  
Sugar Grove, Ill.

**Gregg A. Hunter**  
LAW '51  
Northbrook, Ill.

**Joseph S. Scott**  
CHEM '51  
Lombard, Ill.

**Dorman W. Arnold**  
PHYS '52  
Fayetteville, N.Y.

**Rex E. Beach**  
ME '52  
Lubbock, Texas

**Laurence J. White**  
CHE '52  
Brunswick, Maine

**Wayne C. Wiechmann**  
EE '52  
Wheaton, Ill.

**Alfred C. Kengott**  
ME '53  
North Fort Myers, Fla.

**Donald Paull**  
Ph.D. PSYC '54,  
LAW '74  
Highland Park, Ill.

**Shelbert L. Smith**  
M.S. CHEM '54  
Yellow Springs, Ohio

**George W. Falk**  
M.S. CHE '55  
Prospect, Ky.

**John A. Hertzman**  
DSGN '55  
Raleigh, N.C.

**Joseph D. Martini**  
IE '55  
Ottawa, Ill.

**Leonard Edelson**  
LL.B. LAW '57  
Northbrook, Ill.

**Gohl E. Hutter**  
CE '57  
Yorkville, Ill.

**Maurits C. Blomberg**  
ME '58  
Naperville, Ill.

**Merrill J. Foote**  
IE '59  
Dallas, Texas

**Paul J. Yaunt**  
LING '59  
Palm Springs, Calif.

**Robert R. Halverson**  
EE '60  
Lake Oswego, Ore.

**Mark E. Carpenter**  
EE '61  
Birmingham, Ala.

**William P. Fearer**  
LAW '61  
Oregon, Ill.

**William Mitchell**  
ME '61  
Bloomington, Ind.

**Irvine J. Solomon**  
Ph.D. CHEM '62  
Buffalo Grove, Ill.

**Earl G. Westerling**  
ME '62  
Placentia, Calif.

**Stanley J. Solak**  
ME '64  
Riverdale, Ill.

**Alan I. Stiefel**  
IE '65  
Denver

**Edward V. Mulcrone**  
M.P.A. '68  
St. Petersburg, Fla.

**Frank B. Harding**  
M.S. PSYC '69,  
Ph.D. '71  
Lake Havasu City, Ariz.

**George P. Shallcross**  
LAW '70  
Willowbrook, Ill.

**Diane M. Sears**  
M.S. SOCT '71  
Woodstock, Ill.

**Kenneth C. Crocco**  
ARCH '75  
Harvard, Ill.

**Wayne A. Strahl**  
ECON '78  
Carney, Mich.

**Timothy J. Smith**  
ME '85, M.B.A. '94  
Plainfield, Ill.

**Dolores Erickson**  
LAW '88  
Carmel, Calif.

**Denise Lizen**  
LAW '88  
Frankfort, Ill.

**Michael G. Gaydos**  
CHEM '89  
Garden Prairie, Ill.

**John Pender**  
ME '92  
Oak Lawn, Ill.

**Jeanette M. Riel**  
LAW '01  
Mokena, Ill.

**James R. Stark**  
M.S. CS '04  
Naperville, Ill.

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

**George C. Olson**  
Warrenville, Ill.

**James W. Armsey**  
IIT Director of Public  
Relations 1947–1952  
Urbana, Ill.

**John J. Budz**  
Former IIT Staff  
Member  
Armstrong Creek, Wisc.

**Harold Burnstein**  
University Friend  
Highland Park, Ill.

**Lee King**  
Attendee/Non-degree  
Evanston, Ill.

**Samuel A. Palumbo**  
Faculty Member  
Naperville, Ill.



Source: IIT Archives (Chicago)

## *With the Spring* BY MARCIA FAYE COME THOUGHTS OF SUMMER CAMP

From June to July during the years 1905 through 1963, a rotating cadre of Illinois Institute of Technology undergraduates with tripods, level rods, and range poles in hand set off for the woods of Michigan and Wisconsin in pursuit of the “civil life”—a multifaceted educational experience that was one part traditional, one part experiential, and two parts old-fashioned, let’s-get-away-from-it-all fun. It may have been described as “Field Practice in Surveying, Civil Engineering 203” in the college catalog, but to those who attended, it was known simply as Camp Armour.

The creation of Alfred E. Phillips, a civil engineering faculty member, the camp was located in Waukazoo, Mich., until 1914, when it was moved to a parcel of land leased by Armour Institute of Technology (one of IIT’s predecessors) on Wisconsin’s Upper Trout Lake. For six weeks, second-year students could exchange the confines of the classroom for the expansiveness of the outdoors, the grit of the city for the grandeur of nature, and the sound of honking horns for the stillness of pine and birch forests. After a day spent surveying, the group had time for a swim before members would sit down to a dinner of fish they often caught or meat they may have butchered. Weekends were spent in the Michigan and Wisconsin towns of Holland, Minocqua, Woodruff, or Boulder Junction, at the movies, Jenison Park, or Shrimp’s Place, a popular hangout frequented by young women from the local college.

Harold Bretz, associate dean of what was formerly known as IIT’s Graduate School and former associate

professor of microbiology, was Camp Armour administrator from 1958 until its closing. In a letter in which he shared memories of his camp years, Bretz says he settled into a daily routine with the students that was not without its share of high-spirited hijinks:

“We played a lot of volleyball and horseshoes at camp, and softball in the park one evening a week. On Muskie Day each year, we prepared a float for exhibition in the parade. I went to town each day to get the mail and on Monday to take laundry to the laundromat. I drove a blue VW Beetle, and one morning I found it parked in the main lodge dining room. Breakfast was delayed until the visitor was removed.”

By the 1960s, Bretz says the surveying camp idea was considered outdated, and the overgrown woods surrounding the property presented increasing obstacles for fieldwork. The camp was closed and Frederic Copp, the facility’s winter caretaker and surveyor with the Department of Natural Resources, helped to return the camp to its former wild condition, as stipulated in IIT’s agreement with the State of Wisconsin. By the 1970s, all that was left were several surveying markers.

For Bretz, however, the 12 cabins and the main lodge will forever remain. “The Camp Armour years were a special time in my life,” he says. In 2000, Bretz contributed his collection of slides capturing camp life to the IIT Archives. In a message sent to Catherine Bruck, university archivist, Bretz posed the question: “Isn’t it a human duty to let the next generation know where we have been?” Because Bretz did his duty, the memory of “civil life” at Camp Armour lives on. ■

IIT PROFESSOR AND IPRO 309 INSTRUCTOR  
KEVIN MEADE IN EL SALVADOR WITH  
SCOLIOSIS PATIENTS

# BIENVENIDOS TO ORTHOTICS AND PROSTHETICS 101



**AN INTERPROFESSIONAL PROJECT (IPRO) COURSE** joins together students from various disciplines to study a real-world problem. Over the last couple of years, IIT students from IPRO 309 have developed 22 educational modules to address the lack of educational materials required for training prosthetic/orthotic technicians in Latin America as well as the United States. This new curriculum is already leaving a mark as it is now being utilized in new programs at Centro Don Bosco in Bogotá, Colombia, and at Joliet Junior College in Joliet, Illinois. The above photo of Meade hangs in his office and is an inspiration to Meade daily.

**Do you know a young person who has the creative energy and the desire to make a positive impact in people's lives?**

If you know prospective students who share your passion for innovation and technology, we invite you to refer them to us. Please contact Gerald P. Doyle, vice provost, undergraduate admission and financial aid, at 312.567.5203 or [doyle@iit.edu](mailto:doyle@iit.edu).

If you want to learn more about IPROs, please contact Tom Jacobius, director of the Interprofessional Projects Program, at 312.567.3986 or [jacobius@iit.edu](mailto:jacobius@iit.edu).

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**alumni.iit.edu**

Free access to all IIT alumni!

Announcing the  
IIT Alumni Association's

# Online Community

**NEW!**

## Catch up with old friends:

- Read or submit marriage, birth, and promotion announcements
- Post and view photos and contact information
- Send messages to other alumni
- View the online alumni directory

## Take advantage of the great network of IIT alumni:

- Get event invitations and reminders
- Register online for events in your area
- Learn about services for alumni
- Stay up to date on Alumni Association programs and activities
- Join discussion groups

## Rediscover your alma mater:

- Read the latest news from IIT
- Volunteer at campus and regional events
- Mentor a current IIT student
- Stay informed about IIT initiatives
- Make an online donation

## Connect Today!

- Go to **alumni.iit.edu**
- Click on **First Time Login** on the left side of your screen
- Look up your last name
- Select your name and click next
- Then enter your **personal ID number**, located above in the address block of this magazine
- From there you'll be prompted to choose a login and password
- Create a personal profile for your old friends to see, read the news, and enjoy the community!

If you are an IIT Chicago-Kent College of Law or IIT Institute of Design graduate, you may be familiar with preexisting online communities that those academic divisions have created. The IIT Alumni Association Online is a similar, but separate, system that enables you to connect with all of IIT's 60,000+ alumni and stay up to date on university-wide news and events.

