

ILLINOIS INSTITUTE OF TECHNOLOGY

iit magazine

Fall 2012

Rising to the Challenge: STEM Education at IIT

science • technology • engineering • mathematics

stem

KORI MILROY AND JASON TENENBAUM
Out-of-This-World Endeavors

RAJEEV CHANDRASEKHAR
The Scientist, the Politician, and the Pentium Chip

RESEARCH Tomato Study, Safety in
the OR, Biological Membranes

Letter from the President

“The best scientist is open to experience and begins with romance—the idea that anything is possible.”

—Ray Bradbury



Every day, in every city in the world, the work of scientists, technology professionals, engineers, and mathematicians is on display. It can be seen in the bridges we drive across, the tunnels that house our subways, the interconnected electronic devices we use, and the buildings in which we live and work. It can be found in the electric power grids that provide energy to our hospitals and homes, the algorithms that help us crunch data, and the materials that make our airplanes fast as well as safe and fuel-efficient.

STEM fields (science, technology, engineering, and mathematics) produce innovators and problem solvers extraordinaire—professionals whose impact is far-reaching and life changing. It was a team of engineers who created the first portable cell phone—and an engineer who took those first steps on the moon. Physicists are celebrating the recent discovery of the Higgs boson, the missing link in the theory of sub-atomic particles—and consumers are eagerly anticipating the next generation of smart phones and life-benefiting pharmaceuticals.



IIT is committed to educating the STEM professionals of tomorrow. Our students will be the individuals who will drive future innovation—just as many IIT alumni, including those featured in this issue, continue to do. But providing them a solid curriculum in STEM fundamentals is only the beginning. We also must ignite within our students the passion to create, discover, and lead—and to teach them to view mistakes as opportunities to retool, learn, and improve. We also must instill in them the importance of guiding future generations to pursue innovation.



One of the key ways that we will inspire our students is through our Innovation Center [page 3]. This facility is and will remain a university priority in the coming years. The Innovation Center will be a portal to the future, combining the power of higher education with Chicago-style imagination, determination, and boldness to fuel innovation. I look forward to telling you more about this exciting new facility and what it will mean for IIT’s students, faculty, and research endeavors, as well as Chicago Public Schools students and the local enterprise that also will benefit from it.

By focusing on STEM, innovation, and the community, IIT will be a place where anything is possible.

John L. Anderson

John L. Anderson
President

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Fall 2012

A CHALLENGE FOR THE FUTURE

As the global economic landscape changes, IIT alumni, students, and faculty are raising the bar in Science, Technology, Engineering, and Mathematics (STEM) Education.

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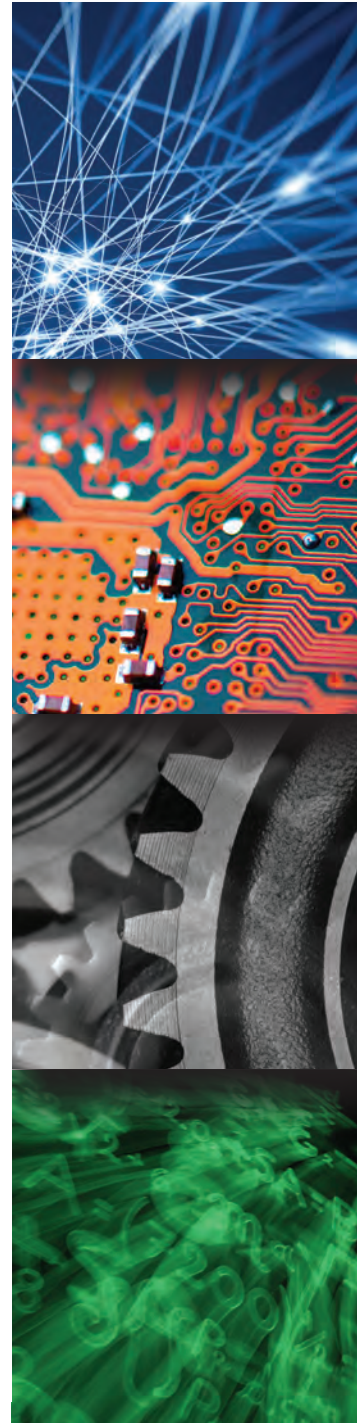
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When Opinions Collide

In your last issue of *IIT Magazine* [spring 2012], you printed a commentary by Eric Swab [DSGN '60], a 1960s-era Institute of Design student. It was highly critical of Crown Hall as a classroom for architects. He says, "...the first floor is about as impractical as a class space as requiring the architecture students to draw those walls of bricks with perfect mortar joints in ink! The building is totally wrong for the Chicago environment—cold, leaky, and putting students in jeopardy of being injured from broken glass when the Windy City was living up to its name. Sound control was non-existent..."

This is a National Historic Landmark. It is the iconic symbol of IIT. It has marshaled hundreds of thousands of dollars from alumni for its restoration and is beloved by a huge majority of its architectural graduates. I cannot conceive any reason you may have had to print a personal opinion, by someone who was a non-architectural student 40 years ago, one who never had a class in the space he condemns, when that opinion is so negative, so narrow, so shallow, and without substance! This is like criticizing the hairstyle of Albert Schweitzer!

I would like to offer a response to Mr. Swab as a person who was a student in Crown Hall for the five-year degree program in architecture from 1956–1961, then as a graduate student and teaching assistant in 1962, and then as an assistant professor teaching in the space from 1965 through 1969. I disagree totally with Mr. Swab's remarks quoted above. Please consider the following:

- Architectural classes are not like engineering lecture classes. The open laboratory was similar to drafting rooms in architectural offices. It offered great opportunities for interaction between classes where students could learn from each other and from the rich diversity of projects at various levels of complexity.
- Crown Hall, by its design and closely integrated course structure, encouraged collaboration and teamwork. It was far ahead of its time and in stark contrast to the isolated designer or engineer operating without collaboration with other professionals and other disciplines.
- The wall of glass provided very good lighting from all angles—key in architectural drafting.
- The open space and free-standing partitions provided flexibility to rearrange the use of space for changes in curriculum and class size, and for displays of student work including large-scale models.
- The open space lent itself to many functions other than teaching. I will never forget the all-school dance with Duke Ellington rocking the place.
- As a student and teacher, I did not have a problem with the acoustics and do not remember when there was a conflict between two teachers speaking with their classes at the same time. Most of the lab work was one-on-one with the teacher or team projects requiring open and flexible space.
- Buildings constructed in the 1950s often did not incorporate air conditioning. Many architects' offices were not air conditioned at the time Crown Hall was built, and the budget did not permit air conditioning.
- The comments about being too cold, and suffering from leaks or wind-blown glass, are simply gross exaggerations. Similarly, his swipe at one project in one course was made with absolutely no comprehension of the purpose, value, nor nature of the brick construction course. Architects are builders, and this course, taken in perspective of the entire curriculum, was a key to understanding the rational philosophy and problem-solving thrust of one of the world's great schools of architecture.

Pete Pointner (ARCH '61, M.S. CRP '62), FAICP, ALA, ITE

[Thank you for sharing your viewpoint. To be clear, Mr. Swab did not write an article for the magazine; he submitted a letter to the editor in response to a brief article on Crown Hall that we published in the immediate prior issue of the magazine. Furthermore, his personal opinion stemmed from his direct experience as a former student in the building. Letters to the editor need not reflect the opinions of anyone on the magazine's staff or at the university.]

If letters are of a threatening nature, contain vulgar language, or are irrelevant to anything published in the magazine, as a policy we will not print them. Otherwise, we welcome open, thoughtful discourse and are happy to serve as a platform for our alumni to share their opinions about the stories that we publish, even when their opinions may disagree. —Ed.]

Write Back

IIT Magazine welcomes all signed letters to the editor and edits letter for content and clarity. Please send correspondence to:

IIT Magazine
c/o Letters
3300 South Federal
Street, Suite 503
Chicago, IL 60616

Email:
iitmagazine@iit.edu

Correction: In the spring 2012 issue, Russel Houser's name was misspelled.

“I” Is for Innovation

On July 19, Chicago Mayor Rahm Emanuel joined IIT President John Anderson at a press conference on Main Campus to announce the university's plans to build IIT's first academic facility in more than 30 years. The Innovation Center, expected to break ground in 2013, will overlook the Dan Ryan Expressway and serve as "a portal to the future," Anderson said.

The proposed 100,000-square-foot building will house IIT's Idea Shop, Leadership Academy, Entrepreneurship Academy, Interprofessional Projects (IPRO) Program, and Institute of Design. It will encourage creativity and enterprise, and feature rapid-prototyping equipment, an electrical workshop, flexible space with moveable walls, and computer labs and media stations to enable the creation of mobile apps, digital videos, interactive games, 3D models, animation, and eBooks. The building will extend beyond academia by attracting creative thinkers to Chicago.

"The Innovation Center at IIT will be a facility where students and faculty can work with business, industry, and the community," said Anderson, noting that the building also will serve as a bridge between IIT's classrooms and University Technology Park.

The facility will be available to area middle and high school students who attend IIT's summer educational programs. Once built, it will allow IIT to more than double the number of Chicago Public Schools students who participate in the Exelon Summer Institute and Boeing Scholars Academy on campus.

"The new Innovation Center promises to be an investment in both the education offered at IIT and the future of Chicago," said Emanuel. "It will help unlock the potential of thousands of students while providing Chicago businesses with a pipeline of new products, processes, and talented graduates to hire."



Chicago Mayor Rahm Emanuel is joined by Student Government Association President Kelly Lohr (MMAE 4th year) at the Innovation Center press conference on July 19. Lohr gave a speech at the event about the importance of innovation.

FUELING INNOVATION: AN **UPDATE** ON THE CAMPAIGN FOR IIT

IIT's six-year fundraising campaign, launched on June 1, 2010 and currently in its leadership phase, reached a giving total of \$108,699,134 as of August 31, 2012.

IIT is currently planning an exciting public launch of Fueling Innovation in early 2013. The launch of the public phase of the campaign, which aims to mobilize all alumni and friends in support of IIT, will take place on Friday, February 8, 2013. Thus far, 8,524 gifts of all sizes—from students, alumni, and non-alumni of all ages—in the leadership phase have powered the campaign to nearly its halfway point.

Fueling Innovation ensures that, across the fields of engineering, science, architecture, law, design, psychology, food safety, humanities, and business, IIT will continue to attract some of the world's most gifted students—and be in a strong position to prepare them for change in a world that demands innovative solutions and new ways of thinking.

The priorities of the campaign are threefold:

- Enhance key facilities to support IIT's distinctive education and research
- Provide support for endowed faculty chairs and innovative research
- Expand financial aid for undergraduate and graduate students

So far, \$106 million has been raised towards the latter two priorities. A top priority now is to raise \$30 million to build the Innovation Center, a hub for all of IIT's innovation and entrepreneurship initiatives. The new Innovation Center facility will unite faculty, students, and other creative thinkers for the singular purpose of turning new ideas into process and product designs that improve the quality of life and challenge the status quo.

In addition, the campaign also has a key goal of increasing alumni participation in fundraising as well as volunteering, attending events, referring high school students to IIT, assisting IIT students and fellow alumni with career networking, and more.

Got fuel?
We know our alumni do great things—at work, at home, and in the community—that are changing the world in big and small ways, every day. We want to find IIT's innovators! How are you or someone you know "fueling innovation?" To tell us, email innovation@iit.edu or visit iit.edu/innovators.

For more information about a gift to Fueling Innovation, call Susan Faraone, associate vice president for development and campaign director, at 312.567.7149, or visit the campaign website, www.iit.edu/giving/campaign_for_iit.

GALVIN LEGACY HONORED

IIT held an unveiling ceremony for the new plaque and portrait in Paul V. Galvin Library that honor the late IIT benefactor, trustee, and regent Robert W. Galvin and his wife, Mary. The plaque tells the story of the Galvin family legacy at IIT, and the painting depicts the couple. The new portrait hangs next to a portrait of Paul V. Galvin, Robert's father, which was dedicated in 1985 when the library was named in his honor. Mary Galvin [second from right] was joined at the dedication by three of the couple's children [left to right], Life Trustee Michael Galvin (LAW '78), Dawn Galvin Meiners, and Chris Galvin.



OLYMPIC-SIZED *Inspiration*

Samuel Vazquez, volunteer cross-country coach for IIT, ran in the 2012 Olympics representing Puerto Rico after scoring the commonwealth's national-record time of 3:37.60 in the 1,500-meter qualifying run. Vazquez says he has his wife, Flo [Silva] Vazquez, to thank for helping him get a leg up on the competition.

"My wife's determination and focus inspire me," says Vazquez. A national high school champion in the mile, he had dropped out of the sport—and college—for several years before he met Silva, who encouraged him to return to the track and to school. "She pushes me every day to be better and is the main reason why [I was in] London. Sometimes we bump heads, but it was worth it because now I can forever say I was an Olympian."

He and Silva graduated from Embry-Riddle Aeronautical University, where both ran on the track and cross-country teams. Vazquez also won the National Association of Intercollegiate Athletics national indoor title in the 1,000-meter event.

—Marcia Faye

MORE  ONLINE

Samuel Vazquez's website: www.samuelvazquez.com



PHOTO: DAVE RENTAUSKAS

ALWAYS ON THE MOVE

Scarlet Hawks women's soccer player Diana Otero (BME 4th year) listens to the song "She Moves in Her Own Way" by the Kooks to help her focus before a game. It is a title that could describe Otero on the playing field as well as off of it. She made her latest move this summer when she conducted research with the computational biology group at Germany's Helmholtz Zentrum München. The institution comprises 33 research institutes and independent research units working on a variety of environmental health issues.

Otero performed image processing on mouse embryo images using optical projection tomography, a technique similar to a medical CT scan. After graduation, she hopes to enter a doctoral program in either electrical engineering or biomedical engineering with an emphasis on medical imaging. She says that her competitive soccer days will likely come to an end at that time, so her final season as a collegiate athlete has special meaning for her.

"Diana exemplifies what it truly means to be a student-athlete," says Marc Colwell, head women's soccer coach and assistant athletic director. "She puts in the long hours required to prepare for her rigorous class load and works hard to be successful on the soccer field."

A native of Colombia, Otero was born into a soccer family, with her father and two brothers all avid players. She moved to the United States at age 9 and began playing soccer the following year. Active in track, basketball, soccer, and theater as a high school student, she likens soccer to the stage.

"It is not a sport where size, height, or athleticism matter but rather technical ability and intelligence with the ball," she says. "Soccer is an art, a game of improvisation where the team works together and strings together plays as it goes."

While she doesn't have a signature soccer move, Otero says she considers herself an aggressive defender and likes to take the ball down the line and cross it. The technique has earned her plenty of acclaim at IIT—a place on the ESPN Academic All-District First Team, the CCAC All-Academic Team, and the 2011 Capital One Academic All-District First Team, and recognition as an NAIA Scholar Athlete and the first Illinois Tech women's soccer player to be invited to a national team trial (Colombia). She has also been on the Dean's List every semester.

For the future, Otero plans to stay in the U.S., but adds that she will be frequently traveling to Colombia to visit her family—maybe even to play a little soccer with them.

"I will probably be like my dad, playing until my knees give out," she says.

MORE  ONLINE

Illinois Tech Women's Soccer: www.illinoistechathletics.com/sport/0/9.php

A photograph of a tall, grey rock climbing wall with colorful handholds. Three people are climbing: a woman in a pink shirt at the top, a man in a white shirt in the middle, and a man in a green shirt at the bottom. The wall is set against a blue sky with white clouds. A brick building is visible at the bottom right.

THE SKY'S THE LIMIT



PHOTO: CHRISTINA NOONAN

Interaction was the buzzword at this year's Welcome Week, when IIT greeted incoming undergraduates and introduced them to what life will be like at their new home away from home. The annual event was held from August 15–19 and featured gaming events such as Angry Birds, Playfair, and the Frosh Challenge; Convocation; and Pancakes with the Provost.

[Left] Outside Hermann Hall on Main Campus, students scaled a climbing tower that stretched toward a perfect summer sky.

[Above] Say "I love IIT!" The new students—representing 34 states—took a break from the many outdoor activities to gather inside Hermann Hall for a class photo.

[Right] The Student Organization Fair, held outdoors for the first time, was very popular and gave newcomers ample opportunity to consider their choice of extracurricular activities before classes began.

PHOTO: MICHAEL GOSS



PHOTO: MICHAEL GOSS

*A popular character from the
L'il Abner syndicated comic strip
was the "Shmoo," a blob-like,
bowling-pin-shaped creature.*

Inspire

They are aiming for the stars in a biology experiment designed to detect the presence or absence of real-life shmoo—polarized growth by yeast cells—in a microgravity environment aboard the International Space Station (ISS). The two-month-long experiment was flown to the station in September on the first operational flight of the SpaceX Dragon commercial spacecraft.

The students, from Skinner West Classical, Fine Arts and Technology School on Chicago's West Side, were selected for the opportunity through the Student Spaceflight Experiments Program (SSEP). Their laboratory science teacher, Kori Milroy (M.A.S. SED '11), learned about the program while she was a graduate student at IIT and successfully led a group of fifth-grade Skinner students in their efforts to send an experiment about goldfish development to space last year.

The sixth-graders' 2012 proposal—"Shmooring Around in Space"—was one of more than 1,100 finalist entries from a nine-state region. A team of scientists, engineers, and science educators from across the United States selected the proposal as among 11 experiments to go to space.

David Stone, a yeast biologist at the University of Illinois at Chicago, met with the six students who crafted the proposal over the spring and summer. He demonstrated how normal yeast shmoo form in response to pheromonal secretion, and practiced group skills for setting up the space experiment and loading the yeast into the NASA apparatus—a Teflon outer tube with two inner glass tubes. In the experiment, an astronaut breaks one of the glass tubes mixing dormant yeast cells with a medium containing the pheromone, while leaving the cells in the other tube unmixed with the pheromone as a control.

"When students come to a real lab to work with a real scientist doing a real experiment, there is no substitute for the experience; it comes to life for them," says Stone. "Kids are extremely curious about the natural world. We have to nourish that curiosity and show them how real science works."

IIT Professor Christopher White, chair of the Department of Physics, served as a local judge and, according to Milroy, is one of two influential teachers who stoked her passion for making science come alive for young students.

Shmoos in Space

*Improbable as it may seem, the Shmoo is
extending a gesture of celestial goodwill on
behalf of a group of Chicago Public Schools
sixth-grade students.*

"The U.S. economy and quality of life that we enjoy is dependent on high-quality STEM education. It's vital that we get our kids excited about science and technology, and find ways to keep them excited throughout their lives," says White. "What Kori is doing is amazing, and her dedication to her students inspires me to do the same for mine."

Milroy, a mother of two preschoolers, says what she wants for her children is what she is trying to impress upon her Skinner students.

"I want them to grow up with the power of being able to answer their own questions," she says. "I love the fact that their ability to view science as a process changes their way of thinking. It gives them a new way of looking at the world, perhaps answering questions that have never before been answered."

Sixth-grader Josh Tabuena says he "really likes science because it's interesting to know more about the world around you," while fellow shmoo-mate Stone Chen recognizes the reach of science.

"Lots of different jobs refer to science—math is also a part of everything, just like science is," explains Chen. "I would like science to be a standing structure in my life."

The students are anticipating the outcome of their efforts, when a Russian Soyuz spacecraft will bring their yeast experiment back to Earth for analysis, landing in Kazakhstan in November. No matter what the Skinner students discover, their experience will remain with them throughout their future science education.

"We ought to be able to immerse upper-elementary school students in every facet of real research, and stand back and be amazed; that's exactly what we're seeing," says Jeff Goldstein, director of the National Center for Earth and Space Science Education and SSEP creator. "What we would like are students who are prepared to come in as explorers, critical thinkers, and individuals who are at ease integrating across disciplines so that universities have that kind of skill set in their students as soon as they walk through the door." ■



Skinner West science teacher Kori Milroy (M.A.S. SED '11) and students Hannon Wilson, Marc Anthony Huang, and Stone Chen practice skills for their microgravity experiment at the University of Illinois at Chicago laboratory of David Stone.

The experiment was flown to the International Space Station [left] via the first operational flight of the SpaceX Dragon commercial spacecraft.

MORE ONLINE

National Center for Earth and Space Science Education: <http://ncesse.org>
Student Spaceflight Experiments Program: <http://ssep.ncesse.org>

Hand-picked by Vinod Dham—the father of the Pentium chip—to work at Intel after his graduation from IIT, Rajeev Chandrasekhar (M.S. CS '88) says he had something besides drive, perspective, and a contrarian streak to jumpstart his success as a chip architect, telecom pioneer, and venture capitalist.

A H H E A

“I was where I was when I was,” he says via telephone from India, where he is serving his second term as an independent member in the upper house of India’s Parliament, representing Bangalore and the state of Karnataka. “It’s fate and a bit of a blessing to be where you are when you are. I found myself a little ahead of the curve and in places where people hadn’t yet reached.”

Chandrasekhar was a member of the architecture teams that invented the 486 chip and later, Intel’s signature Pentium chip. He recalls that co-founder Andy Grove often stood at Intel’s main entrance clocking employees and that it was common to see Bill Gates, Steve Jobs, or Larry Ellison in the company cafeteria sharing doughnuts and discussion. It was a time when many people believed computing was reserved for helping businesses improve productivity and calculating the bottom line—not for households or personal communication.

“But I felt like a participant and witness to the building of a new world, one that we now live in and kind of take for granted,” he says. Chandrasekhar’s initials appear on every 486 processor ever manufactured, and one of his treasured keepsakes is the first 486 fabricated chip that went into production, signed by all members of his design group.

Infused with an entrepreneurial spirit from his time at Intel, Chandrasekhar returned to India in 1991. He got married and joined his father-in-law’s company, BPL Group, and hoped to expand its reach by investing in the country’s fledgling private telecom sector. He admits he was totally naïve about the industry and remained steadfast in the face of naysayers who proclaimed mobile phones “complete nonsense” and a luxury reserved only for India’s rich. By 2001, BPL

Mobile was one of the largest cellular operators in India.

Facing increasingly restrictive regulatory challenges, Chandrasekhar says he simply didn’t wish to run a business anymore and sold the holding company, BPL Communications, four years later for \$1.2 billion. He used some of the proceeds to take what he saw as the next logical step for an admitted risk-taker: the founding of Jupiter Capital, a venture development, management, and investment company.

“Jupiter has a fairly significant technology portfolio but not in the usual areas, such as Indian information technology or the Internet,” he says. “We instead select areas that are high-value and niche-oriented, such as aerospace and space aviation technology, that require significant amounts of specialized competency and knowledge. We pick markets where we believe people haven’t yet spotted the opportunity and we therefore create the opportunity ourselves.”

Chandrasekhar may claim to be a “full-time bluesman at heart,” with a framed gold album by his hero, the late Texas blues guitarist Stevie Ray Vaughan, hanging on the wall of his parliamentary office. But his political persona seems to be defined by the brash rapper Eminem—whose song lyrics provide him with a favorite motto, “I am not afraid to take a stand.” It is tempered, however, by the influence of his father, a career Indian Air Force pilot, who imbued in his son a service mindset. Chandrasekhar’s dark eyes can appear steely when posing any of the more than 700 questions he has raised before Parliament and warm in a photo documenting his family’s role as foster caretakers of the animals of Bannerghatta National Park. His opinions, however, remain unchanged no matter what the political focus.

by MARCIA FAYE

D OF THE CURVE

“My experiences in politics and public life have been very different from what the conventional wisdom is, that everybody is a crook and that nobody gives a fig about serving their communities, states, or the country,” he says, in his characteristic outspoken manner. “I’m out there and available to people, to challenge and to be challenged. You have to post with India’s youth to engage them in a debate—you have to excite them and be fresh. It’s no longer the top-down model of saying, ‘I’m a politician and know all of the answers and the solution, and you will just take it.’”

Chandrasekhar says technology is becoming an equalizer, pressuring politicians to be more honest and accountable, and citizens more aware of their rights and abilities to enforce those rights. On his website, he regularly connects with citizens through Tweets and blogs about his key issues: Bangalore and Karnataka, governance reforms, the national security and welfare of armed forces personnel, and public assets and revenues. He sees this as being part of what makes relationships thrive and new opportunities emerge.

“We’ve come pretty far as a nation,” he says of his homeland. “We have our problems, like any other country in the world today. But I’m quite enthused and happy. I wake up in the morning and am eager to get to work.” ■

MORE  ONLINE

Rajeev Chandrasekhar's website: www.rajeev.in

Remedying OR Safety Issues

Each year, more fatalities result from missteps or technical failures in the operating room than from car accidents, breast cancer, or complications from AIDS, according to a National Academy of Sciences study.

IIT Associate Professor Jennifer Kang-Mieler and her biomedical engineering students are working to improve the OR environment. Their five-year project, funded by the National Institutes of Health, will allow 25–35 fourth-year students in Kang-Mieler’s two-semester capstone BME course to work on biomedical innovations to increase safety.

“People assume that very sophisticated technology in the OR means that safety has improved, but that is not always the case,” Kang-Mieler says. “We really have to look at the culture in the OR.” To do this, she has teamed up with fellow BME Associate Professor Derek Kamper and John White, chair of the Department of Surgery of Advocate Lutheran General Hospital.

“Improvement in patient safety requires redesigning the operating room to support and enhance all aspects of the surgical procedure,” White says. “These advances will come only through bright minds trained in analyzing processes, such as biomedical engineers.”

Under the new grant, the students will analyze the complete OR environment, interacting with the surgeons as well as with the complex network of nurses and support staff. Students will apply

user-centered design techniques in which a constant dialog between bioengineers and end users helps fine tune resulting innovations.

One of many OR practices student teams have sought to improve is the meticulous counting of surgical tools and gauze required before and after operations, to prevent such foreign objects being left in



patients—an ongoing safety issue that affects roughly one in every 1,500 intra-abdominal surgeries.

“Every year we have great ideas coming out of these students,” Kang-Mieler says. “We’d really like to take some of these to the next level by encouraging students to apply for patents and explore commercial possibilities.”

—Richard Harth

A New Device for the Visually Impaired

Students studying under Jennifer Kang-Mieler are applying their work beyond the OR. One of Kang-Mieler’s student groups won first place in the 2012 ASME Undergraduate Design Project Competition in Rehabilitation and Assistive Devices by developing a unique instrument known as VIOLET Cane, designed to assist the sight-impaired. Read more about it: www.iit.edu/news/iittoday/?p=5501

MORE ONLINE

More Treatment, More Mistakes: www.nytimes.com/2012/08/01/opinion/more-treatment-more-mistakes.html?_r=2&hp
Jennifer Kang-Mieler: www.iit.edu/engineering/bme/faculty/derwent_jennifer.shtml



STEM Education and IIT Engineering Themes

Water | Health | Energy | Security

Science, technology, engineering, and mathematics (STEM) initiatives affect more than the K–12 education system. Science- and engineering-focused universities such as Illinois Institute of Technology are strongly invested in seeing these initiatives succeed.

In February 2012, the President’s Council of Advisors on Science and Technology (PCAST) reported that K–12 STEM preparation is so deficient that colleges and universities are spending at least \$2 billion per year to help students compensate for knowledge gaps in STEM fields.

In response to this report, President Obama announced the \$1 billion Master Teacher Corps, which provides stipends as incentives for high-performing K–12 STEM teachers. The goal is to create a strong network of excellent teachers who will raise the quality of STEM education.

Still, change in educational systems and culture is a slow process. The Master Teacher Corps will start small—with 50 top teachers—and expand to 10,000 over four years, relying on a multiplier effect to accelerate change.

We cannot afford to have change materialize slowly. We must take steps to immediately address deficiencies to ensure that the current graduating class benefits from the double-digit job growth projected for STEM fields by 2018.

As a small, private university, IIT is uniquely situated to address the knowledge gap. Our engineering programs are strong, yet nimble, enabling students to overcome inadequacies in

STEM education through new initiatives such as the **IIT Engineering Themes**.

The IIT Engineering Themes are an optional set of enrichment experiences that help undergraduates impact worldwide engineering issues while completing an accredited degree in their chosen field—*without* modifying their degree plan.

The current IIT Engineering Themes are: water, health, energy, and security.

These four themes were chosen because they are interrelated, pose several engineering challenges, and are areas in which engineers can influence the entire global population.

The best way to educate engineers is to put them to work both in and outside the classroom. This allows students to contextualize and apply their knowledge, personally connect to the problem, and improve learning and creative processes. Hands-on experiences inspire peer-to-peer learning and empower students to recognize issues and propose solutions in a collaborative way.

We also expose our students to engineers who are working in today’s economy—which favors lean, multidisciplinary organizations. Gone are the days of inflated, one-dimensional teams. The themes highlight and capitalize on this as a learning opportunity.

In its report, PCAST also noted that fewer than 40 percent of students who enter college to major in a STEM field complete a STEM degree. Uninspiring introductory courses are largely to blame.

Our alternative approach engages students through team-intensive engineering projects, field work, site visits, meaningful engineering internships, forums, career panels, and competitions.

IIT is also the only university in the country to offer students an automated engineering portfolio.

As students progress through the Themes program, the IIT Engineering Themes Portfolio tracks their progress and creates an entry for each experience. The end product is four years of work packaged digitally with photos, videos, personalized write-ups, and online information about the tangible experience students gained as IIT engineering undergraduates. This portfolio will greatly increase students’ marketability as they transition into a STEM profession or graduate school.

We not only keep our students engaged, we help them stand out. And while our country is working to broadly reform STEM education for *future generations*, our small institution is changing the way *this* class of students is educated. We are IIT.

Natacha DePaola
Carol and Ed Kaplan Armour College
Dean of Engineering

by MARCIA FAYE

IT TAKES A
TEAM
TO AID A
Child



A laundry basket is more than a toy for 7-year-old Valerie Jimenez. When she inverts the hamper over herself—concealing her torso but not her legs, which exhibit a drop-foot condition that prevents her from walking—she finds a source of security and a cozy haven in the darkness within.

“Valerie is not very expressive and basically lives in her own world,” says her mother, Ruth Aguilar (PSYC 4th year), adding that Valerie’s only words are an occasional “Mama.” “The basket is her favorite place; she likes to be in there all of the time. Valerie rarely gives me a hug; but when she does she expresses her love for me, and that hug is what keeps me going.”

Valerie’s development was normal until she was about six months old, when Aguilar noticed that her daughter began losing her balance and choking on pureed foods and liquids. Valerie slept much of the time, and her pediatrician noted that her head was smaller than average. Her brain stopped growing and so did her progress in motor skills, cognitive skills, and communication.

After performing various imaging modalities and tests to rule out Rett syndrome, Angelman syndrome, and autism spectral disorders, specialists at Children’s Memorial Hospital (now the Ann & Robert H. Lurie Children’s Hospital of Chicago) and LaRabida Children’s Hospital were mystified. Each year, Valerie continued to have an MRI and EEG to monitor any new abnormalities. When Valerie suffered a nearly fatal reaction to a new sedative in 2008, Aguilar made a series of life-altering changes.

“I decided not to subject Valerie to any more unnecessary treatment,” says Aguilar. “Along with this, I decided to go back to school to take subjects to help my child now, get rid of my constant depression, and learn how to make Valerie become as self-sufficient as possible.”

After earning an Associate in Arts degree and Certification in Child Development from Olive-Harvey College, Aguilar transferred to IIT College of Psychology as a Presidential Scholar. Through the Interprofessional Projects (IPRO) Program, she met Professor of Mechanical Engineering Kevin Meade, who became a mentor to Aguilar. He offered to speak with health care colleagues in Chicago, Houston, and Tampa, Fla., who might be able to help improve Valerie’s condition.

“When you learn about Valerie and her struggles, any person would naturally want to be of assistance,” says Meade, who is introducing Valerie’s case to his colleagues through a PowerPoint presentation that Aguilar created. “It is a tremendous challenge to identify people who can truly help, and it takes persistence. Ruth is a shining example of the strength of character you must have to meet this challenge. She has been an inspiration to me and the members of her IPRO team.”

Besides Meade, Aguilar is working this fall with Research Associate/Legal Fellow Sarah Blenner of IIT Chicago-Kent College

of Law, in consultation with Assistant Professor of Rehabilitation Counseling Eun-Jeong Lee, on a new IPRO course—IPRO 374 A.C.T.I.V.E.: Redefining Perceptions of Disability. It is intended to enrich the lives of many children with disabilities and their families by investigating and addressing perceptions of disability. With her firsthand experiences to guide the team, Aguilar and her IPRO 2.0 group crafted their idea for A.C.T.I.V.E. (Assisting Children Toward Interactions in Vivid Environments) as a quality of life program.

“I know a lot of parents who keep their children with disabilities confined to their homes because they’re afraid to go out and be rejected,” she says. “Children need support and socialization to feel integrated within their communities. A.C.T.I.V.E. is meant to change their gray world into a colorful one by ridding the self-stigma and social stigma that come with disability.”

In the two-phase A.C.T.I.V.E. IPRO course, students will first conduct in-depth research on the perceptions of disability, available programs and resources, and how to create supportive and inclusive environments. In the second phase of the course, the team will design a program that an organization could use to promote the purpose of A.C.T.I.V.E.

“A.C.T.I.V.E. has a lot of potential both as a course and as a project,” says Blenner, who has been involved in several disability-related projects through her work at the Health and Disability Law Clinic at the Law Offices of IIT Chicago-Kent.

While Valerie interacts with other children through a Chicago Public Schools special-education program and physical therapy sessions, Aguilar also guides her daughter in memory-recall exercises at home. Aguilar is hopeful that one day physicians will pinpoint her daughter’s condition and its specific treatment plan. For today, many of Valerie’s victories take place not far from her inverted basket.

“I’m focusing on how to help Valerie remember things in order for her to keep learning instead of forgetting, and I see slow but steady progress,” says Aguilar, her face beaming. “Before, she couldn’t crawl, but now she is. That may seem like a little thing, but to me, it’s a big improvement.” ■

MORE ONLINE

“School-Aged Children with Disabilities in U.S. Metropolitan Statistical Areas: 2010” (United States Census Bureau):

www.census.gov/prod/2011pubs/acsbr10-12.pdf



TO THE

TO INFINITY

Q&A WITH

Jason Tenenbaum (AE '07)

Mission Operations Engineer

SpaceX (Space Exploration Technologies Corporation)

While at IIT, Jason Tenenbaum seemed to have hitched his wagon to the proverbial star. A former Student Government Association president, he was honored with the Richard Babcock Award for outstanding student leadership, the Clinton E. Stryker Award for significant contributions to the IIT community, and the Neal L. Hoppers Award from Phi Kappa Sigma International Fraternity for Most Outstanding Undergraduate. As Tenenbaum advanced in his coursework, his desire to one day work in the space industry skyrocketed as well.

Five years after graduating from IIT Armour College of Engineering, he continues to expand his aerospace frontiers at SpaceX, a private company that designs, manufactures, and launches advanced rockets and spacecraft. With a goal to one day make it possible for people to live on other planets, SpaceX was recently awarded \$440 million from NASA to develop the successor to the space shuttle and extend the reach of solar system exploration.

As a youth, did you dream of becoming a rocket scientist?

I first became interested in space after watching the movie *Apollo 13* and seeing how the NASA mission control team was able to come together, solve a really difficult problem, and bring home the Apollo 13 astronauts. I couldn't imagine working on something more exciting and challenging than space exploration. That's what really sparked my interest in space and becoming an aerospace engineer.

Clad in white clean room coveralls, Jason Tenenbaum (AE '07) helps to load cargo into the SpaceX Dragon spacecraft at the company's launch site at Cape Canaveral, Fla.

You've been employed in Dragon spacecraft operations at SpaceX since May 2010. Please describe a day in the life of a SpaceX mission operations engineer.

One of my favorite things about being a part of SpaceX is that every day brings something different. Over the last two years, I've been fortunate to be able to work hands-on with our spacecraft—from design, integration, and testing of the vehicle through launch and real-time operations. Designing and building a spacecraft to berth with the International Space Station (ISS) involves a lot of coordination with NASA on both the vehicle design and testing to ensure



Jason Tenenbaum (AE '07) inside the SpaceX mock-up Dragon crew capsule at the company's headquarters in Hawthorne, Calif.

that we meet the safety requirements NASA has for visiting vehicles. For me, that's meant working with NASA to show we meet all of their requirements, coordinating the joint testing we do in conjunction with NASA, planning the overall integration and testing needed to get Dragon ready for flight, and then actually performing the testing and hardware integration on the spacecraft. There are days when I'm in meetings with NASA in the morning, writing and testing ground software we use to operate the spacecraft in the afternoon, and running a test on the spacecraft or participating in a mission simulation in the evening.

Could you tell us about your current and future projects?

When I applied to SpaceX, I was interested in working on Dragon. I was brought on to help lead the verification and integration activities between SpaceX and NASA, which was a good fit with my previous experience doing similar work with NASA on Orion. [Before joining SpaceX, Tenenbaum worked for three years at Lockheed Martin on the Orion spacecraft.] Now that we've had our first flight to the ISS, our focus for Dragon moves from development to production and making all of our operations more efficient. With the NASA contract, we will upgrade our cargo Dragon vehicle to carry NASA astronauts to the ISS, which is what we had in mind when designing Dragon. For our crewed Dragon vehicle, I'm working on the development of the next-generation space suits astronauts will need for the trip to the ISS.

What are some of the greatest challenges of your position?

That's a tough question; almost every day brings a different challenge. We've worked really closely with NASA on the development of Dragon and have learned a lot during that partnership. We're constantly working to meet NASA's requirements, and often, that involves proposing new approaches to solve a problem. Working this way has ultimately yielded some great results; the partnership has not only helped us develop a better spacecraft, but it's also caused NASA to consider new ways to approach problems.

SpaceX's achievement of crafting the first purely commercial supply ship to travel to the ISS is monumental in the history of space ventures. How do you feel being a part of this historic endeavor?

I couldn't ask to be in a more exciting place in the space industry right now. It's a huge challenge to develop a brand new spacecraft, complete all of the rigorous testing and analysis required by NASA, and then not only fly it to the space station but also return it back to Earth. The team at SpaceX that made this a reality is a phenomenal group of people, and I feel really lucky to be a part of it. ■
—Marcia Faye

MORE  ONLINE

SpaceX: www.spacex.com

NASA: www.nasa.gov

This year's International AIDS Conference outlined ambitious global treatment goals with the potential to save millions of lives. On the downside, however, participants reported disappointingly slow progress toward an effective vaccine against HIV.

New Membrane Research Takes Shape

According to David Gidalevitz, IIT associate professor of physics, a more fundamental understanding of cell membranes—the port of entry for HIV and other pathogens—may eventually break this deadlock. His research into the nature of biological membranes, reported in the journal *Physical Review Letters*, is providing important new insights into these dynamic structures.

“In living cells, we see curvature everywhere,” Gidalevitz says, noting that it occurs not only on the cell’s surface, but in internal structures. “But what is the mechanism of this curvature? That’s a very interesting question.”

The new paper examines the role of cholesterol in directing cell membrane curvature in the presence of gp41—a key HIV fusion protein, which acts like a molecular harpoon, piercing the cell membrane and initiating HIV infection.

To study membrane behavior, Gidalevitz created an artificial monolayer—a thin film of lipids (including cholesterol)—on the surface of water. The advantage of this model membrane is that it permits extremely fine control over the process. “We can determine the amount of molecules at the water interface to a very high degree,” he says.

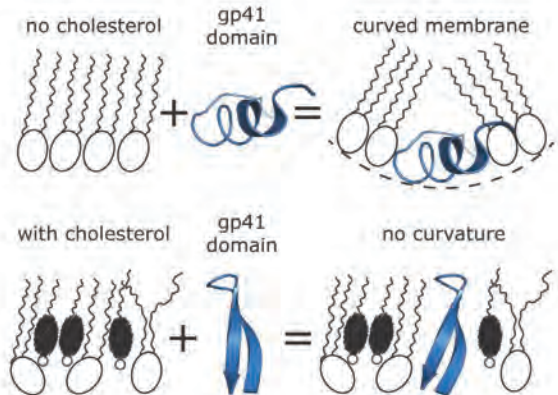
While it has long been known that proteins can affect the curvature of the cell membranes with which they interact, the new study demonstrated for the first time that cholesterol concentration also affects protein shape.

In the case of gp41, the presence of cholesterol causes the protein to assume one of two conformational forms—alpha helix (when cholesterol is low) or beta sheet (when it is high), which also changes how deeply the HIV protein penetrates the cell membrane.

Gidalevitz believes that understanding the subtleties of membrane-protein interaction is an essential piece of the HIV puzzle and will ultimately assist efforts to outwit the virus.

—Richard Harth

This research was supported by the National Institutes of Health, the Defense Advanced Research Projects Agency, and the Department of Energy

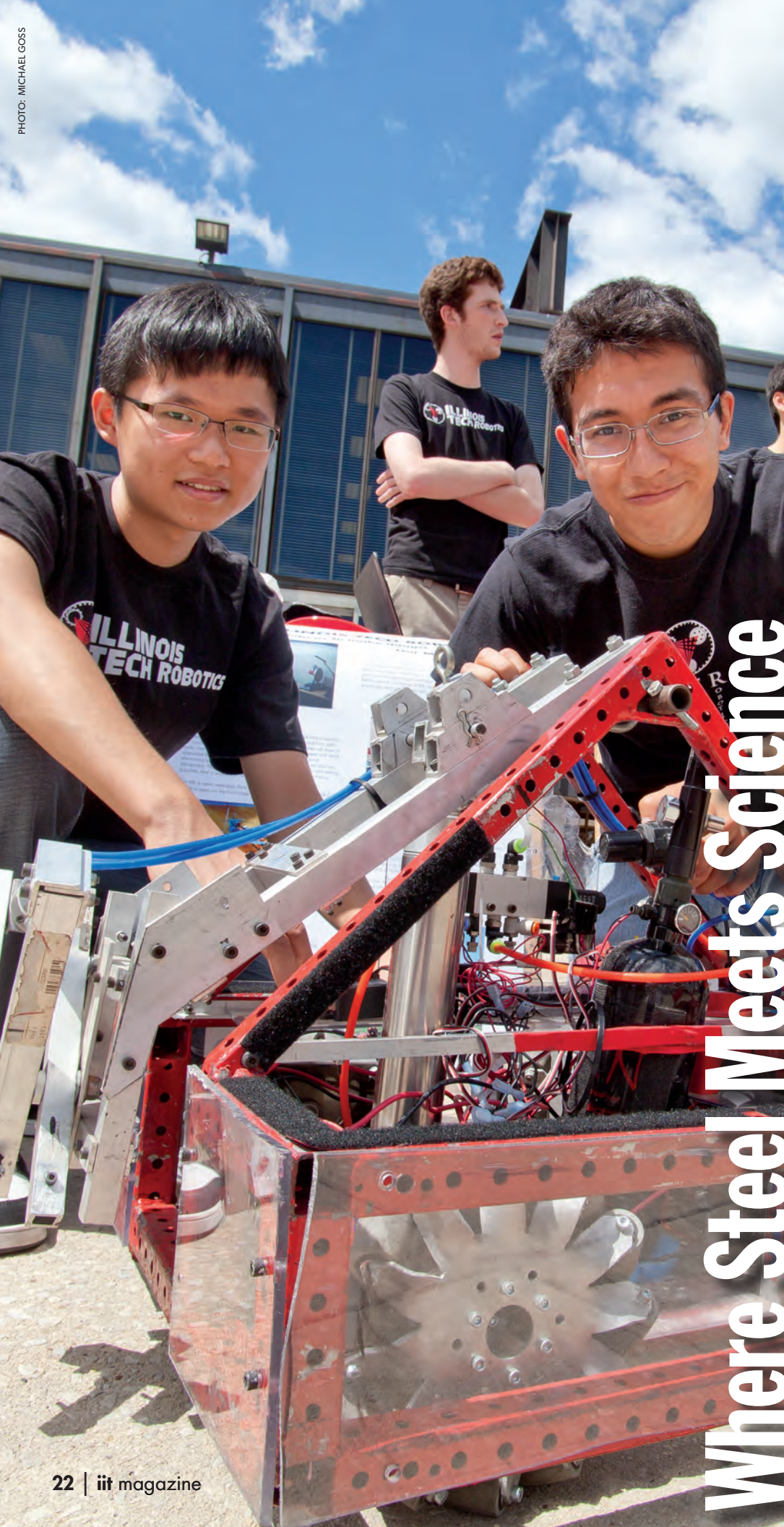


Diagrammatic representation of the conformational change in the HIV gp41 fusion protein stimulated by the presence of cholesterol in a lipid monolayer

MORE  ONLINE

Driving Membrane Curvature:

www.aps.anl.gov/Science/Highlights/Content/APS_SCIENCE_20120613.php



Where Steel Meets Science

This spring, an electro-mechanical clan composed of four robots—R. M. S. Dick Roslund, Fenrir, Penguin, and Reaper—went wheel-to-wheel against a bevy of other fantastical devices at one of the nation’s oldest continuing robotics contests, the Jerry Sanders Creative Design Competition (JSDC). For members of Illinois Tech Robotics, the notion of robots combating as twenty-first-century Roman gladiators is where steel meets classroom science, head on.

“The robot is designed to pneumatically jump five feet into the air and from platform to platform,” says Adin Goings (MMAE 3rd year), the club’s vice president of engineering, who also has his hands deep inside another creation. “I’m currently involved in the design and construction of Mongol, a servo-actuated [ability to provide mechanical control at a distance] robot that will compete in Robogames next year.”

Besides building competitive ’bots—such as Roslund, which took first place in the 2010 and 2011 JSDC, and fourth place this year—Illinois Tech Robotics members volunteer as mentors for FIRST, a national nonprofit organization devoted to helping students ages 6–18 discover and develop a passion for STEM disciplines. Founded by Segway inventor Dean Kamen, FIRST offers a series of robot construction/performance competitions featuring simple LEGO assemblies to advanced kit robots weighing up to 150 pounds.

Robotics club members also coach charter-school students from the Perspectives/IIT Math & Science Academy as they prepare to enter FIRST competitions. IIT’s Idea Shop at University Technology Park has been a valuable source of prototyping equipment and other tools needed for building and testing robots.

—Marcia Faye

MORE ONLINE

- Illinois Tech Robotics: www.illinoistechrobotics.org
- FIRST: www.usfirst.org
- Perspectives/IIT Math & Science Academy: www.perspectivescs.org/MSA/home



More Than a Pretty Face

The tomato has come a long way since the days of colonial America, when it was dubbed a deadly nightshade and relegated to the world of ornamentals. Fortunately, this was a short-lived, regional blip in the life of the rotund fruit, which has since been considered a healthy food.

A new study at IIT's Institute for Food Safety and Health (IFSH) goes one step further, finding that the tomato is not only health-promoting but can weaken the harmful effects of a high-fat diet. Tomatoes contain lycopene, a pigment compound in food known for its antioxidant qualities. Based on its earlier research of strawberries, another source of antioxidants, the team hypothesized that the tomatoes must be consumed as part of a meal in order to have a lasting,

protective effect following a high-fat meal—when cell damage, oxidative stress, and inflammation occur in the body.

IFSH researchers studied 25 healthy adults, supplementing high-fat meals with standard portions of tomato paste, a concentrated form of lycopene. The study, published in the April 2012 volume of the journal *Molecular Nutrition & Food Research*, demonstrated that consuming tomatoes as part of a high-fat meal blocked a rise in harmful oxidized low-density lipoproteins (LDL) and inflammation; this may reduce the risk of developing heart disease. The study also supported earlier research that the consumption of antioxidants enables the body to maintain appropriate levels of insulin, required to maintain proper blood sugar.

“Oxidative stress and inflammation are tightly linked and associated with many chronic diseases such as cardiovascular disease and diabetes,” says a principal researcher on the team, Indika Edirisinghe, research assistant professor and senior scientist with the Center for Nutrition Research at IFSH. He and his team also completed similar lycopene research with overweight/obese subjects and found significant beneficial effects.

Edirisinghe adds, “Addressing daily and meal-to-meal ‘insults’ to maintain system balance may be an important strategy for reducing chronic illness.”

—With reporting by Elyse Doll
(PSYC 4th Year)

classnotes

1940s

Marshall Miles

(EE '45), Sarasota, Fla., was featured in the article "Rubbing Elbows with Top Scientists" (*Herald-Tribune*, March 2, 2012), about his experiences working on the Manhattan Project at Argonne National Laboratory.

Edward Schaschl

(CHE '45), Fullerton, Calif., has been retired for 26 years. He and his wife are celebrating their 59th wedding anniversary this year. The couple has two daughters who are both engineers and a 1-year-old cat.

1950s

Demetrios Kanellakos

(EE '56, M.S. '57, Ph.D. '63), Fairfield, Iowa, presented lectures through the University of Athens (Greece) Medical School for the postgraduate course "Management of Stress and Promotion of Health" on the topic of "Transcendence and Health: the Various Traditions of Greece and Asia."

Richard Snow

(CHE Ph.D. '56), Chicago, is working in oil sands technology, a concept that he says was originally developed by the IIT Research Group.

Fred Marcon

(BE '59), Lantana, Fla., mourns the loss of his wife, Natalie, who passed away on March 1. The couple was married nearly

50 years and has three sons, two daughters, and many grandchildren.

1960s

Norbert Pointner

(ARCH '61, M.S. CRP '62), Wheaton, Ill., served as a jury member for the National Planning Awards 2011 for the American Planning Association. He was a speaker at the APA event in Chicago's Pullman community recognizing it as one of America's Great Neighborhoods for 2011. Pointner also published several articles: "Benefiting from Growth and Change" in the *Illinois Municipal Review* (March 2012), a follow-up to a June 2010 article titled "The Implications of Growth and the Challenge of Change" in the same magazine, "Learning from the Past—Historic Pullman and Smart Growth," and "Linking Historic Preservation and Neighborhood Revitalization, Pullman, Illinois" in the newsletter of the APA's Small Town and Rural Planning Division (October 2011).

Marcella Kokoletsos

(M.S. HE '62), Barton, Vt., is treasurer of Strongwall Industries in Ridgewood, N.J. She is married to Basil Kokoletsos (EE '58).

Karl Klessig

(PHYS '63), Westlake Village, Calif., was chief executive officer of Ingeo Systems for the past nine years

before it was acquired by Corporation Service Company of Wilmington, Del. He has joined CSC as a corporate vice president responsible for a new division that includes Ingeo. This past January, Klessig joined an expedition in Argentina and climbed Aconcagua, the highest mountain in the Western Hemisphere at 22,840 feet. He says the challenging 18-day climb included five snowstorms, temperatures below zero, and high winds.

Peter Ostrander

(PHYS '65), Uniontown, Pa., former vicar and former regional director for the International Order of St. Luke the Physician, is author of the book *New Testament Healing* (Xulon Press, April 2011).

Phyllis Chillingworth

(DSGN '66), New York, exhibited her oil paintings of shadblow trees in Montauk, Long Island, in the exhibit *Looking Through the Shads* at the Atlantic Gallery in New York from May 22–June 15.

William Johnson

(LL.B. '66), Northfield, Ill., has tried many high-profile catastrophic injury and mass tort cases in Chicago and across the United States. Co-founder of Johnson & Bell, he has served as the firm's president since 1979 and helped it to grow to 120 attorneys. In April 2011, he was inducted as a laureate into the Illinois State Bar Association

Academy of Illinois Lawyers, joining a group of only 102 distinguished Illinois attorneys with this designation.

Charles Kindregan

(LAW '66), Boston, is professor of law at Suffolk University, where he teaches family law, financial issues in family law, and assisted

reproductive technology law. He is the author of more than 100 law review articles and notes, as well as multiple volumes on Massachusetts family law, Alabama family law, and assisted reproduction law. Kindregan has lectured throughout the country on legal topics, served as academic associate dean, and founded Suffolk's Advanced Legal Studies program.

Jerome Levenstein

(LAW '66), Coral Gables, Fla., is retired. His son Michael, a recent University of Pennsylvania graduate, is pursuing a master's degree at the University of Oxford.

Lawrence Poltrock

(LL.B. '66), Northbrook, Ill., practices labor relations in the public sector at his firm, Poltrock & Poltrock.

Nina Spalek

(M.S. BCHM '66), Renton, Wash., obtained an M.D. degree in 1972 from the University of Santo Tomas (Philippines). Licensed to practice in Washington, she works at Washington Soldiers' Home and Colony and at a methadone clinic.

Nicholas Thomopoulos

(Ph.D. IE '66), Burr Ridge, Ill., professor emeritus and research professor of management science at IIT Stuart School of Business, is the author of the book *Fundamentals of Queuing Systems: Statistical Methods for Analyzing Queuing Models* (Springer Publishing, March 2012). Gridiron Football, a card game he created in 2010 with the help of Wayne Bancroft (M.S. OR '82, Ph.D. MSC '87), Downers Grove, Ill., was recently sold by a west suburban Illinois game shop as a fundraising item to help defray the medical costs of Hunter Himes, a young resident of the town who was hit by a car while riding his bicycle this past February.

Norbert Kaiser

(IE '63), Barrington, Ill., writes that the Kaiser grandbaby twins—Andrew Bergren [left] and Conor Bergren [right]—are now officially part of the IIT family.

Robert Leeb

(ARCH '68), Lake Oswego, Ore., was profiled in "Portland Architecture: a Blog About Design in the Rose City." He is principal at Leeb Architects, a full-service architectural and planning firm founded in 1977.

Lawrence Schulz

(MATH '68), Munich, Germany, has been working and residing in Europe, primarily in Munich, since 1979.

James Gagnard

(EE '69), Westmont, Ill., was named to the board of directors of UpWind Solutions, a San Diego-based wind asset management services firm. He has more than 25 years of executive management experience leading technology companies, including his roles as chairman and chief executive officer of SmartSignal.

1970s

Alan Sternberg

(LAW '70), Bloomington, Ill., retired in 2011 as associate general counsel for State Farm Insurance Company. He now consults and travels.

Douglas Fox

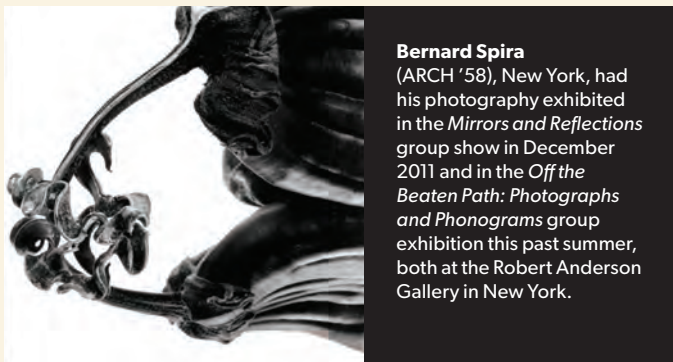
(EE '71), La Vergne, Tenn., is vice president of Nashville Auto-Diesel College.

Luiz Kaufmann

(M.S. IE '71), Orlando, Fla., was named to the PACCAR board of directors. He is the managing partner of L. Kaufmann Consultants in São Paulo, Brazil, providing investment banking services and operational leadership in mergers and acquisitions. PACCAR is a global technology leader in the design, manufacture, and customer support of high-quality light-, medium-, and heavy-duty trucks under the Kenworth, Peterbilt, and DAF nameplates.

Barry Maram

(LAW '71), Chicago, is a partner at Shefsky & Froelich, practicing in the areas of health care and government relations.



Bernard Spira

(ARCH '58), New York, had his photography exhibited in the *Mirrors and Reflections* group show in December 2011 and in the *Off the Beaten Path: Photographs and Phonograms* group exhibition this past summer, both at the Robert Anderson Gallery in New York.



Jeffrey Anderzhon (ARCH '73), Fairfax, Va., co-authored the book *Design for Aging: International Case Studies of Building and Program* (John Wiley & Sons, March 2012). He is an architect and principal with Crepidoma Consulting.

Leonard Tate (EE '73), Matteson, Ill., is pursuing writing and has authored his first novel, *Jasmine and the Lamp of Spells* (iUniverse, March 2011).

Diane Denny (ENGL '74), Colfax, Calif., is retired from her job editing college textbooks in a variety of disciplines for several San Francisco Bay Area publishing houses.

Kenneth Tichacek (ARCH '75), Salisbury, Vt., has founded his own firm, Think Like Your Clients, LLC, aimed at helping architects and engineers obtain more work. He provides consulting and training services, and conducts seminars for firms across the United States and Canada. Tichacek is also a senior consultant for PSMJ Resources, Inc.

Richard Frainier (PHYS '76), San Francisco, is director of engineering at Bricynet, a strategic planning and asset management solutions company focused on improving the ability of businesses to effectively manage their properties, buildings, and land.

William Worek (ME '76, M.S. MAE '77, Ph.D. MAE '80), Darien, Ill., is the new dean of engineering at Michigan Technological University, where he will also serve as Dave House Professor. He formerly headed the Department of Mechanical and Industrial Engineering at the University of Illinois at Chicago.

Patrick Chambers (LAW '78), Peoria, Ill., has become a shareholder in the law firm of Johnson, Bunce & Noble. He has

practiced law since 1978, primarily in the areas of real estate, title insurance, estate planning, probate, and unemployment benefits.

Richard Reibman (LAW '78), Highland Park, Ill., has joined Thompson Coburn as a partner in the firm's Chicago office. He practices in the corporate and securities group. Previously, he was a partner at Dykema in Chicago. Since 1995, Reibman has taught courses in financial services regulation, creditors' rights, and bankruptcy law as an adjunct professor at IIT Chicago-Kent College of Law.

David Lourie (CE '79, M.S. '81), Metairie, La., has been elected a fellow of ASFE: The Geoprofessional Business Association, a not-for-profit association of geoprofessional firms that employ nearly 200,000 individuals worldwide. Lourie is chief executive officer of Lourie Consultants, a New Orleans geotechnical and geoenvironmental consultancy that he established in 1992.

Charles Young (ARCH '79), Oak Park, Ill., is the design architect for the historical façade renovation of the Joseph P. Kinneary U.S. Courthouse in Columbus, Ohio. Young is a partner of Interactive Design in Chicago.

1980s

Hocine Ait-Mohamed (FPSE '80), Dhahran, Saudi Arabia, is a loss prevention engineer I for the Saudi Aramco Mobil Refinery Co.

John Cox (LAW '80), Chicago, has qualified an initiative for the November ballot in his newly adopted state of California that would make campaign money unnecessary and take power away from campaign funders and spenders, known as the Neighborhood Legislature Reform Act. Cox continues to practice law but has redirected himself to managing

money in his own registered investment advisory firm and real estate management.

Michael Mercer (Ph.D. PSYC '80), Barrington, Ill., is a management psychologist and the author of six books. His latest book is *Job Hunting Made Easy* (Castlegate Publishers, Inc., April 2011).

Jerry Swinford (EE '81, M.S. '85), Windsor, Colo., is senior design engineer at Particle Measuring Systems, the global leader in contamination and environmental monitoring.

Casimer Koniarski (CE '83), Skokie, Ill., is a senior manager in the area of water/wastewater at URS Corporation, a fully integrated engineering, construction, and technical services organization.

Daniel Lezotte (M.S. PSYC '83, Ph.D. '89), Highland Park, Ill., is Midwest region vice president for APTMetrics, a human resource consultancy.

Patrick McGarry (CE '83), Carlsbad, Calif., works in property and environmental management for the City of Carlsbad.

John Neuenschwander (LAW '83), Kenosha, Wis., left the bench on April 30. He had served as the municipal judge for the City of Kenosha since 1986. In addition to his court duties, Neuenschwander had served on a number of state judicial committees, had been a regular presenter at judicial seminars, and was awarded the Lifetime Jurist Achievement Award by the Wisconsin Municipal Judges Association in 2008.

Harold Singleton III (CHE '83), South Orange, N.J., was recently named in the "Top 100 Most Influential Blacks in Corporate America" by Savoy magazine. He is managing director, head of asset management companies, and global head of retail and intermediary sales at

PineBridge Investments, one of the world's leading investment management firms with offices in 32 countries and jurisdictions worldwide, responsible for managing approximately \$78 billion for its clients. Singleton is also a member of the firm's Senior Management Committee. He was the keynote speaker for the IIT student Essence Banquet on April 6.

Sherman Todd (CS '83), Chicago, is vice president/technical lead at Wells Fargo Securities.

Robert Ganofsky (ARCH '84), La Grange Park, Ill., is president of RBG & Associates, an architect-led design/build company that is entering its 20th year of service.

Jun Qiu (M.S. EE '84, Ph.D. '87), Irvine, Calif., is vice president of engineering for Operation Technology, Inc., a developer of power system analysis and design software programs.

Jama Barreh (EE '85, M.S. '87), Austin, Texas, is principal engineer at Oracle Corporation.

Ronald Mager (ARCH '85, BA '85), Marengo, Ill., has been named co-chairman of the board of directors of the Association for Manufacturing Technology. He is president and chief executive officer of Schaumburg (Ill.)-based Machinery Systems Inc.

Dhanes Charoensupaya (Ph.D. ME '86), Downers Grove, Ill., has been named to the board of directors of Myriant, a company that utilizes its proprietary technology platform to develop innovative, performance-based, renewable chemicals utilizing low-cost sugars. Charoensupaya is executive vice president of growth, sustainability, and innovation at PTT Global Chemical Public Company Limited, a Myriant partner.



Share Your News!

We want to hear from you! Send us your class note at alumni@iit.edu.

Dhru Desai (M.S. CS '86), Barrington, Ill., is chairman of the board of directors and chief financial officer of Quadrant 4, an information technology product and services company. He has successfully built both private and public companies in the IT and telecommunications field over the past 25 years, including Cronus Technologies, Inc.

Mike Gaynor (EE '86, M.S. '93), Crystal Lake, Ill., is RF technical director at Antenova, a leading developer and supplier of high-performance antennas and radio frequency antenna modules for wireless communication and consumer electronic devices.

Mark Grandau (EE '86), Verona, Wis., is a senior software developer at Ipswitch, a developer and marketer of software products and services for businesses worldwide.

Glenn Bolt (BA '87), Gilberts, Ill., is president of GMT, a thermoforming company.

Vidya Byanna (M.S. CS '87), Schaumburg, Ill., executive director of global infrastructure at Accenture, presented the lecture "Working Smart: The Convergence of Technology and Real Estate in Today's Workplace" at The Executives Club of Chicago in April.

Samuel Slocum (EE '88), Plainfield, Ill., is principal engineer for ComEd Corporate Telecommunications.

Robert Kenoun (M.S. EE '89), San Jose, Calif., is a system engineer at Intel Corporation.

Jay Stephens (LAW '89), Tulsa, Okla., recently became the chief executive officer and a principal in SCFM Compression Systems, Inc.,

a company that serves the natural gas, oil, and refinery/petrochemical industries by custom engineering and assembling high-spec gas compression systems. In his spare time, Stephens and his wife, Karen, are thoroughbred horseracing enthusiasts, planning their vacations around seeing famous racetracks and horse farms.

Sarah Weaver (Ph.D. PSYC '89), Springfield, Ill., is director of disability services at the University of Illinois at Springfield Adaptive Technology Lab.

1990s

Yung Bok Kim (Ph.D. EE '90), Seoul, Korea, a professor at Sejong University, has been named chairman of the IIT Korean Alumni Association.

Brian Loss (LAW '91), West Lafayette, Ind., a professor at Purdue University, recently led a team of students from the College of Technology to the United States Department of Energy's Solar Decathlon Competition in Washington, D.C., where they placed second. He joined Purdue's faculty in fall 2010 as a clinical assistant professor. Previously, he operated an electrical contracting business that specialized in medical industry service and infrastructure, access control work, and HVAC control wiring.

David Overley (CE '91), Janesville, Wis., is contract administrator at Ryan Incorporated Central, one of the nation's largest site-work contractors.

Kevin Bailey (ME '92, M.S. MAE '06), Long Beach, Calif., is a research and development project manager at VIA optronics, a fast-growing European market leader supplying enhanced LCD displays and related solutions.

Dale Bugner (ARCH '92), Chicago, is a project architect at DesignBridge, a diversified collaborative of architects and designers.

Robert Clinkert (M.S. EE '92), Naperville, Ill., is vice president of operations at Remotelink, an Internet presence marketing company offering cloud services and enhanced telecommunications products and services.

Brian Coppom (DSGN '92), Longmont, Colo., is chief executive officer of MyROW International, a company that provides conceptual, strategic, and tactical solutions within the electric power and wireless/wireline telecommunications industries.

Alton Norris (BA '92, IS '92), New Roads, La., is a lead training specialist with BP Americas Business Service Center.

Pratik Patel (M.S. CE '92), Naperville, Ill., is owner of Pratik Construction.

Navdeep Dhillon (EE '93), Seattle, is chief data scientist at Alliance Health Networks, the leading social networking company serving consumers and the health care industry.

Jason Kawamura (CPE '93, EE '93), Austin, Texas, is senior manager of network services at Electronic Arts, a leading global interactive entertainment software company.

Charles Wiemann (M.S. CS '93), Austin, Texas, is senior director of implementation for business intelligence at The Advisory Board Company, a global research, technology, and consulting firm helping hospital and university executives to better serve patients and students.

Jimmy Akintonde (ARCH '95), Chicago, president and chief executive officer of Ujamaa Construction, has been inducted into the 2012 UIC Chicago Area Entrepreneurship Hall of Fame.

Jeff Wang (M.S. CHEM '95, M.S. CS '99, CERT SE '03, LAW '10), Naperville, Ill., is an attorney at Wang & Associates.

Nazan Gunhan (M.A.S. ENVE '96), Ankara, Turkey, is HSE deputy manager at Limak Holding.

David Olverson (CS '96), Haverhill, Mass., is director of information technology for the Massachusetts Department of Public Health.

Joseph Ulrich (M.B.A. '96), Naperville, Ill., is a supplies collaboration engineer with Caterpillar.

Stephen Amato (CE '97), New Orleans, is project manager at ASC Solutions, a leading provider of financial and information technology services and products.

Michael Cipriani (ARCH '97), Norridge, Ill., is vice president of VOA Associates Incorporated, a global architectural design firm.

Gerald Renner (CS '97), Naperville, Ill., is a Web developer for DuPage County.

Lydia Scarpelli (M.S. EE '97), Glen Ellyn, Ill., is a scientific adviser and patent agent focused on preparing and prosecuting patents in the electronics and communication systems sectors at Brinks Hofer Gilson & Lione, one of the largest intellectual property law firms in the United States.

K. Sujata (M.B.A. '97), Evanston, Ill., is president and chief executive

officer of the Chicago Foundation for Women.

Edwin Booth (M.D.S. DSGN '98), Brooklyn, N.Y., is principal of Method Design, a design firm he helped found in 1999 that has grown from startup to multinational enterprise. He leads the New York office and serves as the firm's global leader for its interaction design practice. During the summer months, Booth also coaches his son's little league team.

Robert Brevette (CS '98, M.S. '98), Rowlett, Texas, is vice president of business development and marketing for the New York-based defense firm Advanced Reconnaissance Corp., a world leader in the research, development, and production of advanced multispectral and hyperspectral sensor systems with real-time processing for intelligence, surveillance, and reconnaissance applications.

Thomas Curran (MET '98), Chicago, is an administrative consultant at Dog Behavior Solutions, a licensed and insured business specializing in dog behavior-modification services.

Rachel Foster (LAW '98), Portage, Mich., has been elected to membership at the Miller Johnson law firm. Foster is part of the firm's business/corporate section and her practice focuses on matters involving general business, real estate, and construction.

William Huchting (ARCH '98), Chicago, is associate professor and chair of architecture and construction management at Oakton Community College.

Howard "Tad" Huntington (LAW '98), Mount Prospect, Ill., a partner at Williams Montgomery & John Ltd., presented the Indiana State Bar Association's statewide



Lily Lim (ARCH '99), Brooklyn, N.Y., and Studio a+i, the architectural firm she co-founded in 2004, won first prize in the AIDS Memorial Park Design Competition. The international contest drew nearly 500 entries from the United States and around the world.

"Why Lincoln Was a Lawyer" program to approximately 90 fifth grade students at Merrillville Intermediate School in February.

Mohammad Kahvand (M.S. CS '98), Darien, Ill., is principal software engineer at Covidien.

James Washington (CHE '98), Bolingbrook, Ill., is a process engineering supervisor at NOW Foods, a manufacturer of vitamins, healthy foods, natural personal care, and sports nutrition products.

Nathanial Byrnes (CS '99), Buffalo, N.Y., is chief technical officer at Elm DataCenter.

John Cieslewicz (CHE '99), Lake Villa, Ill., is a project manager at Nestlé.

Jong Hong (Ph.D. CHE '99), Bridgewater, N.J., is a director at Samsung Electronics.

Chad Jennings (M.D.S. DSGN '99), Oakland, Calif., is co-founder and vice president of product and design at Blurb, a creative publishing platform for designing, publishing, sharing, and selling bookstore-quality books. He has helped to lead Blurb from conception to a profitable, 50-person company with more than \$10 million in revenue in just three years.

Jill Rorem (LAW '99), Chicago, has been elected partner with Blackman

Kallick. She leads the firm's ProjecTemp legal staffing department as well as direct-hire placement of legal, administrative, and financial professionals.

Cesar Sanchez (ARCH '99), Brooklyn, N.Y., is a project architect at ARCT Architecture.

John Sohn (M.S. EE '99), San Ramon, Calif., is a reliability engineer at Cisco Systems.

Christian Ulrich (M.B.A. '99), Schmerikon, Switzerland, is director of strategic projects at the Coesia Group, a group of innovation-based industrial-solutions companies with global operations.

2000s

Aashish Chauhan (LAW '00), Chicago, has been named as a *Risk & Insurance* magazine 2012 Power Broker. He has been employed at Aon Risk Solutions for more than 10 years, providing risk management services to corporate clients.

Omar Martin (CERT FST '00), Blue Island, Ill., is a QA auditor at Fresenius Kabi, a leader in infusion therapy and clinical nutrition products.

Leondo Phifer (EE '00), Chicago Heights, Ill., is a regional manager at Primerica.

Farzad Damania (LL.M. '01), New York, has been promoted to special counsel at Schulte Roth & Zabel LLP. His practice focuses on capital markets, mergers and acquisitions, and counseling clients on compliance with federal securities laws and on general corporate matters.

Travis Life (LAW '01), Chicago, a Chicago entertainment attorney at Life Law Office, married Ellen Miller on February 19 at a seaside resort in Florida.

Krishna Gajula (M.S. CS '02), Schaumburg, Ill., is a solutions architect/lead application architect at Sears Holdings Corporation.

Usman Khalid (ME '02), Lisle, Ill., is regional automation sales manager at EESCO, a leading distributor of automation, control, and industrial products.

Isis Martinez (M.S. PHRD '02), Austin, Texas, is senior human capital consultant at Deloitte.

John Fay (M.P.A. '03), Lemont, Ill., is land manager for Lafarge North America. A Global 500 Corporation, Lafarge is the largest diversified supplier of construction materials in the United States and Canada. In 2011, he was part of a multidisciplinary team that spearheaded \$2.1 billion in acquisitions, divestments, and asset swaps as Lafarge restructured its North American operations.

Jacob Huske (EE '03), Chicago, has been promoted from senior associate to vice president at Environmental Systems Design and is a technical leader in ESD's mission critical facilities group.

Ankit Mehta (CHE '03), Hoffman Estates, Ill., is a senior neurosurgery resident at Duke University School of Medicine. She

plans to enter Johns Hopkins University for a fellowship in spinal oncology.

Raghu Kutty (CPE '04), Chennai, India, is director of information technology at Power Design, one of the top electrical contractors in the United States.

Christopher Widlak (CE '04, CERT CMGT '09), New Lenox, Ill., is a civil engineer at Ardmore Associates, an engineering consulting firm specializing in complex infrastructure, transportation, and major building projects.

Mohamed Al Khenazi (AE '05), Manama, Bahrain, is development manager at Dubai Airports Company.

Isaac Gaetz (CE '05, M.A.S. STE '11), Chicago, is a structural engineer at Sargent & Lundy.

Chanchal Gupta (M.B.A. '05), North Providence, R.I., is vice president of online sales for Fidelity Investments.

Richard Kodamanchili (CPE '05, EE '05), Chicago, is a senior associate at Cognizant, a global provider of information technology, consulting, and business process outsourcing services.

Chad Macbeth (M.S. CS '05), Kalamazoo, Mich., is a project engineer at Parker Aerospace.

Ashish Wankhade (M.A.S. MAE '05), Des Plaines, Ill., is an applications analyst at Rexam, one of the top five consumer packaging companies in the world.

Li-Jun Yang (M.S. MCOM '05), Memphis, Tenn., is a senior product manager at Medtronic, the world's leading medical technology company.

Mohammad Al Bataineh (M.S. EE '06, Ph.D. '10), Irbid, Jordan, is an assistant professor at Yarmouk University.

Srikanth Annavarapu (M.A.S. ECE '06), Edison, N.J., is a middleware analyst at Waste Management.

Amy Beribak (PSYC '06), Forest Park, Ill., is lead silver coach/assistant age group coach at the West Cook YMCA.

Vladimir Kovacevic (CE '06), Des Plaines, Ill., is a project manager at J.V. Henik, Inc., a full-service structural engineering firm providing services to developers, architects, and public- and private-sector agencies.

Prajvin Prakash (M.A.S. MAE '06), Bangalore, India, is a continuous improvement manager at Steelcase.

Pavan Ranga (M.A.S. CS '06), Miryalaguda, India, chief executive officer of Rangsons Electronics, was named number 26 in VentureOutsource.com's 2012 list of the "Top 100 People Influencing Electronics Manufacturing Services." Under Ranga's leadership, Rangsons—one of the leading electronics manufacturing services providers in India—has become well known in the EMS industry for being very proficient with complex, high-mix electronics manufacturing serving the medical, industrial, automotive, defense, and aviation markets. Ranga joined the company in 2001.

Steven Banaska (EE '07), Austin, Texas, is an analog hardware engineer at National Instruments.

Bradley Derrick (M.A.S. MAE '07), Orchard Park, N.Y., is enrolled in the M.B.A. program at the University of Rochester's Simon School of Business while serving as engineering manager at Derrick Corporation. He and his wife, Laurin, have a 2-year-old child.

Kevin Miller

(M.P.A. '07), Bolingbrook, Ill., is the director of finance and operations for the National Hellenic Museum.

Arka Mukherjee

(M.S. EE '07), Concord, Calif., is an electrical design engineer at WSP Flack + Kurtz, a multifaceted engineering firm.

Eric Wilmot

(M.D.M. DSGN '07), Litchfield, Conn., is managing director of Wellspring Systems, a company he and his girlfriend launched, which specializes in flush-mounted, convertible, self-watering planting systems for the built environment.

Tamakia Edwards

(ARCE '08), Joliet, Ill., is a project engineer in construction project management at GSA Public Building Services.

Joshua Gadharf

(LAW '08), Chicago, has joined the business restructuring and bankruptcy services practice at McDonald Hopkins. Previously, he was with Katten Muchin Rosenman.

Naveen Gupta

(M.A.S. ITM '08), Williamsville, N.Y., is a senior business intelligence engineer at Independent Health.

Christopher Hahn

(CS '08), Chicago, is a Web developer at Jspace, a Jewish online portal.

Dong Kim

(ME '08), Paju-si, South Korea, is a graduate research assistant at the University of Texas at Austin.

Devaraj Ramsamy

(BA '08), Las Vegas, Nev., is assistant chief financial officer at Health Management Associates.

Amy Sissala

(ARCE '08), Groton, Conn., is an engineer at General Dynamics.

Lydia Bengler

(ME '09), Tacoma, Wash., is a mechanical engineer at the Puget Sound Naval Shipyard,

managing reverse osmosis ship alteration onboard nuclear submarines.

Joanna Brinkman

(LAW '09), Washington, D.C., is a trial attorney with the United States Department of Justice in the Environment and Natural Resources Division, Natural Resources Section. She is responsible for, among other matters, defensive litigation in the aftermath of the Deepwater Horizon explosion and oil spill, which involved complex and high-profile litigation with significant public interests at stake.

Yu-Chieh Chiu

(M.S. CHE '09, Ph.D. BME '12), Chicago, is a postdoctoral fellow in the Department of Bioengineering at Rice University. His current research focuses on developing scaffolds for spatially directed growth factor delivery and osteochondral repair.

Jiachun Guo

(Ph.D. EE '09), Austin, Texas, is an applications developer at the Electric Reliability Council of Texas.

Lin Liu

(M.S. EE '09), Guangzhou, China, is a test engineer at Chamberlain, a manufacturer of access control products.

Victor Nigam

(M.S. EE '09), Hoffman Estates, Ill., is a senior systems engineer at Motorola Solutions.

Bardia Noohi

(M.S. CPE '09), Chicago, is a software engineer at kCura, a software company that develops applications for corporations, law firms, and government agencies.

Heather Olson

(ARCH '09), St. Paul, Minn., is a BIM modeler at Anning-Johnson, a specialty contracting company.

Reema Paranthan

(ARCH '09), Burlington, Ky., is working in global cash operations and treasury at Sun Chemical, the world's largest

producer of printing inks and pigments.

Ravindra Pateria

(M.A.S. MFGM '09), Pirojshanagar, India, is chief manager at Godrej & Boyce Mfg. Co., the holding company of the Godrej Group, which comprises 15 diverse business divisions offering consumer, office, and industrial products and services of the highest quality to every corner of India and across the globe.

Kunal Rele

(M.S. EE '09), Chicago, is a senior system engineer for Motorola Mobility.

Justin Roediger

(BME '09), Chicago, is a reimbursement analyst at Biodesix, a personalized medicine company focused on the development of diagnostic products that inform treatment decisions and improve patient care.

Mahdieh Salimi

(ARCH '09, M.D.S. DSGN '12), Oak Park, Ill., is a designer at Cervia Diagnostic Innovations.

Peter Schmitz

(CS '09), Delavan, Ill., is an associate programmer at Discover Financial Services.

Yin Shao

(M.S. EE '09), Plainsboro, N.J., is a research engineer at NEC Laboratories America.

Hyeok Jae Song

(M.A.S. CHE '09), Shoreham, N.Y., is a manager at YoungLim Chemical.

Raymond Steadmon

(LAW '09), Chicago, practices at Lane & Lane, where he represents catastrophically injured victims and their families in cases involving wrongful death, sex abuse, medical and professional malpractice, products and premises liability, and a variety of motor vehicle collisions. In 2011, he married Amber Renee Evans in St. Joseph, Michigan.

Charles Sticha

(ITM '09), Lyons, Ill., is a technical product manager

at Trustwave, the leading provider of on-demand data security and payment card industry compliance-management solutions to global businesses and organizations.

Dhara Trivedi

(M.A.S. ENVE '09), Buffalo Grove, Ill., is an environmental specialist at Abbott Laboratories.

David Boonstra

(INTM '10), Chicago, is a construction manager at Daidone/Aldridge Joint Venture.

Roy Chen

(CERT RET '10), Edinburg, Texas, is a software programmer at Inventec, a manufacturer of notebook computers, phones, personal digital assistants, calculators, and electronic dictionaries.

Tracy Korbus

(ARCE '10), Chicago, is a consultant at Perry & Cox Engineering.

Ronald Kristin

(INTM '10), Flowery Branch, Ga., is a manufacturing engineer at Sheetmetal Solutions.

Jonathan Reinecke

(ARCH '10), Villa Park, Ill., has been named vice president of 1-For-1 Foods.

Himadri Shah

(M.A.S. CS '10), San Diego, is an engineer at Qualcomm, a leader in next-generation mobile technologies.

Kyle Stachowiak

(CS '10), Saginaw, Mich., is a software engineer at kCura, a software company that develops applications for corporations, law firms, and government agencies.

Marcos Turqueti

(Ph.D. CPE '10), Vista, Calif., is vice president of engineering at Creative Electron, overseeing research and development for radiation detectors, DSP, and instrumentation.

Aneta Ustupska

(ARCE '10), Lemont, Ill., is a project engineer at the general contracting and construction management firm Bulley & Andrews.

Thomas Binois

(M.S. FIN '11), Paris, is an equity analyst at AXA Private Equity.

Mitchell Blosky

(ARCH '11), St. John, Ind., is the founder of 1-For-1 Foods, a business that donates one granola bar to an American food pantry/shelter for every bar purchased. He developed his business as an undergraduate with help from IIT's Knapp Entrepreneurship Center.

Jessica Bolack

(LAW '11), Westchester, Ill., is program director of the Center for Access to Justice and Technology at IIT Chicago-Kent College of Law. Most recently, she was employed at the Center for Computer-Assisted Legal Instruction (CALI), working with its lesson authoring software CALI Author and law professors who author the lessons.

Anthony Brent

(INTM '11), Yorkville, Ill., has graduated from the Warrant Officer Candidate School at Fort Rucker, Ala. He is assigned to the 472nd Chemical Battalion at the James W. Robinson Army Reserve Center in Chicago.

Eric Chang

(M.S. FIN '11), Schaumburg, Ill., is a financial engineer at Cognitive Capital.

Michael Dvorscak

(CS '11), Crystal Lake, Ill., is a software services analyst at Enablon, the world's leading provider of sustainability software.

Sarah Fanto

(LAW '11), Chicago, is an associate in the Intellectual Property Group at the Chicago office of Quarles & Brady.

Eduardo Gibaja

(M.A.S. ITM '11), Brunete, Spain, is co-founder and



chief of communications at Netgamix, a multimedia trivia platform.

Melene Hajakian
(BME '11), Troy, Mich., is an associate at MedeAnalytics.

Shaheryar Khurshid
(M.S. EE '11), Austin, Texas, is a component design engineer at Intel Corporation.

Eric Kieft
(EE '11), Park Forest, Ill., is a human resources information system specialist at Roosevelt University.

Kevin Lahm
(LAW '11), Chicago, is an associate at the Chicago firm of StellatoSchwartz.

James Lawson
(CERT CMGT '11), Chicago, is a project manager at Scale Construction.

Djordje Lukic
(INTM '11), Chicago, is an application engineer at the Henry Pratt Company, a valve manufacturer.

Amarish Mittapally
(CERM IT '10, M.A.S. ITM '11), Raleigh, N.C., is an information technology specialist at Midwest Foods.

Pugazhenthhi Narayanan
(M.S. CS '11), Salem, India, is a software engineer at PayPal India.

Janice Ninan
(M.A.R. ARC3 '11), Chicago, is founder of J | Space Studio, Inc., which offers a variety of services, including interior decoration, architectural drafting, and more.

Arun Ramnath Ramani
(M.S. EE '11), Austin, Texas, is a digital design engineer at Cirrus Logic.

Sanaz Saeedi
(M.A.R. ARC2 '11), Tehran, Iran, is an architect at Murphy/Jahn Architects, a firm headed by Helmut Jahn, who designed IIT's State Street Village student housing.

Rebecka Sexton
(M.S.D.M. DSGN '11), Arlington Heights, Ill., is owner of Contemporary Aesthetics.

Sheila Trannel
(LAW '11), Chicago, is an associate at Clingen Callow & McLean and represents corporate clients in the areas of business entity selection and formation, business transactions, lender representation, real estate transactions, and estate planning.

Michael Walters
(EE '11), Crystal Lake, Ill., is a product design engineer at Panduit.

Michael Addis
(BME '12), Chicago, is an associate researcher at Walter Reed Army Institute of Research, the largest and most diverse biomedical research laboratory in the United States Department of Defense.

Christine Cacci
(M.S.D.M. DSGN '12), Evanston, Ill., is director of creative services at StudioNorth.

Stephen Falk
(MSE '12), Chicago, is a health physics technician at the University of Illinois at Chicago.

Pranesh Jayaraj
(M.A.S. CS '12), Schaumburg, Ill., is a senior system test engineer at Motorola Solutions.

Carlos Morales
(M.A.S. ECE '12), Wheeling, Ill., is a senior research and development electrical engineer at Honeywell Analytics.

Aditya Muttur
(M.S. CPE '12), Bangalore, India, is project lead/specialist at Robert Bosch Engineering and Business Solutions.

Joel Plunkett
(EE '12), Chicago, is a ComEd associate engineer.

Gil Ryong Song
(M.A.R. ARC2 '12), Chicago, is an architect I at Perkins+Will.

Submit a nomination for the 2013 IIT Alumni Awards today!

The deadline for submitting nominations is October 31, 2012.

IIT presents eight awards annually:

- Alumni Medal
- Alumni Service Award
- Collens Award
- Galvin Award
- International Award of Merit
- Lifetime Achievement Award
- Outstanding Young Alumnus/Alumna Award
- Professional Achievement Award

To submit a nomination, mail or email the nominee's CV or resume as well as two letters of recommendation to:

Illinois Institute of Technology

Alumni Relations
10 W. 35th Street, Suite 1700
Chicago, IL 60616
312.567.5040 • alumni@iit.edu

ALUMNI EVENTS

For information about the upcoming alumni events listed here and other alumni activities, please contact the Office of Alumni Relations at 312.567.5040, alumni@iit.edu, or alumni.iit.edu.

PUMPKIN LAUNCH

Saturday, October 13, 2012

IIT Main Campus

Chicago

Plan to visit campus this fall for the 8th annual Pumpkin Launch. Enjoy cider and concessions while cheering on student teams as they catapult, fling, and lob the squash to new distances!

CAEE NETWORKING DINNER

Thursday, October 18, 2012

Maggiano's Little Italy

Chicago

Alumni are invited to attend the 14th annual CAEE Networking Dinner, featuring Catherine A. O'Connor (M.S. ENVE '93, Ph.D. '03), director of engineering for the Metropolitan Water Reclamation District of Greater Chicago. Tickets are \$35 per person; a table can be sponsored for \$1,250.

PRESIDENTIAL LECTURE SERIES

Friday, October 19, 2012

IIT Main Campus

Chicago

Join members of the IIT community for the inaugural lecture of the series, featuring Irwin Stelzer, senior fellow and director of the Hudson Institute.

COMPUTER SCIENCE REUNION

Sunday, October 28–Monday, October 29, 2012

IIT Main Campus

Chicago

Be part of the newly established annual reunion of IIT Computer Science alumni, faculty, and friends. For more information, please visit iit.edu/csl/cs.

SEATTLE ALUMNI GATHERING

Thursday, November 1, 2012

Microsoft Visitor Center

Seattle

Seattle-area alumni are invited to meet at the Microsoft Visitor Center for a networking event hosted by Frank Brod (MGT '75).

PHOENIX ALUMNI GATHERING

Thursday, November 8, 2012

Phoenix

Please join Phoenix-area alumni for a networking event being held at The Vig.

YOUNG ALUMNI

NETWORKING RECEPTION

Monday, November 12, 2012

Two Brothers Roundhouse

Aurora, Ill.

Young alumni are invited to reconnect with friends and learn what's new at IIT at a networking reception held in the western suburbs.

HOUSTON ALUMNI GATHERING

Tuesday, November 13, 2012

Houston

Houston-area alumni are welcome to attend a networking reception at McCormick & Schmick's restaurant.

AUSTIN ALUMNI GATHERING

Wednesday, November 14, 2012

Austin, Texas

Alumni are invited to join IIT for a networking reception.

IIT CAMPAIGN PUBLIC LAUNCH EVENT: "WHERE INNOVATION COMES TO PLAY!"

Friday, February 8, 2013

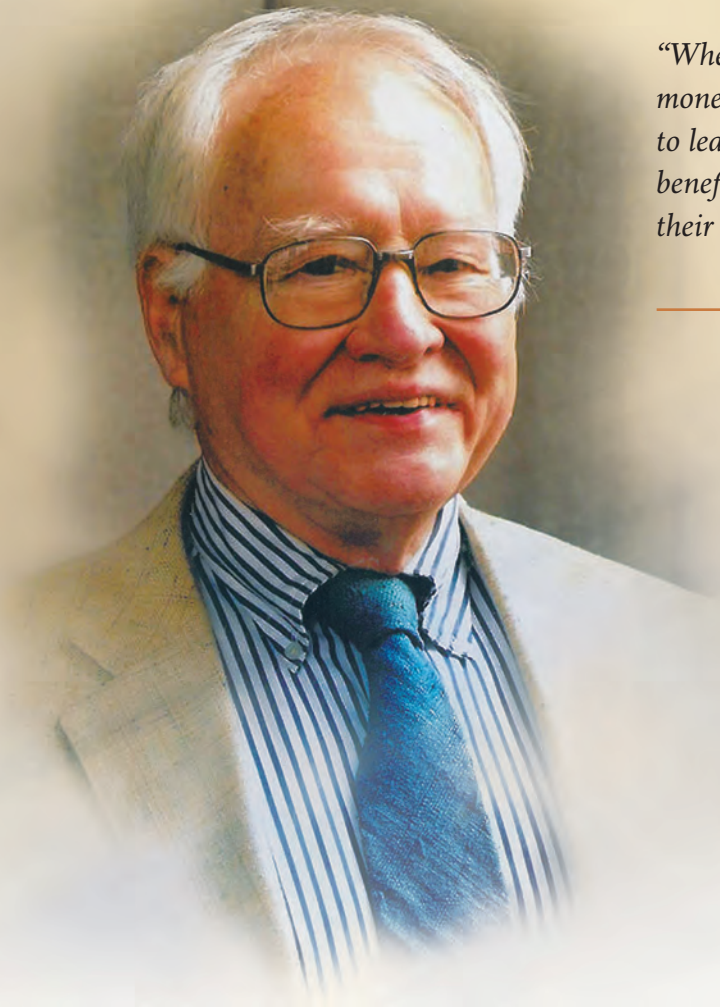
IIT Main Campus

Chicago

Join members of the IIT community for a day-long campus-wide celebration launching IIT's Fueling Innovation campaign.



Why a Bequest to IIT May Be Right For You



“When you get out of school, you don’t have much money. It takes a while to build that up. I wanted to leave some money that architecture students could benefit from—something that could help ignite their careers.”

DON WROBLESKI (ARCH '54)

BENEFITS OF A BEQUEST

- You want to help ensure IIT’s future.
- You want to leave a legacy of giving back.
- You don’t want to affect your current cash flow.
- You want your assets to remain in your control during your lifetime.
- You want to modify your gift to address changing circumstances.
- You want to direct your gift to a particular purpose (be sure to check with us to make sure your gift can be used as intended).

For **Don Wroblewski** (ARCH '54), the pivotal moment of his IIT education took place halfway around the world. It was while he was traveling through Italy, visiting historical and architectural landmarks, that he realized the impact his education would have on the rest of his life. “It’s extremely important for architecture students to travel,” he said. “It’s really important for them to see the history of the world and how architecture fits in.” Hoping to give other students the clarity he himself found overseas, Don created an architectural travel fund at IIT through a bequest in his will.

Don’t keep your gift a secret!

If you have named IIT as a beneficiary of your estate, please let us know so we may properly thank you and include you as a member of our esteemed Gunsaulus Society.

Visit www.iit.edu/giftplanning to begin learning how you can benefit from these giving methods and more. Contact Stuart Gold, director of gift planning, at 312.567.5020 or giftplanning@iit.edu.

Gunsaulus | SOCIETY



1. LEGO Cityscape On July 21, alumni and other members of the IIT community came together to create a 3,000-square-foot LEGO community in S. R. Crown Hall. *Photo: Dan Kuruna*

2. San Salvador Site Mary Boivin-McGhee, IIT Trustee and Alumni Board member Andrea Berry (CS '84), IIT Provost Alan Cramb, and IIT Trustee and Alumni Board President Adrian Nemcek (EE '70) joined the tour of the building site of the replica of the San Salvador in San Diego, led by [right] Bruce Heyman (M.S. EE '86). *Photo: Jenna Albright*

3. California Alumni Event Baldev Krishan (M.S. EE '70) and his wife, Anita, hosted an IIT alumni event in northern California in April. Professor Mohammad Shahidepour [left] and IIT Provost Alan Cramb [right] joined the Krishans at the event. *Photo: Splash Studios, Inc.*





4. Air and Space Tour IIT President John Anderson joined Zaiga and Edwin Tums (EE '57) at a Washington, D.C.-area alumni tour of the National Air and Space Museum's Steven F. Udvar-Hazy Center. *Photo: Chris Stump*

5. Fun Among the Trees IIT alumni along with family members and friends enjoyed a day at Morton Arboretum in Lisle, Ill. *Photo: Michael Goss*

6. In Tribute Nearly 300 people attended the Galvin/Pritzker Memorial Celebration at S. R. Crown Hall on May 23, where they heard a tribute speech given by Martin Cooper (EE '50, M.S. '57). *Photo: Bonnie Robinson Photography*

7. Panel Discussion IIT College of Psychology Dean M. Ellen Mitchell and IIT Trustee Joe Calabrese, chair of the Psychology Board of Overseers, along

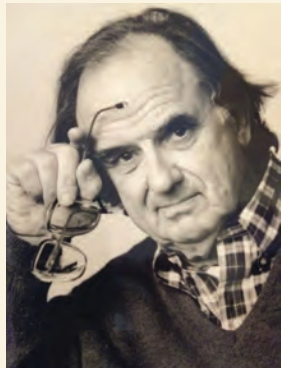
with [left to right] Richard A. Goodman, Barbara Brown Bowman (BIOL '74), D. Patrick Lenihan, Eugene Zeffren, Tita Zeffren, and Stephen Devries, took part in the panel discussion "Integrated Health Care and Quality of Life Promotion: The Bridge That Connects Health and Wellness." The college hosted the event on May 3. *Photo: Bonnie Robinson Photography*

8. Recalling "The Bobs" Monsignor Kenneth Velo and Rabbi Michael Zedek shared memories of Bob Galvin and Bob Pritzker, respectively, at the Galvin/Pritzker Memorial Celebration. *Photo: Bonnie Robinson Photography*

9. Congrats, Grads! Graduating students and alumni shared a laugh with IIT President John Anderson at a party celebrating Commencement 2012. *Photo: Bonnie Robinson Photography*

10. New York Chapter Liz Byrnes (M.S. PSYC '81, Ph.D. '83) hosted an event at Goldman Sachs with more than 70 alumni and friends to help launch the New York IIT Alumni Chapter in May. Byrnes [center] welcomed speakers [left to right] Christopher Hayward (EE '87), IIT Provost Alan Cramb, IIT President John Anderson, and IIT Stuart School of Business Associate Dean John Bilson. *Photo: Char Smullyan Event Photography*

11. Alumni Employees Gathering IIT Trustee Alan "Bud" Wendorf (ME '71) [second from right] hosted an event at Sargent & Lundy, where he is chairman and chief executive officer, for the more than 165 IIT alumni employed there. *Photo: Bonnie Robinson Photography*



Jacques Calman Brownson
ARCH '48,
M.S. '54
IIT Faculty
Member
IIT College of
Architecture

Inspired by his mentors and teachers Ludwig

Mies van der Rohe and Ludwig K. Hilberseimer, Jacques Calman Brownson became chief architect of one of Chicago's most notable post-World War II skyscrapers, the Richard J. Daley Center. Originally named the Chicago Civic Center, the 648-foot-tall building, then the tallest in the city, was completed in 1965 and features 87-foot-wide floor trusses and an exterior clad in COR-TEN steel, which oxidizes to a russet color. A year later, the building's plaza was adorned with Picasso's sculpture fabricated in matching COR-TEN.

Brownson's studies as an IIT architecture undergraduate were interrupted by three years of service with the United States Army Corps of Engineers. For his master's thesis, Brownson planned and built his own steel and glass residence in west suburban Geneva, Ill. From the time he was a student, Brownson worked for various Chicago architects, including Naess & Murphy (now C. F. Murphy Associates), the firm for which he headed the Chicago Civic Center project.

Brownson taught at IIT from 1948–1959 and was chairman of the Department of Architecture at the University of Michigan, Ann Arbor, from 1966–68. After serving as the first managing architect for Chicago's Public Building Commission from 1968–1972, he moved to Colorado, where he became director of planning and development for the Auraria Higher Education Center and director of Colorado's state buildings division from 1976–1986.

Brownson's survivors include his wife, Doris; daughter, Lorre; a brother; and many grandchildren and great-grandchildren.

Robert D. Cadieux
BE '59, IIT Division of Liberal Studies
IIT Life Trustee

After graduating from IIT, Robert D. Cadieux began a longtime career with Standard Oil of Indiana (re-named Amoco Corporation in 1985) and rose from junior accountant to executive

vice president. He left Amoco in 1992 and then served as president and chief executive officer of Air Liquide America Corporation from 1993–95, before his retirement.

Cadieux was very active at IIT and contributed to his alma mater in numerous ways. He was elected to the Board of Trustees in 1986 and served on the Board of Governors for IIT Armour College of Engineering and IIT Research Institute. He also held roles in various alumni endeavors, serving on the Alumni Trustee Council, the Dean's Alumni Council of IIT Stuart School of Business, and the IIT Alumni Association. Additionally, in 1991, Cadieux served as vice president for education on the Board of Trustees and in 1997, was named a Life Trustee. He was also instrumental in obtaining funds from Amoco for IIT's Center of Excellence in Polymer Science and Engineering. The university honored Cadieux for his work at Amoco with a 1987 Professional Achievement Award.

Cadieux's survivors include his wife, Mary Martin Cadieux, two sons, a daughter, a sister, a nephew and niece, and many grandchildren.

Howard M. Dean Jr.
IIT Trustee

Following in the footsteps of his grandfather Samuel E. Dean Sr., founder of Dean Foods Company, Howard M. Dean Jr. helped to build the dairy into the country's second largest before it merged with Suiza Foods Corporation in 2001.

Dean served in the United States Navy before joining Dean Foods in 1965 as an internal auditor. Five years later, he rose to president and chief operating officer, and in 1987 became president and chief executive officer. After the company's merger with Suiza Foods, Dean retired as Dean Foods chairman in 2002.

A lifelong resident of Hinsdale, Ill., Dean was elected to the IIT Board of Trustees in 1988. Dean Foods was a founding member company of IIT's National Center for Food Safety and Technology.

Dean's survivors include Diane, his wife of 52 years, two daughters, two brothers, and many grandchildren.

Yasuhiro Ishimoto
PHOT '52
IIT Institute of Design

Considered one of the leading individuals in the revival of photography in Japan in the years immediately following World War II, Yasuhiro Ishimoto developed an interest in the profession while confined to the Amache

Japanese Internment Camp in Colorado from 1942–44. After he was released, the United States government forbid him from living on either coast. He settled for a while in Chicago, where he enrolled at the New Bauhaus, the predecessor to IIT Institute of Design. Studying under Harry Callahan and Aaron Siskind, he was an acclaimed student, twice winning the Moholy-Nagy Prize.

After graduating from IIT, Ishimoto returned to Japan and photographed the Katsura Imperial Villa in Kyoto, thanks to a commission from New York's Museum of Modern Art. His work is featured in the book *Katsura: Tradition and Creation in Japanese Architecture*, considered perhaps the most significant photographic publication of Japanese architecture. He came back to Chicago in 1958 and over the next three years photographed primarily street scenes for the book *Chicago, Chicago*. He then returned to Japan, becoming a naturalized citizen in 1961. He spent many additional years participating in exhibitions and teaching. He is the recipient of numerous honors, including being named a Man of Cultural Distinction by the Japanese government in 1996.

Ishimoto is survived by a nephew, Takashi Ishimoto.

James C. Klouda
EE '50
IIT Armour College of Engineering

After graduating from IIT on a Cook Scholarship, James C. Klouda joined Motorola as a researcher. In 1954, he and his wife, Marilyn, founded Elite Electronic Engineering, Inc.—one of the first independent electromagnetic compatibility testing laboratories in the world—and remained with the company his entire career. Today, Elite is a recognized leader in the electronics testing industry and has more than 60 employees, including many of Klouda's family members. Klouda received an Alumni Professional Achievement Award in 2002 and was inducted into the Chicago Area Entrepreneurship Hall of Fame in 2007.

Klouda began his long history of involvement at IIT in 1985, when he and his wife became members of the Parents Association while their son Thomas (EE '85) was a student. Klouda served as association vice chairman of student recruiting and retention, and was also elected director of the IIT Alumni Association in 1987 and 1989. An advocate for education, Klouda made significant contributions to several university funds. In 2007, the James C. Klouda Family Laboratory was dedicated as a state-

inmemoriam

of-the-art undergraduate and graduate facility featuring a renovated space and new equipment.

In addition to Marilyn, his wife of 60 years, and son Thomas, Klouda is survived by sons James, Raymond, and Joseph, daughter Janet, and nine grandchildren.

William “Bill” Lavicka

CE '67

IIT Armour College of Engineering

William “Bill” Lavicka and his late wife, Alys, began rehabbing their nineteenth-century mansion on Chicago’s 1500 block of West Jackson Boulevard in the late 1970s. A few years later, the entire block was dubbed “an Eden on the West Side” thanks to their efforts. The couple helped and inspired neighbors to restore eight other homes, resulting in the block being named to the National Register of Historic Places.

Lavicka became interested in historic preservation as an IIT student. After serving in Vietnam as a Seabee in a construction battalion with the United States Navy, he designed nuclear power plants for Sargent & Lundy. He then started his own business, Historic Boulevard Services, a restoration and renovation firm specializing in properties on the West Side and South Side of Chicago. Over a nearly 40-year period, Lavicka was an impassioned advocate for historic preservation and saved more than a dozen churches, a German social club, and numerous residences—mansions and more lowly abodes alike.

A strong supporter of the Structural Engineers Association of Illinois, Lavicka served as SEAIOI president from 1985–86 and as a director for many years. He was honored with the SEAIOI Service Award in 1998 and the Robert Cornforth Award from the National Council of Structural Engineers Associations in 2011 in recognition of his exceptional dedication and exemplary service to the organization.

Lavicka is survived by daughter Amber and sons Kelsey and Corey, who continue to operate the family business, two sisters, and a brother.

Marvin Levine

EE '53, IIT Armour College of Engineering

Adjunct Professor, IIT School of Applied Technology and IIT Stuart School of Business

Marvin Levine began his longtime association with IIT in 1953, when he joined IIT Armour Research Foundation (the predecessor to IIT Research Institute). In 1958, he began working for Howe Richardson International and retired as the company’s president and chief executive officer in 1987. In the 1980s, Levine co-founded

Acorn Group, a consulting firm specializing in single-proprietor and investor-owned companies. He also served as president and CEO of Mangood Corporation and was a member of the senior management team at GATX Corporation.

A well-respected and dedicated faculty member, Levine taught graduate courses at IIT Stuart School of Business from 1990–2006 and developed and taught courses in the Industrial Technology and Management Program at IIT School of Applied Technology since 1994.

Levine’s survivors include Marlene, his wife of 57 years, two sons, and many grandchildren.

Pedro L. “Pete” Rustan

EE '70, M.S. '70

IIT Armour College of Engineering

During a career that began in the midst of the Cold War, Pedro L. “Pete” Rustan—former director of the National Reconnaissance Office (NRO) Mission Support Directorate—blazed a trail of technical innovations that led to significant advances in aviation and space, and helped greatly improve United States intelligence-collection activities. Rustan made his mark early in his 26-year career in the U.S. Air Force. As a second lieutenant in the early 1970s, he crafted the specifications to integrate the first set of inertial measurement units in a military aircraft, the C-141. He also led an effort to tackle the problem of military aircraft crashing due to direct lightning strikes. In the 1990s, Rustan gained widespread notice as the program manager of Clementine, a spacecraft that mapped the surface of the Moon using 11 spectral bands and suggested the presence of ice at the South Pole.

Rustan retired from the Air Force in 1997 as a colonel and spent several years consulting for commercial space ventures. He also worked on charitable projects, adopting a remote village in Honduras and raising money through his church to install a water system, expand a one-room schoolhouse, and provide shoes to children. He returned to the NRO after the September 11 terrorist attacks to head the agency’s Advanced Systems and Technology, Ground Enterprise, and Mission Support directorates. During the past decade, he invented two classified spacecraft that have significantly improved U.S. capabilities in intelligence, surveillance, and reconnaissance missions.

Rustan’s survivors include Alexandra, his wife of 33 years, a son, a daughter, three sisters, an aunt, and numerous cousins, nieces, and nephews.

William Chapman

ME '39
Ooltewah, Tenn.

William Bauch

CE '41
Catonsville, Md.

John Aikens

ME '43
Redwood City, Calif.

Raymond Krause

ME '43
Shreveport, La.

Dorothy Moriarty

ARCH '43
Park Ridge, Ill.

Edith Vaughan

LAW '46
Oak Park, Ill.

William Maier

ME '48
Crystal Lake, Ill.

Lavern Miller

CE '48
Oak Brook, Ill.

Joseph Hamilton

ME '49
West Palm Beach, Fla.

William McKeown

CHE '50
La Grange, Ill.

Donald Tuttle

EE '50
Boyd's, Md.

Mitsuo Yamada

EE '50
Saratoga, Calif.

Norman Marcovitch

EE '51
Laguna Woods, Calif.

William Nash

LAW '51
Rockford, Ill.

Arthur Debb

MET '52
Arlington Heights, Ill.

Marie Ekvall

HE '52
Evanston, Ill.

Joseph Sisti

MET '52
Rockford, Ill.

Robert Lowery

EE '53
Albuquerque, N.M.

Sheldon Segel

ARCH '53
Milwaukee, Wis.

John Copeland

ME '54
Northborough, Mass.

Jerome Field

LAW '54
San Francisco

William Worden

EE '55
Naperville, Ill.

Reinhard Plaut

ARCH '56
Chicago

Frederick Graham

EE '57
Belmont, Calif.

Kenneth Kutil

FPSE '57
San Luis Obispo, Calif.

Jonathan Bulkley

ARCH '58
San Francisco

Daniel Shore

ME '58
Prospect Heights, Ill.

Robert Cadieux

BE '59
Louisville, Tenn.

Joel Mosak

EE '59
Spring Grove, Ill.

Charles Spencer

LAW '62
Naperville, Ill.

Anthony Scavo

CE '63
Gahanna, Ohio

George Lucas

ME '66
Fuquay-Varina, N.C.

Donald Enick

EE '67
Lawrence, Kan.

Manuel Martinez

BE '68
Mount Prospect, Ill.

Lorraine Goldberg

Ph.D. PSYC '73
Chicago

Walter Fabing

MGT '74
Trenton, N.J.

Thomas Maas

LAW '76
Fairview, Ill.

Walter Augustin

EE '80
Altamonte Springs, Fla.

Lisa Liewald

LAW '86
Riverside, Ill.

Cynthia Lafuente

LAW '88
Wilmette, Ill.

Charles DeYoung

M.A.S. HP '09
Williamstown, N.J.

Eugene J. Polley

Attende
Lombard, Ill.

by Marcia Faye

television visionaries



Eugene J. Polley

To quote the late American economist Theodore Levitt: “Just as energy is the basis of life itself and ideas the source of innovation, so is innovation the vital spark of all human change, improvement, and progress.” The innovative contributions of two people with IIT connections—the late Eugene J. Polley, an Armour Institute of Technology attendee who passed away earlier this year, and Jeffrey Krauss (PHYS '64)—have been instrumental in the evolution of consumer television technology.

Bestowed with such nicknames as the “Czar of Zapping” and the “Beach Boy of Channel Surfing,” Polley is credited as being the inventor of the first wireless TV remote control. His Flash-Matic, created in 1955 during his long career with Zenith (now a subsidiary of LG Electronics), resembled a flashlight and activated photocells on the TV screen to change channels. In 1997, Polley and fellow Zenith engineer Robert Adler received an Emmy Award from the National Academy of Television Arts and Sciences for “Pioneering Development of Wireless Remote Controls for Consumer Television.”

“Gene Polley’s Flash-Matic remote devised a way to change channels from across the room and ‘mute the sound on those annoying commercials,’ as he liked to say,” says John I. Taylor, Zenith historian and vice president of public affairs and communications, LG Electronics USA, Inc. “The consumer electronics industry we know today has been built largely by engineers standing on the shoulders of giants. Gene will always be among the industry’s and Zenith’s shining stars.”

As worldwide interest in improved television picture quality increased, and cable and satellite television began to embrace digital technology, the United States broadcasting industry pushed the Federal Communications Commission to investigate advanced television technology. The early 1990s was a pivotal time in TV transmission.

“The digital television system that we have today is largely the result of those investigations,” says Krauss, an independent consultant whose former client—General Instrument Corporation—presented the first proposal for digital HDTV transmission to the FCC in 1991. Other companies followed suit. “In a sense, that was the start of the race toward digital television in the U.S.,” he adds.

Krauss has also chaired the drafting groups for a number of HDTV and cable TV technical standards in effect today. In 2011, he was honored with the Excellence in Standards Award by the Society of Cable Telecommunications Engineers, the technical and applied science leader for the cable telecommunications industry.





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Mead Killion (M.S. Math '70) created the world's first "tubephone" insert earphone in 1984, and not only revolutionized the acoustics industry, but forever changed the way humans tuned out noise around them and tuned in to subtleties in sound. The founder, president, and chief technology officer of Etymotic Research has more than 80 patents and a number of "world's first" titles for his auditory testing instrumentation, insert earphones, and hearing aid components.

Innovation is at the core of the IIT educational experience. And IIT graduates such as Killion are fueling innovation throughout the world in countless ways, both big and small.

How are you "fueling innovation"? Do you know other IIT alumni whose ideas, projects, and products have made a real difference?

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