

ILLINOIS INSTITUTE OF TECHNOLOGY

iit magazine

Winter 2011



ENTERPRISING
IDEAS

ENTREPRENEURSHIP AND IIT

NEW ACADEMIC INITIATIVES
STUDENT PROGRAMS
ALUMNI AND FACULTY ENTREPRENEURS

SUSAN SOLOMON Helping the River Flow WALTER CICIORA Digital Cable TV Pioneer
RESEARCH Seasonal Affective Disorder, Augmented Reality

Letter from the President

"If I have seen further it is by standing on the shoulders of giants."

—Sir Isaac Newton, letter to Robert Hooke, 1675

This famous quote reminds us that our successes are based in good measure on contributions made by those who came before us. As I think about the importance of the university alumni and faculty who preceded us, I think of this quote.

IIT has more than 65,000 living alumni throughout the United States and the world. The achievements of our graduates are not only a source of pride for the university, but also a measure of our success in educating those who have made the contributions. While important creations and discoveries have been made at IIT, the dominant contributions to society have been through our graduates. The work of our alumni has led to the invention and development of technologies and products such as the cellular phone, magnetic recording, the first nuclear reactor for industrial research, the Pentium processor, and even electro-optical night vision equipment. However, bragging about these achievements is not enough. For sustained success, IIT needs engaged alumni who promote the university and stay connected.

The prominence of a university is as much dependent on alumni support as it is on the accomplishments of current students and faculty. The university has not done a good job of developing engaged alumni. We are committed to changing this. This effort has begun at IIT with a rejuvenated Alumni Board, headed by Trustee Adrian Nemcek (EE '70) and supported by Trustees Andrea Berry (CS '84), Joel Krauss (MATH '71), and Bud Wendorf (ME '71). The agenda of the board includes *building relationships and lifelong connections with IIT alumni*. We are seeing evidence of this effort through regional receptions, which are being hosted by alumni throughout the country, and a broad, increased alumni interest in the life of our university. Our goals are to build alumni pride, expand and strengthen the alumni network, and connect prospective and current students with alumni.

Alumni relations is a clear priority for us. To achieve the vision of IIT, we will need to stand on the shoulders of our alumni.

John L. Anderson

John L. Anderson
President

VISION: IIT will be internationally recognized in distinctive areas of education and research, using as its platform the global city of Chicago, driven by a professional and technology-oriented focus, and based on a culture of innovation and excellence.

Members of the Class of 1950 at
Homecoming 2010 on Main Campus



EDITOR
Chelsea Kalberloh Jackson

CONTRIBUTORS
Marcia Faye
Richard Harth
Michelle McKenzie-Voigt
Tanya Pantone

ART DIRECTOR
Nancy Niequist Schoon

DESIGN
Scott Benbrook
Marty Schalm
Nancy Niequist Schoon
Jessica Serafin

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SEND LETTERS TO
IIT Magazine
Office of Communications
3300 South Federal Street, Suite 503
Chicago, IL 60616-3793

OR EMAIL iitmagazine@iit.edu

SEND ALUMNI NEWS TO
alumni@iit.edu

Founded in 1890, Illinois Institute of Technology is a private Ph.D.-granting university that awards degrees in engineering, the sciences, architecture, law, design, psychology, humanities, and business.

IIT MISSION STATEMENT
To provide distinctive and relevant education in an environment of scientific, technological, and professional knowledge creation and innovation.

IIT Armour College of Engineering
IIT Chicago-Kent College of Law
IIT College of Architecture
IIT College of Psychology
IIT College of Science and Letters
IIT School of Applied Technology
IIT School of Design
IIT Stuart School of Business

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A variety of programs at IIT teach students how to take their ideas from concept to commercialization—and fellow students, alumni, and faculty are leading the way.



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Susan Solomon's discoveries about the ozone hole and climate change are providing knowledge for current and future generations.



IIT MAGAZINE ONLINE-ONLY CONTENT!

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

IIT FUNDRAISING CAMPAIGN UPDATE

IIT's six-year fundraising campaign, launched on June 1, 2010 and currently in its leadership and planning phase, achieved an early milestone in the development of campaign priorities and celebrated two new lead gifts.

Campaign Priorities Set

In the fall, IIT leadership, including deans and campaign leaders, identified the campaign priorities that will guide the fundraising efforts. In support of the strategic plan, *Many Voices, One Vision*, the priorities include strengthening IIT's distinctive education, fostering innovation and entrepreneurship, and addressing key twenty-first century problems. Gifts will be sought for endowed professorships, undergraduate scholarships, graduate fellowships, and strategically important facilities for research and education.

"Although we made good progress toward the achievement of our strategic plan last year, we need additional resources to reach our goals," says IIT President John Anderson. "We are viewing this campaign as the foundation that will enable future excellence at the university."

Wanger Makes New Gift to Namesake Institute



IIT Life Trustee and Armour Society member **Ralph Wanger** made an additional \$10 million commitment to support the Wanger Institute for Sustainable

Energy Research. IIT's launch of WISER in 2007 to enhance the university's energy and sustainability research activities was possible due to Wanger's initial gift of \$5 million that year. The 2007 endowed gift helped IIT to secure additional tens of millions of dollars for such new WISER research projects as clean coal technology, energy efficiency and plug-in/hybrid vehicles, wind energy, and smart grid technology.

• www.iit.edu/wiser

New Leadership Program to Benefit Students and Faculty

IIT Regent **Craig Duchossois** and his wife, **Janet**, Armour Society members, made a \$10 million gift to the university to create a unique leadership program designed to attract and connect outstanding students and faculty, and to foster their dedication



to leadership and service to others. This recent commitment enables IIT to launch the Duchossois

Leadership Scholars Program, an elite scholarship program aimed at top students from across the country who have demonstrated exceptional leadership potential and academic success. It also makes possible the launch of the Duchossois Leadership Professors Program, a faculty leadership initiative that will allow IIT to attract and retain high-quality teachers and scholars and to provide a path to university academic and scholarly leadership for up-and-coming professors.

• To support the campaign, visit www.iit.edu/giving/campaign_for_iit.

“We are viewing this campaign as the foundation that will enable future excellence at the university.”

— IIT PRESIDENT JOHN ANDERSON

letters

campus

Social Media Prompts Alumna to Write

Dear IIT:
I see your messages on LinkedIn. I wanted to say thank you for your excellent instruction. I got my M.S. in technical communications and information design there in 2001. I had a hugely enjoyable time, worked harder than I ever imagined I could, and loved every minute of it. The professors were wonderful. They encouraged me to follow my passion, and they tried to support my interests with associated study projects. They always tried to say “yes” instead of “no” if I had a topic I wanted to explore. And, of course, the technical quality of IIT at large as a university was really superior. The bookstore on State Street was like Tech Mecca.

Both before and subsequent to my graduation from IIT, I worked in the field of technical communications. And I still do. Currently, I am a program specialist with FEMA, and it's very technical, wonderful, complex work. My working hours are very busy and full of interesting challenges, and my days usually fly by. My peers are incredibly talented, and it is great to be here. I love my work. So thank you, IIT, for an awesome grad school and a great techie program. I use the skills I learned at IIT every day in my work.

Martha Shaw
(M.S. TCID '01)

Write back!

IIT Magazine welcomes all signed letters to the editor and edits letters 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



FollowUP

Updates on people and places
previously covered in IIT Magazine

“Students Speak Asks Students to Talk Back”

Spring 2010

In October 2010, IIT's student-led Students Speak initiative launched its second annual survey of the student body by publishing progress reports for each of the seven IIT departments identified last year as most in need of improvement. The reports appeared in *TechNews*.

Mies, New Bauhaus Named Among Artistic Breakthroughs

Ludwig Mies van der Rohe was ranked, along with his work at IIT, as No. 2 on *Chicago Magazine's* list of “Top 40 Artistic Breakthroughs” in the city's history. Published in September 2010, the list notes Mies' role in elevating IIT's architecture program and designing the Main Campus Master Plan and S. R. Crown Hall. According to the magazine, Mies “usher[ed] in a second golden age for Chicago architecture.”

The New Bauhaus—a predecessor of IIT School of Design—and its founder, László Moholy-Nagy, was ranked No. 30 for the school's influence on abstract black-and-white photography.

View the entire article at www.chicagomag.com/Chicago-Magazine/September-2010/Top-40-Artistic-Breakthroughs-Chicago-Arts-and-Culture.

“Balancing Act”

Spring 2010

Brant Cage and Sandra Bishnoi, assistant professors of chemistry, are co-principal investigators with Physics Professor John Zasadzinski on a joint project with Fermilab and Argonne National Laboratory. The group is working to improve the surface of the superconducting radio-frequency cavities that will accelerate electrons through the proposed International Linear Collider, which could become the world's next high-energy collider. To read the *IIT Magazine* online-exclusive article about this project, visit www.iit.edu/magazine.

“Staking His Claim on Wood”

Fall 2010

Architecture Studio Associate Professor Paul Pettigrew, whose work with reclaimed ash wood led to the development of a line of Chop Shop tables for CB2 stores, delivered his students' designs from his Architecture and Furniture course to The Cove School in Northbrook, Ill. The school is reviewing the student work to determine whether to commission additional versions for its classrooms.





Students participating in IPRO 357 include [left to right] Alex Mathai, Woo Shin, Samir Qaisar, Chris Anglin, Svetlana Semenova, Yao Xiao, Namrata Hegde, Joong Geun Yun, Samantha Prokop, and Jorge Rueda.



High-Performance Homes

I PRO SPOTLIGHT



Two Bedroom Unit



Three Bedroom Unit

IIT FAST FACT: ENERGY



As of September 1, 2010, **100%** of IIT's electricity for the next three years will come from low- or no-carbon alternatives.

64% HYDROELECTRIC
35% NUCLEAR
1% WIND



The notion that sustainability starts at home is especially true for the Interprofessional Projects (IPRO) Program courses IPRO 357 and IPRO 358: The CommuniITy Collaborative. The courses aim to build zero-energy housing communities to offer residents innovative yet practical energy-saving solutions that address contemporary housing needs. The communities will share infrastructure and energy generated onsite via solar, wind, or geothermal sources.

The courses were established and are led by IIT Adjunct Professor Steve Beck (ARCH '89), along with Civil, Architectural, and Environmental Engineering Senior Lecturer Mark Snyder and Adjunct Professor William Paschal. Through a partnership with the city of Evanston, Ill., students in the courses are working to develop a site where sustainable townhomes could potentially reside.

Focusing on the needs of real-world stakeholders—including buyers, real estate brokers, builders, investors, bankers, consultants, neighbors, and municipalities—the teams are encouraged to consider applicable guidelines, current energy consumption in the area, projected energy consumption with sustainable housing, budgets, and zoning issues, before beginning the design process. This process challenges students to think entrepreneurially while designing high-performance housing communities.

Each of the two courses includes 15 students, each competing as a team to develop the same site in Evanston. The course advisors invite a diverse group of outside industry experts to judge the two teams at the end of each semester. According to Beck, the competition provides the students an extra push. “As course advisors, we feel

that the competition aspect of the teams has encouraged students to think of new strategies and ideas, many of which have exceeded our expectations.”

During the fall 2009 semester, one of the teams then taking the course, Zero CommuniITy, developed its own model for a “standard home” and compared the home’s energy usage to that of the team’s high-performance home prototype. The team found that the

projected energy usage of the high-performance home was one-third that of a standard home. Additionally, the

students were able to satisfy the high-performance home’s entire energy demand with photovoltaic arrays onsite. Photovoltaic arrays, often used on rooftops, are linked collections of photovoltaic modules that convert solar energy into direct-current electricity.

Green Class Community, a team participating in the course during the fall 2010 semester, further reduced the prototype’s energy usage by 13 percent, while reducing its construction costs by 20 percent. The team attributes the additional energy reduction to an energy recovery ventilator, LifeWare energy-management control systems, and optimal solar orientation.

The two teams participating in the Fall 2010 IPRO Day, Greenleaf and Green Class Community, were awarded

Overall Track Winner, Best Exhibit, and Best Presentation. For the spring 2011 semester, the teams are collaborating with industry professionals, including Sargent & Lundy electrical engineer Curtis Cox (EE '03, M.S. '08) and President of Robertson Riley, Inc. Benjamin Riley (ARCH '92), also an IIT assistant professor of architecture, as they compete for the 2011 National Council of Examiners for Engineering and Surveying

Engineering Award. The award, established in 2009, rewards college engineering programs for engaging their students in collaborative projects with licensed professional engineers.

For Christopher Anglin (BADM 5th year), who is pursuing a minor in construction management, the opportunity to work with industry professionals on IPRO 357 offered him a realistic view of what he may be doing after graduation.

“The project provided me with a better understanding of all of the work that goes into designing a community. Learning to deal with the challenges of working on a project of this size, in a group setting, has been a great real-world experience,” says Anglin.

—Tanya Pantone



MORE ONLINE

IPRO 357 and 358: http://ipro.iit.edu/project-listings/future-projects#Spring2011_357
Business Alliance for a Sustainable Evanston: www.baseevanston.org
National Council of Examiners for Engineering and Surveying®: www.ncees.org

IIT WELCOMES NEW TRUSTEE



At its October 6, 2010 meeting, the IIT Board of Trustees inducted a new member, **Joel Krauss** (MATH '71), managing partner and co-founder of Market Strategy Group, LLC, a Chicago-based business strategy consulting firm. Krauss is co-chair of IIT’s fundraising campaign.

IIT is celebrating the capstone of University Technology Park's development with the commencement of construction of Incubator-South, a 28,000-square-foot building with space for 30 companies within 15 wet labs and 15 dry labs/offices. This project illustrates a comprehensive and integrated local, city, county, state, and federal strategic commitment to economic development. The key funding came in the form of a \$4.5 million capital grant from the United States Economic Development Administration, matched by \$2 million in state funding.

New UTP tenants include EDDR Corporation in IIT Tower and Intelligent Generation LLC in the Incubator. EDDR is a company supported by the TechAdvantage@IIT program, funded by the U.S. Small Business Administration. Intelligent Generation™ focuses on the economic use of solar-based electricity generation in the Midwest and Northeast.

• www.universitytechnologypark.com

utpwatch

WHEN SCIENCE MEANS BUSINESS

Many science professionals aspire to further their careers with the help of advanced degrees. For some, working a full-time job while going to school to earn a master's degree or Ph.D. is nearly impossible. Additionally, many degree programs focus heavily on research, which may not align with some students' post-graduate career goals.

In 1996, IIT became one of the first universities in the country to address these issues by establishing a Professional Science Master's program, with the goal of preparing students for science careers outside of academia. The program was developed with the help of the Alfred P. Sloan Foundation, which provided funding for many of the PSM programs.

"Oftentimes science degrees prepare students for research, but they go into industry and are lacking the business skills they need to be successful," says PSM Program Manager and President of the National Professional Science Master's Association Elizabeth Friedman. "The PSM program incorporates more professional skills into science and gives students real-world experience."

Today, professionals may choose from four degree programs offered at IIT: analytical chemistry, biology, health physics, or materials and chemical synthesis. Nearly 200 students are currently enrolled in IIT's PSM program, up significantly from the 50 students enrolled in 2003. The biology program has been particularly well attended, with several of the 80 students currently enrolled working to increase their chances of being accepted into dental school upon graduation.

The courses are taught in a traditional classroom setting, and since 1998, the program has broadcasted course lectures over the Internet; most courses are now posted online. The majority of universities with PSM programs do not yet offer an online course option, making IIT an ideal choice for students who live outside the Chicago area and for working professionals who are unable to attend on-campus courses. Faculty members are regularly available to answer students' questions via email or phone. Health physics students are required to attend one week-long instrumentation lab course.

"I feel more connected watching the lectures online than I would in a crowded classroom because I feel like the instructor is talking only to me," says Vanessa Myers, an analytical chemistry student currently employed as an analytical technical associate at Kraton Polymers in Houston. "Sometimes I have 50- to 60-hour work weeks, and I know the lectures will be there when I can get to them at the end of the week. The education and the convenience are irreplaceable."

Graduates of the program are employed in pharmaceutical and biotechnology fields, the insurance industry, patent offices, forensic and surface technologies labs, food manufacturing, universities, and petroleum refineries, among other fields. IIT PSM graduates are currently employed by a variety of companies including Abbott Labs, Baxter Healthcare, Sherwin-Williams, Procter & Gamble, and Unilever. They have also found employment with the United States Armed Forces and several national laboratories.

—Tanya Pantone

MORE ONLINE

IIT PSM Program: www.iit.edu/csl/bcps/psm

National Professional Science Master's Association: www.npsma.org

Science Magazine article on PSM programs and careers: http://sciencecareers.sciencemag.org/career_magazine/previous_issues/articles/2010_06_18/science.opms.r1000091

M.L.A. PROGRAM ACCREDITED

The Master of Landscape Architecture degree program at IIT College of Architecture received accreditation by the Landscape Architectural Accreditation Board for a six-year period. The LAAB evaluates professional landscape architecture programs in the United States to determine whether they meet objective standards of academic quality and properly prepare students for professional work. IIT's M.L.A. program, the only such professional program of its kind in Chicago, graduated its inaugural class in May 2009.

Different types of native Midwestern ecosystems are shown in this photo montage by M.L.A. student Fa Likitswat. Moving from the highest elevation [left] to the lowest [right], one can experience shady woodland, oak tree savanna, sunny prairie, wetlands, and a natural pond.

ORANGE BULLET



At the sixth annual IIT Pumpkin Launch held in October, a floating-arm trebuchet designed and built by the alumni team Sprockets, headed by alumnus **Kyle Koning** (ME '08, MSE '08, pictured), unleashes a pumpkin on Ed Glancy Field. The Sprockets design set a new Pumpkin Launch record, hurling the orange squash a total distance of 331.4 feet.



Getting a Kick Out of Life



“The most important aspects I want my players to understand are to enjoy playing the sport, the camaraderie with their teammates, and the moment,” says Denis Hamlett, new IIT interim head men’s soccer coach.

It may be surprising that one word Hamlett did not include is “winning.” After all, his last position was head coach of the Major League Soccer team Chicago Fire. Hamlett was with the Fire since 1998 and moved up the ranks of the coaching staff, becoming head coach in 2008.

“I told the players right from the start education is first and soccer is second; it can’t be the other way around,” says Hamlett, thinking back to his initial meeting with the IIT student-athletes in August 2010. He admits that, in a way, it was also a note to self.

“The biggest change I had to adapt to was my mindset. When you’re in a professional environment, it’s about winning—that’s it. In a collegiate environment, it’s about obtaining an education.”

Hamlett, who lives with his wife, Jackie, on Chicago’s North Side, says, “The opportunity to coach at IIT was unexpected and a matter of timing.” After his years with the Fire, Hamlett knew he wanted to coach again and was contemplating the adjustment of working with a collegiate team when IIT contacted him. It wasn’t the first time he faced a challenge.

Before Hamlett coached soccer, he played soccer, and in 1996—the inaugural year of Major League Soccer—was the 12th overall draft pick for the Colorado Rapids. Upon waking from a nap with an excruciating headache after one of his pre-season practice sessions, Hamlett suffered a stroke. He was 28 and had played soccer from his boyhood days growing up in Puerto Limón, Costa Rica, through his college days at George Mason University and into the American Professional Soccer League, followed by the majors. Although physicians told him the chance of a stroke recurring was slim, Hamlett decided to retire from playing.

“Everything happens for a reason,” Hamlett muses. “Chicago Fire was an expansion team, and I knew former General Manager Peter Wilt from the days when I played indoor soccer. The relationship and life circumstances allowed me to transition from the role of player to front office staff by being the first employee of the Chicago Fire.”

Now making his debut with the Scarlet Hawks, Hamlett says his game strategy is to coordinate his players’ efforts. “The more you can have 11 guys thinking and playing as one, the more success you’re going to have.”

—Marcia Faye

Denis Hamlett

MORE  ONLINE

IIT men’s soccer: www.illinoistechathletics.com/sport/0/4.php
Major League Soccer: www.mlssoccer.com

Photo: Bonnie Robinson

Scarlet Hawks Earn Honors

Emily Kunkel (CHE 4th year) was named to the 2010 *ESPN The Magazine* Academic All-District First Team in the District 5 women's college division. Kunkel is captain of the women's soccer team and has held a 4.0 GPA throughout her four years at IIT. The women's soccer team earned the National Soccer Coaches Association of America Team Academic Award for the 2009–10 academic year.

Stephanie Lucas (BME 4th year) was named National Association of Intercollegiate Athletics National Women's Cross Country Runner of the Week for September 20–26, 2010. Her first-place time in the 5K (18:26) at the Forester Invitational during that week was a personal best and set a new IIT record.

The men's soccer team achieved a high ranking of No. 23 in the NAIA Men's Soccer Coaches' Top 25 Poll, the first time an IIT athletic team has been ranked so highly. The team was the 2010 Chicagoland Collegiate Athletic Conference Champions. **Liam Barrett** (BA 2nd year), **Diego Dias** (BA 4th year), **Luke Blakely** (BA 4th year), and **Aaran McEneff** (BA 4th year) were named to the CCAC 1st All-Conference Team. **Robert Rixer** (CE 1st year), **Rob Ritchie-Smith** (BA 3rd year), and **Brendon Boucaud** (BCPS 1st year) were named to the CCAC 2nd All-Conference Team. Barrett was named CCAC Player of the Year, Rixer was named CCAC Freshman of the Year, and Coach **Denis Hamlett** was named CCAC Coach of the Year.

Three members of the women's volleyball team received honors from the CCAC. **Kate Kendall** (PS 1st year) was named to the 1st All-Conference Team. **Kayla Heller** (PHYS 3rd year) and **Noelle Bennett** (PSYC 4th year) were named to the 2nd All-Conference Team.

facultynews

Rethinking Urbanism

Marshall Brown, assistant professor at IIT College of Architecture, is striking out in an uncharted direction in urban design, one that has led him from distant Agadir, Morocco, to Washington Park on Chicago's South Side. He is rethinking Urbanism—seen by many as a philosophy of cities and their relationship with the built environment—and in so doing, shaping his vision for the future of urban areas.

Brown says that over the past decade, many city planning offices have been dismantled, with design responsibilities instead being funneled to private developers, who, because of conflicting interests or inappropriate training, may not be the best candidates for the job. Community-based planning organizations, which have also been instrumental in many urban design projects, have achieved limited success in their endeavors.

“There is an opportunity for urban designers to work as independent arbiters between the different groups and to help them negotiate the future of our cities,” says Brown.

A recipient of the 2010 Association of Collegiate Schools of Architecture New Faculty Teaching Award, Brown is incorporating this idea into a three-part studio focused on the future of a Washington Park neighborhood that offers a valuable opportunity for expansion. He and his students are focusing on how urban design can be a bargaining tool between stakeholders who have competing interests for the area. The group is also looking at how the design process can influence the urban imagination in relation to the social, political, and economic milieu of the project.

In 2009, Brown was able to bring his ideas to fruition when he received a Rotch Travelling Studio Faculty Grant to fund a trip to Agadir with 12 architecture, landscape, and planning students. The group conceptualized ways to bridge Urbanism with increasing tourism in the Modernist city, which was ravaged by an earthquake in the 1950s and has been undergoing a transformation in recent years, bringing with it an increase in tourism.



Marshall Brown

Hybridization figures into Brown's Urbanism approach via a concept originally conceived as a Web development term: mash-up. Mash-up uses and combines data, presentation, or functionality from two or more sources to create new services. The basis of Brown's mash-up lies in the indeterminate nature of cities, which he sees as changing minute by minute and year by year.

“For me, mash-up is a conceptual tool. Today, we are more interested in how we could have more energetic mixtures between different cultures, different forms, different materials, and different kinds of spaces,” explains Brown, who presents his concepts nationally and was a featured speaker last

MORE ONLINE

“Some Notes on Five Points Toward a New Charter for the Mashup Urbanism”:
www.youtube.com/watch?v=OW8KBz1zszg

spring at the Future of Urbanism conference hosted by the University of Michigan Taubman College of Architecture and Urban Planning. “Mash-up is also a representational tool. Instead of making dimensional drawings, I'll use a cut-and-paste method of assembling and disassembling things that are already in existence, making the new out of the found,” he says.

—Marcia Faye



Matt Bauer

A Change Is in the Air

Languages are not static. Like the cultures that produce them, they can evolve, flourish, or occasionally die out altogether. One feature of linguistic change involves two distinct sounds that over time lose their independent identities, becoming just one sound. The process—known as a merger—is the focus of a new three-year project funded by the National Science Foundation and carried out by IIT Assistant Professor of Linguistics Matt Bauer.

“When you look at just the lexicon of a language,” Bauer says, “new words are coined every day, and the words you know at 16 are different from the words you know at 46. That part of the picture anyone can see immediately.” When it comes to changes in the sounds making up those words, however, things get more complicated. Once a child has learned the basic vowels and consonants required for speech—which usually occurs between 1 and 3 years of age—what happens next in the evolution of that child’s own language sounds? The transition of entire languages has long been of interest to linguists, but sound change within individuals is only beginning to be seriously explored.

Tracking sound change rigorously raises intriguing questions. Do alterations in sound begin spontaneously with a single speaker and spread, flu-like, through a larger population? Do they originate among a younger generation and percolate upward to older speakers? What roles do such variables as socioeconomic class, gender, and even individual states of mind play in the way sounds are spoken and, over time, subverted?

To examine such questions, Bauer is focusing on two common sound mergers. The first is known as a “low-back merger,” which occurs, for example, when speakers lose the distinction between the vowel sounds in “cot” and “caught.” The second merger is known as pre-velar raising and involves a change in pronunciation of stressed vowels preceding the sound typically represented by the letter G. Individuals with this merger tend to pronounce words like “bag” as “baig” and words like “haggle” as “hegel.”

Bauer’s current project focuses on 80 junior high school students in the Minneapolis/St. Paul area. The region is well suited to Bauer’s purposes because it contains a mixture of merged and unmerged speakers. In theory, individual speakers can adopt merged speech over time and transmit the change to others, though this longstanding hypothesis has not been investigated through a detailed, longitudinal experiment until now.

Students in the study are interviewed concerning their social network to determine with whom they are in verbal contact and how closely. Participants are then given exercises to assess how they hear vowel sounds associated with low-back merger or pre-velar raising, using computer-generated vowel sounds. Next, they are asked to read a list of 100 words as their individual vocalizations are tracked using ultrasound. Merged and unmerged speakers can be identified quantitatively in these tests through the measurement of their verbal acoustic frequencies. Over the three-year course of the project, Bauer hopes to catch sound mergers on the fly and gain a better understanding of the dynamics of the process.

—Richard Harth

MORE ONLINE

IIT Lewis Department of Humanities: www.iit.edu/csl/hum

Language change: www.pbs.org/speak/ahead/change/changin

ALGORITHM AS AUTOPILOT

Q&A with Ben Van Vliet
IIT Stuart School of Business

Photo: Bonnie Robinson



At approximately 2:45 p.m. on May 6, 2010, the Dow Jones Industrial Average plummeted 998.50 points, but within minutes, righted itself back to pre-crash levels. For that short period of time, the market dropped between 7–10 percent, accounting for nearly \$1 trillion in lost value. Among the possible culprits of the so-called “Flash Crash” was high-frequency, or algorithmic, trading (HFT)—computerized trading that attempts to take advantage of short-term opportunities, anywhere from a few microseconds to a couple of minutes.

Stuart Finance Lecturer Ben Van Vliet (M.S. FMT '99), who teaches a capstone course in which students build automated trading systems, is an automated trading expert who is regularly contacted by Forbes, Bloomberg, and other media outlets for his insights on automated trading as well as his thoughts on the future of markets and technology.

What was the big deal about the May 6 drop?

The Flash Crash should be recognized not for the crash but rather for the speed with which the market rebounded. As far as we can tell, one or more large institutions came into the market attempting to sell hundreds of billions of dollars in assets. Given the already jittery market, people panicked and ran for the hills. I believe automated systems looked at the situation more rationally and saw it for what it was: the single greatest buying opportunity of the last decade and a good way to make money.

What advantage does a cool and rational machine offer the market?

People have long understood that human emotions are part of the problem of trading. It's our humanness that prevents us from thinking clearly and making rational decisions; we get scared or greedy. The revolution that's happening in markets today is not just a revolution in technology. It's a revolution in society, in that we've come to the point where more and more trading is being driven not by humans, who are bound by fear and greed, but rather by a much more rational scientific process.

Articles in the popular press depict algorithms that run automated systems as creatures that hunt, stalk, and prowl. Are HFT algorithms today's “Andromeda Strain”?

An algorithm, by definition, is just a set of steps. In financial markets, when certain opportunities arise or states exist, a computer algorithm can execute a set of steps to capture an opportunity. Of course, the algorithm can be programmed to modify its own parameters, but it doesn't have the ability to morph itself beyond what a person can program it to do. A term that is sometimes used to describe these algorithms is autopilot. The analogy is a good one. An autopilot can fly the plane; in fact, the only thing the pilot has to do is to tell the plane to take off. In flying an airplane—just like in trading—I'd say that more often than not, human error is the cause of the crash. Software bugs in the autopilot rarely cause crashes.

What is the future of automated trading?

Most of the research I've done and the books I've written revolve around the development of automated trading quality-engineering standards. I believe the next evolution in the financial industry is financial engineering. IIT is uniquely positioned to lead the industry toward strategic competitiveness by building automated systems that don't crash and have wide benefits to both society and the markets.

—Marcia Faye

Ben Van Vliet (M.S. FMT '99)

Michael Young



Photo: Bonnie Robinson

WINTER OF DISCONTENT

The winter blues may seem common during months when sunlight grows feeble and more time is spent indoors. But what many regard as just a bad mood to be endured, others experience as seasonal affective disorder, a debilitating condition that can seriously interfere with daily life.

Michael Young, IIT professor of psychology, has been studying the phenomenon—appropriately labeled SAD—for a number of years. Young notes that the proper diagnosis of SAD can be tricky. While many basic symptoms mirror those of other forms of depression, timing of onset and abatement of SAD is critical. “I remember having a young girl come in who had been diagnosed with a school phobia,” Young says. “But her symptoms didn’t start until October and they went away in March or April, long before school ended.”

Seasonal affective disorder tends to provoke certain symptoms that are less often seen in traditional depression. During the winter, those affected often eat more, gain weight, crave carbohydrates, and sleep more. Indeed, the condition has frequently been likened to the winter hibernation of large mammals such as bears, though Young says the analogy, while tempting, is inexact from a physiological standpoint.

Young has been conducting a study of incoming IIT students, which will follow them through the winter and spring, identifying symptoms of SAD in the student population. He hopes the assembled data will form the basis of a future, multi-university study.

While it remains a puzzle why certain people respond more radically to changes in sunlight, Young emphasizes the good news: SAD is treatable. The remedy of choice for most is light therapy, which entails exposure to a special lamp delivering approximately 10,000 lux (a measure of light intensity) for 30 minutes per day. New cognitive behavioral therapies for SAD also show promising results.

—Richard Harth

MORE ONLINE

IIT College of Psychology: www.iit.edu/psych

SAD treatment: www.cet.org

Cognitive therapy for SAD: <http://psychcentral.com/news/2009/10/15/cognitive-therapy-reduces-seasonal-affective-disorder/8990.html>



IIT College of Architecture Faculty

Several IIT College of Architecture faculty and their firms were honored at the 55th annual Design Excellence Awards, sponsored by the Chicago chapter of the American Institute of Architects: James Baird, Carol Ross Barney, David Brininstool, Dirk Denison, Martin Felsen, Frank Flury (along with students of the college), Jeanne Gang, Tom Hoepf, David C. Hovey, Ron Krueck, Andrew Metter, John Ronan, Ross Wimer, and David Woodhouse. IIT faculty, students, alumni, and overseers won 28 of the 38 awards distributed at the October event. For complete details on the AIA Chicago 2010 Design Excellence Awards, visit www.aiachicago.org/special_features/2010DEA/index.asp.

Robert J. Krawczyk

Associate Professor Robert J. Krawczyk was awarded the 2010 ACADIA Award for Teaching Excellence from the Association for Computer Aided Design in Architecture. The award recognizes Krawczyk's teaching in the field of digital architecture and, in particular, his pedagogical approach that has influenced other educators.

Jon Larson

Assistant Professor of Psychology Jon Larson is a co-principal investigator with Ted Testa, director of behavioral health services in Lake County, Ill., on a five-year Substance Abuse and Mental Health Services Administration grant totaling \$3,672,500. This collaborative grant focuses on improving services for veterans in Lake and McHenry counties. Specifically, the project will focus on reducing homelessness, improving suicide prevention, and training the professional community on clinical interventions for war trauma.

J. Robert Selman

Professor Emeritus J. Robert Selman was awarded the 2010 Grove Medal for his more than 30 years of contributions toward the development and success of fuel cell technology. The medal, given to Selman at the Fuel Cells Science & Technology Conference in October, is named after William Robert Grove, who developed the first fuel cell.

REALITY 2.0

Imagine a high school student is given an assignment on the migratory patterns of birds in the Chicago area. Rather than consulting Wikipedia or a similar online resource, she goes outdoors and holds her smart phone or iPad up to the sky. There she observes the flights of birds, which have been digitally "painted" onto external reality. A local ornithologist provides accompanying commentary, accessed through the smart phone's interface.

According to Anijo Mathew, IIT assistant professor of design, this example is but one of endless potential applications of the new field of augmented reality, or AR. As Mathew explains, "AR is the ability to layer digital content on physical objects in such a way that the physical object itself is not transformed." AR leverages the formidable computing power resident in today's smart phones and other mobile devices, enriching external reality with user-relevant information.

Last fall, Mathew collaborated with the Chicago Loop Alliance and Chicago Artists' Coalition on a project in which 200 creations by area artists were on public display at various sites in Chicago's Loop. Visitors were treated not only to the physical works themselves, but also to a variety of content layered on top of the works, visible through smart phones. This included artist commentary, opinions of other visitors, and background on the creation of the paintings or sculptures.

The Art Loop Open exhibit, says Mathew, was only the first of several such efforts intended to transform the City of Chicago into a living laboratory.

—Richard Harth

Anijo Mathew [left] explains the Microsoft Surface Table to exhibiting artists at the Art Loop Open.

MORE ONLINE

IIT School of Design: <http://id.iit.edu>

Chicago's Art Loop Open: www.artloopopen.com

faculty honors & awards



Photo: Anijo Mathew



Susan Solomon (CHEM '77)

As a senior scientist at the National Oceanic and Atmospheric Administration, Susan Solomon (CHEM '77) spends hours consulting the Internet, analyzing atmospheric chemistry observations and models, and studying columns of data about Earth. While she admits that the computer is an indispensable tool, Solomon also says that a perhaps more dated object holds timeless appeal for her.

"I love going to a library and just looking at the books," she told a group of IIT students who had the opportunity to meet with her before she delivered the Darsh T. Wasan Lecture in October.

"One of the things I started doing early in my career, and still do to some extent, is when I become interested in a particular scientific problem, I go to the library and trace it back to find out who was the first person who actually thought about this issue. I find it difficult just working on the Internet to see what I call the flow of the river of knowledge. To me, being a scientist is all about contributing to that flow, putting a couple of drops into the river. I want to understand the river, and in order to do that, I really want to see the original books."

Solomon's immersion into her chosen career took place at IIT's Paul V. Galvin Library. Her interest in quantitative chemistry led her to do a senior project with the late IIT Professor David Gutman, an expert in reaction kinetics. His work on the rate of a chemical reaction that was significant to the atmosphere of Jupiter inspired her to dig through Galvin's books and journals to further research the chemistry of planetary atmospherics. This research further fueled a passion Solomon had begun to develop earlier in her life.

"I wanted to go after things that were important to our planet," she says. "It's a feeling that if I can contribute in some way, then I should try."

After graduating from IIT and earning her doctorate from the University of California, Berkeley, where she specialized in atmospheric chemistry, Solomon started working for the NOAA. She became adept at computer modeling, and using that technique she surmised that a unique chemical reaction was occurring on the surfaces of clouds in the lower Antarctic stratosphere, contributing to the destruction of the protective ozone layer in that part of the world. In 1986, she was tapped to lead a team to the McMurdo Station to get direct measurements to test all the possibilities. Light measurements she and her team took onsite supported her hypothesis that chlorofluorocarbons, organic compounds used at that time in personal care products and coolant systems, were the main driver of the reaction.

Adding to the River of Knowledge

by | MARCIA FAYE

The following year, the Montreal Protocol was established, with representatives from 24 nations signing the treaty to limit the production of CFCs; by September 2009, all member countries of the United Nations ratified the original protocol.

During the more than three decades that she has been with the NOAA, Solomon has expanded her research to include climate change, and is considered one of the world's leading experts in the field. She was named co-chair of Working Group One of the Intergovernmental Panel on Climate Change and helped to compile a landmark report on global warming. In 2007, the IPCC and former Vice President Al Gore shared in the Nobel Peace Prize for their efforts. In the Wasan Lecture, "A Tale for Our Times: Something for Everyone About Climate Change and the Reasons for Climate Gridlock," Solomon noted that the climate change issue differs from the CFC issue on several levels. While it was easy for everyone to understand that skin cancer cases would likely rise if the protective ozone layer continued to be eroded, it may be a lot more difficult to imagine the varying predicted effects of global warming—from increased heavy rainfall in the Midwestern United States to 10–20 percent drier conditions in Mediterranean countries—and their repercussions.

The amount of the greenhouse gas carbon dioxide that Americans alone emit is now approximately 25 tons per person per year. "On average, the 5.5 billion people in the developing world emit about five times less carbon dioxide per person than the 1 billion people in the developed world," she says, adding that the problem is not so much a function of the number of people as much as it is that lifestyles have become increasingly prosperous.

While the ozone layer is expected to recover by the middle of the twenty-first century, at today's emission rates 20 percent of the carbon dioxide added by people today will still be circulating in the Earth's atmosphere 1,000 years from now. Trees, the soil, and the upper levels of the oceans—normal carbon dioxide sinks—become saturated with the gas so that only the deep ocean remains as a long-term reservoir, but the rate of uptake there is very slow. According to Solomon, the only way to increase that rate is by altering the carbonate-bicarbonate equilibrium of the sea water, which takes many thousands of years.

She is hopeful that considerations being taken now in the development of future infrastructure and alternative energy forms, along with public discussion on climate change issues, will lead to the best direction for society. Solomon is adamant, however, that policymaking decisions be left to elected leaders.

"Our job as scientists is simply to state the science as we know it and to avoid political advocacy," she says.

A recipient of the President's National Medal of Science in 1999 for her ozone discoveries, Solomon continues to conduct ongoing investigations of the ozone hole, looking at recent changes that are further influencing the air circulation and meteorology of Antarctica. She is also performing computer modeling on the persistence of climate change, investigating such topics as how long it would take for the climate to return to the state it was before various chemicals began to be regularly emitted into the atmosphere by people.

It is a way for her to build upon the work of those researchers who came before her and to add to the river of knowledge. ■

MORE ONLINE

Intergovernmental Panel on Climate Change: www.ipcc.ch

National Oceanic and Atmospheric Administration: www.noaa.gov

Ozone Hole: www.theozonehole.com

"I wanted to go after things that were important to our planet ... it's a feeling that if I can contribute in some way, then I should try."

Although his office is located within the newer University Technology Park at IIT complex of buildings, Nik Rokop recalls a much earlier IIT when he considers the university's legacy of entrepreneurship. He says it all began—well, in the beginning—after IIT was founded following a spirited call to action in the “Million Dollar Sermon” of 1890.

“IIT was formed by an entrepreneur, [Philip Danforth] Armour, and I would even say [Frank Wakely] Gunsaulus, who changed careers from preaching at the pulpit to becoming the university's first president,” says Rokop, managing director of the IIT Stuart School of Business Jules F. Knapp Entrepreneurship Center. “The way the university grew over the years—from the merger of Armour Institute with the Lewis Institute, and, for example, the addition of the School of Design and Chicago-Kent College of Law—is much like how many entrepreneurs work, bringing in smaller entities to build a large one. Many companies go through this kind of growth to later become a fairly substantial enterprise.”

Rokop's desk is as orderly as are the manila project folders that hold still more organized flowcharts and notes on the many entrepreneurial endeavors taking place at IIT, including one of the newest, the IIT Stuart School of Business Entrepreneurship Academy. Rokop is managing director of the academy, which is under the leadership of Executive Director Harvey Kahalas, IIT Stuart dean.

“The Entrepreneurship Academy is a university-wide initiative designed to advance the spirit and understanding of entrepreneurship across the campus,” says Kahalas, “and to promote innovation and excellence as set forth by IIT's *Many Voices, One Vision* strategic plan. As such, one of our priorities will be to build a formal support system to help students, faculty, and alumni innovate new ideas and successfully take their ideas to the marketplace.”

Plans for the academy, which will unfold over a five-year period, include its role as the umbrella organization for all IIT entrepreneurship organizations and activities, including the Knapp Center; the Kern Innovation and Entrepreneurship Academy (KIEA), a competitive academic/scholarship program for engineering undergraduates; the KnappLab, a mobile phone application facility; student clubs, such as the Innovation and Entrepreneurship Academy, the Undergraduate Business Council, and the Stuart Investment Club; and the IIT Angel Network, an executive-level group of alumni and Chicago business leaders who have made funding commitments to five IIT-connected startups in the last 18 months. The academy is also overseeing the establishment of an expanded entrepreneurship minor and coordinating extracurricular experiential learning opportunities, mentorship programs, and competitions, such as the popular iPhone App Challenge Weekend.

FROM IDEA TO REALITY

Nik Rokop



ENTREPRENEURSHIP IN THIS ISSUE

Read more about entrepreneurship and IIT elsewhere in this issue.

Alumni Entrepreneur Profiles:

Walter Ciciora (EE '64, M.S. '66, Ph.D. '69) [page 20]

David Edwards (Ph.D. CHE '87) [page 28]

Leonard Reiffel (EE '47, M.S. '48, Ph.D. '53) [page 26]

Entrepreneurial Projects (EnPRO) Course:

IPro 357 and 358: The CommuNITY Collaborative [page 4]

by MARCIA FAYE

The academy will hold some of its activities in the Idea Shop, an expansive physical space designed to foster collaborative idea generation. Located at UTP—home to high-technology startups and established companies, some begun by IIT faculty entrepreneurs [see below sidebar]—the 13,000-square-foot facility provides students with the space and rapid-prototyping equipment to both encourage and assist in a variety of team-based endeavors. Several Interprofessional Projects (IPRO) Program courses have already been held there, and a prototype of the new IPRO 2.0 format was piloted in the Idea Shop with 100 students during the fall semester.

Rokop says that more than 20 courses related to entrepreneurship are currently offered at the undergraduate and graduate levels. This is in addition to the IPRO courses that have an entrepreneurial slant, called EnPROs, where students have the added challenge of developing an idea for market. Some student EnPRO projects have received outside grants or have served as the launching pad for businesses beyond IIT. Most recently, the EnPRO eMotion, which created a safe method of social networking for “tween” girls ages 7–12 with its product, BFF Gemz, became a student-owned company.

Students enrolled in Stuart’s graduate finance program have the opportunity to hear entrepreneurs present their ideas in a course taught by Ron Kirschner, a former medical practitioner and successful entrepreneur who is the founder and president of Heartland Angels, a prominent Midwest angel investor group. John F. O. Bilson, professor of finance and director of Stuart’s finance and mathematical finance programs, says that students learn a broad spectrum of skills that are useful to successful entrepreneurs.

“The students are required to evaluate the proposal based upon such characteristics as ethics, leadership, and creativity, and make a recommendation for funding,” he explains, noting that this course and another entitled Entrepreneurial Finance provide students with both quantitative and qualitative learning experiences. “IIT Stuart firmly believes that the two-course combination provides our students with the correct composite of academic excellence and real-world application that is characteristic of the business programs we offer.”



Robert Anderson, director of technology transfer and intellectual property [left], with Nik Rokop at the KnappLab

FACULTY COMPANIES FIND A HOME IN UTP

companies and budding entrepreneurs, especially through its Incubator facility. Because it is part of the university, UTP is able to connect clients with valuable resources at IIT, including services offered through the Knapp Entrepreneurship Center and various types of funding opportunities.

Some clients to call UTP home throughout the years did not begin as external clients but rather were already connected with IIT when they joined the park: university faculty members. Four current and former faculty members have been UTP clients since the park opened. Two professors whose companies are currently located within UTP include Miles Wernick and Phil Troyk.

Wernick’s company, Predictek, Inc., was one of UTP’s first clients. Predictek provides neuroimaging data analysis and consulting services, and has developed two products: the IRis™ ophthalmic imaging system (currently being tested clinically) and pipelineMAX™, a neuroimaging data analysis software package.

“IIT encourages faculty to pursue entrepreneurial activities, and UTP provides a great home for small businesses,” says Wernick, who is Motorola Chair Professor in electrical and computer

Since 2005, University Technology Park at IIT has provided a haven for startup

engineering, and president of Predictek. “Nik Rokop of the Knapp Center is an energetic supporter of small businesses like mine, providing creative ideas and useful contacts.” Wernick notes, for example, that Rokop assisted the Predictek team in how best to structure a complicated business deal.

Troyk, an associate professor of biomedical engineering, and his company, Sigenics, have been at UTP for the past five years. The company designs and supplies custom integrated circuits for sensor, analog, and mixed-signal applications. Their chips are

used in medical and non-medical products. For those with upper limb amputation, Sigenics-designed implantable myoelectric muscle sensors may soon help to restore natural control of robotic prosthetic limbs. Since joining UTP, Sigenics has grown from a startup to a small company with 15 employees.

“Sigenics and IIT greatly benefit from our being near the university,” explains Troyk. “All of our engineers are IIT alumni, and some were student interns at Sigenics. UTP provides an environment that helps our growth. Now Sigenics is giving back to IIT through participation in the IPRO Program and joint research projects. The new role of entrepreneurship in higher education is being defined by IIT and UTP. Sigenics is proud to be part of this transformation.”





“WE DON’T NECESSARILY GRADUATE PEOPLE WHO GO ON TO BECOME CEOs OF EXISTING FORTUNE 500 COMPANIES; WE GRADUATE PEOPLE WHO GO ON TO CREATE SIGNIFICANT COMPANIES.”

— NIK ROKOP

Another two-course combination, this one offered to first-year engineering students, is demonstrating that entrepreneurship can be taught by igniting the spark known as creativity.

“I don’t need to teach creativity as much as I need to accentuate it and inspire; the students already come to class with creativity,” explains Mark Snyder, Coleman Faculty Fellow and senior lecturer in the Department of Civil, Architectural, and Environmental Engineering, about the strategy he uses in his Professional Practice courses, whose themes are creating the student innovator (fall) and creating the engineer entrepreneur (spring).

In the course, students delve into the inner workings of entrepreneurship—learning what an entrepreneur is and is not, the myths of entrepreneurship, and the importance of ethics in engineering. Snyder also shows them how to take creativity one step further by adding a value component to their projects. In one course exam, Snyder gives student teams \$5 each and instructs them to return to class the next week with more than \$5. He says that thus far, the largest sum attained has been \$360.

Other projects, such as the SEED (Sustainable Entrepreneurship for Economic Development) initiative at Stuart’s Center for Strategic Competitiveness, aim to take the benefits of entrepreneurship beyond the academic setting. SEED explores and actively engages with communities across the United States to retain their small-town characteristics while increasing economic attractiveness and vitality through entrepreneurial development, information ubiquity, dramatic technology,

and sustainability. For IIT students and alumni, Rokop envisions that the university’s breadth of entrepreneurial expertise—reaching from classrooms and labs to the outside community—will benefit them from the time they are in high school through their alumni years. By supplementing college exploratory programs such as Discover Business at Stuart and The Academy for Future Leaders in Science and Technology with an agenda of new entrepreneurial activities, he hopes to show prospective students that IIT offers an environment where good ideas can be developed and supported, and transformed into successful businesses.

“We don’t necessarily graduate people who go on to become CEOs of existing Fortune 500 companies; we graduate people who go on to create significant companies,” Rokop says, citing Edward Kaplan (ME ’65), co-founder of Zebra Technologies; Victor Tsao (M.S. CS ’80), founder of Linksys; and John P. Calamos Sr. (BE ’63, M.B.A. ’70), founder of Calamos Asset Management [see sidebar at right].

Alumni from all class years can benefit from IIT’s entrepreneurial community by interacting with more experienced alumni who are helping to ensure that IIT’s legacy of entrepreneurship continues. In addition to serving in the IIT Angel Network or on the Knapp Board of Advisors, alumni entrepreneurs have provided funding for courses, served as IPRO or EnPRO advisors and judges, and headed competitions featuring new technology. In Snyder’s course, two luncheons connecting students and alumni entrepreneurs have taken place and have proven to be popular with both students and alumni.

“My students have discovered that engineering is a vehicle that allows them to do almost anything that they can imagine,” says Snyder, adding that he could not take credit for what many in his class regarded as being a revelation. “And they learned that from our alumni.” ■

IIT Alumni A Legacy of Entrepreneurs

From the founding of the university to the new Entrepreneurship Academy, IIT’s history is filled with entrepreneurial success stories. Here is a small sample of the many IIT alumni whose endeavors have impacted their fields, society, or the spirit of entrepreneurship itself.

Florence Knoll Bassett (ARCH ’41)—co-founder of Knoll, designer and distributor of modern residential and corporate furniture and textiles

John P. Calamos Sr. (BE ’63, M.B.A. ’70)—founder, chairman, chief executive officer, and co-chief investment officer of Calamos Asset Management, Inc.

Hazem Dawani (CPE ’01)—co-founder, president, and chief executive officer of electronic trading platform provider OptionsCity

Brian L. Hoekstra (PHYS ’81)—director and chief executive officer of IA Global, Inc.; founder and former president and chief executive officer of Applied Photonics, Inc.

Edward Kaplan (ME ’65)—president of Nalpak, Inc.; co-founder and chairman emeritus of Zebra Technologies, a manufacturer of thermal bar code label printers and supplies

Terry Ni (M.S. ENVE ’82)—founder of T N & Associates, acquired by Oneida Total Integrated Enterprises, which offers government clients environmental and other services

Robert A. Pritzker (IE ’46)—president and chief executive officer of Colson Associates, Inc.; founder of The Marmon Group, an international association of autonomous manufacturing and service companies

Ron Rashkow (BE ’64)—founder, chairman, and chief executive officer of the Handy Andy chain of home improvement centers

Ellen Jordan Reidy (PSYC ’79, M.B.A. ’81)—founder and president of America’s Food Technologies, Inc., a blending and packaging operation specializing in custom and private label beverages

Victor Tsao (M.S. CS ’80)—founder and chairman of Miven Venture Partners; founder of Linksys home wireless-networking company (sold to Cisco)

MORE ONLINE

Jules F. Knapp Entrepreneurship Center: <http://knappcenter.iit.edu>

KnappLab: www.knapplab.com

Interprofessional Projects (IPRO) Program: <http://ipro.iit.edu>

FROM STUDENT TO ENTREPRENEUR **DISCOVERING DREAMS**

For Tiger Nigamatzyanov (ARCE '10), his ability to identify a potential market and jump on it was the key to earning his stripes as an entrepreneur. In 2007, when a business opportunity he admits fell into his lap, he seized it.

Nigamatzyanov had just finished his first fall semester as an IIT transfer student when he visited the president of his former university. "That school had started to grow dramatically. The president told me she was looking to expand the campus and was in search of a construction company," he says. "I saw this as a chance to open one of my own. It was an exciting way to spend my winter break," he says with a laugh.

He launched his general contracting company, Siegel Construction, that December. "I wasn't sure it would develop into anything, but when an opportunity comes, you take it," he says.

Nigamatzyanov used the rest of his time at IIT to hone his business skills and shape his company. After meeting with IIT President John Anderson, he was put in contact with the Knapp Entrepreneurship Center's Nik Rokop, who Nigamatzyanov says engaged him in one-on-one meetings about strategy and worked with him on his presentation skills. At Rokop's encouragement, Nigamatzyanov served as president of the Construction Management Association of America IIT Student Chapter, which CMAA named as the 2010 Best Student Chapter in the country. The experience allowed him to fine-tune his leadership skills and tap into nationwide connections.

He adds that through Rokop he was introduced to investors and others in his profession that he might not have met otherwise. "IIT is a good school for entrepreneurs because it's the only school in the area that provides the kind of personal and business connections to be successful," he says.

Nigamatzyanov notes that traditional coursework at IIT also factored in the development of his company. Based on what he learned, he switched Siegel's scope to construction management, and it now concentrates on the health care sector.

He says his company has now grown "too big to sell"—"a good problem to have," he says—and that Siegel's client base continues to grow each year. Even though Nigamatzyanov is an alumnus, Rokop continues to consult with him about the Chicago-based company. Nigamatzyanov says his goal is to open new Siegel locations elsewhere in the country this year.

"The thing about entrepreneurs is that we're all discoverers," he says. "It's about knowing what you want to do, having a vision, and being a discoverer of your own dreams."

• <http://siegelconstruction.com>

Tiger Nigamatzyanov (ARCE '10)



A few years after World War II ended, Stanley Ciciora used his knowledge gained as a wartime aircraft carrier radio technician to turn his family's FM console radio into a home entertainment center by modifying it to tune in the audio from television channels. In time, he acquired a broken, 12-inch, black-and-white TV and repaired it to the delight of his clan, which included his pre-teen son Walter, who knew that his father had a gift for bringing old TVs, radios, and appliances back to life.

"I have a memory of him waking me up when I was about eight years old to show me a magnetized needle suspended from a string interacting with a magnet; I can't say why, but that stuck with me," says Walter Ciciora (EE '64, M.S. '66, Ph.D. '69), via an electronic interview from his home in Southport, Conn. Those early impressions served the young Ciciora well. Now an in-demand expert witness and a recognized contributor in the consumer electronics industry, he literally co-wrote the book on cable television. The first edition of *Modern Cable Television Technology: Video, Voice, and Data Communications* received a book award from The Cable Center in 2000. The second edition was published in 2004.

WALTER CICIORA
(EE '64, M.S. '66, Ph.D. '69)

The Real Cable Guy

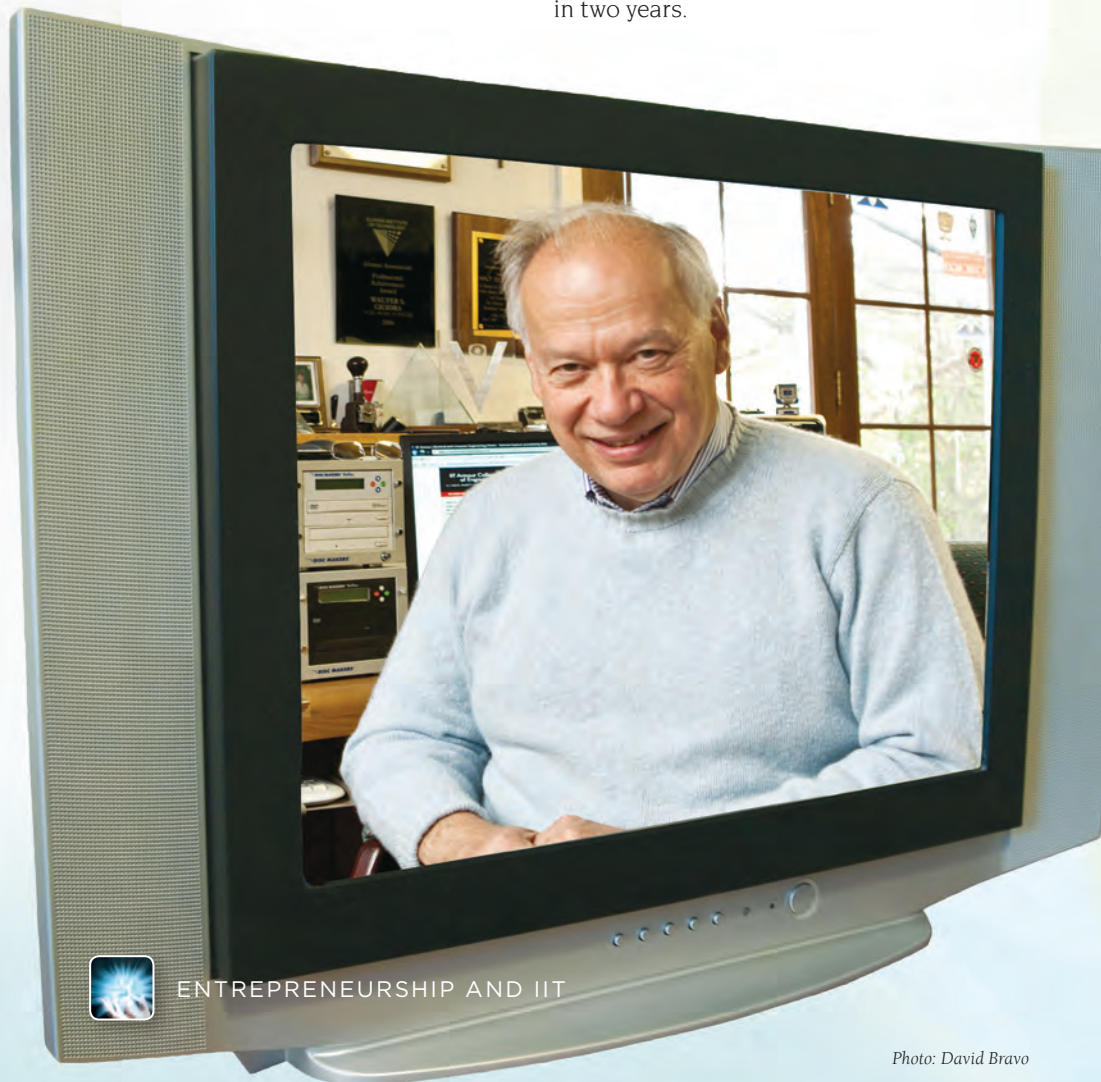
by Marcia Faye

"Walt Ciciora was one of the brightest students of his time at IIT," says Gerald Saletta, professor emeritus in the IIT Department of Electrical and Computer Engineering, and one of Ciciora's mentors. "After graduating with his electrical engineering doctorate, he went to work for Zenith with a pack of five guys, all of whom taught at or graduated from IIT. They were a dynamic group that influenced the path of television innovation at Zenith in the United States," Saletta says.

As an undergraduate, Ciciora first took a summer job at the Zenith Radio Corporation, when cable TV was still in its infancy. Consisting of fewer than 12 analog channels in the form of Community Antenna Television, cable was used primarily by households in remote areas where antenna strength was inadequate. By 1969, when Ciciora graduated from IIT and began working full-time for Zenith, the company

shifted its focus to color television. His first project was the digitization of TV signals, which allowed them to be scrambled for an early subscription television service.

A watershed event occurred in cable TV on September 30, 1975, when a satellite delivered signals to transmit the "Thrilla in Manila" boxing match between Muhammad Ali and Joe Frazier on HBO. Concurrently, Ciciora was working to bring Zenith up to speed on the latest data over television developments. He led a team that produced a new data transmission method for use in satellite signals, thus eliminating the use of leased telephone lines to deliver data to cable systems. This move was cost-effective for the company and gave Ciciora an opportunity to transition into the emerging cable set-top box group. With the advent of programming such as CNN and with the number of cable channels steadily growing, a set-top box with expanded tuner range became necessary. With Ciciora's efforts, Zenith sales went from zero to \$80 million in two years.



ENTREPRENEURSHIP AND IIT

Photo: David Bravo

One of Ciciora's customers, American Television and Communications, a subsidiary of Time Inc., offered him the position of vice president of its new R & D department. When another watershed cable event occurred in the late 1980s—the formation of a cooperative R & D organization for the entire cable industry—Ciciora's role became one of representing ATC in technical industry affairs and interpreting technology trends.

In 1993, Ciciora left ATC (which became Time Warner Cable) to pursue entrepreneurial interests and consultancy opportunities. He co-founded the EnCamera Science Corp. and co-invented a patented technology to embed up to 4.5 megabits/second of data into an analog TV signal without damaging the signal, providing a form of "over-the-air" cable. EnCamera was sold to the broadband communications firm Dotcast, Inc., which licensed the technology to The Walt Disney Co. for its MovieBeam service. Rolled out in 29 cities across the country, MovieBeam was an early form of video-on-demand made possible via embedded digital data sent to Disney's ABC network and local PBS stations that then delivered the movies to a set-top box with a hard drive in subscribers' homes.

Ciciora also co-founded HBA MatchMaker Media, Inc., a startup that focuses on what many marketers consider to be the Holy Grail of TV advertising—the technical capability to target, deliver, and display specific ads to specific households—and was issued two pioneering patents for "addressable-advertising" technologies in the late 1990s. Though the TV industry continues to work on overcoming business issues, such as the ability to feature addressable advertising on a large scale, promise for this latest direction in television is strong. An addressable-advertising test trial done by two media organizations in Baltimore during 2009 showed that viewers turned away from targeted ads 32 percent less of the time than households that received non-targeted ads.

While Ciciora—who was named a 2000 Academy of Digital Television Pioneer and a Cable Industry Pioneer—still serves on the board of HBA, he devotes

MORE ONLINE

Academy of Digital Television Pioneers: www.ce.org/AboutCEA/CEAInitiatives/3715.asp

most of his professional life to being an expert witness on legal cases involving interactive TV, cable TV, tuners, electronic program guides, and parental control of TV access. He and his wife, Jeanette, whom Ciciora met at an IIT dance and married in 1964, stay busy traveling, caring for her four horses, and visiting with family, including Ciciora's two brothers, both IIT School of Design alumni, and his four children and seven grandchildren.

The electronics technology that made such an indelible impression on Ciciora during his youth continues to evolve and inspire him with its capability to allow

his and other families to create lasting memories of their own.

"There are now services that allow free video calls between computers wherever high-speed Internet is available," says Ciciora. "Now children can be told a bedtime story by a parent, no matter where in the world that parent has to travel." ■



"The cable industry has come light years since my student days at IIT in the 1960s," says Walter Ciciora, who received Man of the Year awards in 1990 and 1993 from *Communications, Engineering & Design* magazine. He shares his observations on some of the top advances in an industry that began largely as off-air broadcasts and a weather channel consisting of a camera aimed at a set of meteorological instruments.

Satellite Delivery of TV to Cable Headends

When satellite delivery of TV to cable headends—facilities that produce and distribute TV signals—became affordable, cable TV could be considered for widespread use. "At around that time, Ted Turner introduced the concept of the 'superstation,'" adds Ciciora. "He took his Atlanta UHF station and contracted for it to be delivered nationwide by satellite. Soon after, more and more special-interest channels became available."

Introduction of Fiber Optics

Through improvements in laser technology in the mid 1980s, the trunk component of a neighborhood cable system could be fitted with a fiber optic cable, which allowed dozens of analog TV channels to be launched. "Suddenly, picture quality got better and reliability dramatically improved," says Ciciora. "Since the trunk of the cable system consisted of only 10 to 20 percent of the total footage, it became relatively inexpensive to put fiber into the trunk and solve some of the most vexing technical problems."

Development of Digital Internet Services

In the late 1990s and early 2000s, the explosive growth of Internet increased the demand for high-speed service. "Cable could provide more than 10 times the speed of a telephone modem," explains Ciciora. "The phone company responded with DSL service, but it was still slower than cable modems. In the mid-2000s, the cable modem added VoIP (Voice-over Internet Protocol) telephone service. Unlimited calls within the United States for a flat monthly charge of around \$30 was a quick winner."

**BIGGEST BREAKTHROUGHS
IN THE CABLE INDUSTRY**



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classnotes

1940s

→ **Jacob Dumelle** (ME '47, M.S. PEA '50), Oak Park, Ill., retired in 1992 after 23 years on the Illinois Pollution Control Board, most of those as chairman. He now enjoys spending time with his two granddaughters, Cassie and Audrey.

1950s

→ **Samuel Levin** (ME '51), Glenview, Ill., started a company with colleagues who worked on analytical research for missiles. He enjoys hiking, camping, theater, opera, and membership at the Chicago Botanic Garden. Levin has three children.

→ **William Atkins** (EE '52), Sun City West, Ariz., retired from Sandia National Laboratories in 1994. He and his wife, Margaret, volunteer at the New Mexico Museum of Natural History and Science. Atkins also teaches photo-imaging computer courses at a multigenerational center in Albuquerque.

→ **Robert Service Clark** (ARCH '52), Everett, Wash., has done work in urban renewal and his company was voted by his peers as a Top 20 North American consulting firm. He was a land consultant to John Wayne from 1968–1978. He has clients from Alaska to Brazil, as well as a pilot's license.

→ **Harold Olin** (ARCH '54), Chicago, is retired from professional practice. He enjoys spending time with his family as well as running, bicycling, skiing, and reading. Olin is also active with Windy City Habitat for Humanity.

Raymond Brach (ME '58, M.S. '62), South Bend, Ind., professor emeritus in the Department of Aerospace and Mechanical Engineering at the University of Notre Dame, and his son, R. Matthew Brach, an engineering consultant with Brach Engineering, have both been named winners of the 2010 Forest R. McFarland Award by SAE International. Brach is also a mechanical engineering consultant with Brach Engineering and a SAE fellow.

→ **William Cole** (EE '58), Arlington Heights, Ill., worked for Motorola for 20 years and retired as vice president from the DynaScan Corp. During his career, he had three patents and hand made one of the first portable walkie-talkies. Cole and his wife have four children and enjoy traveling in their motor home.

→ **Peter Dallos** (EE '58), Wilmette, Ill., was honored in recognition of his 75th birthday at the research symposium "The Ins and Outs of Hair Cells" by the Hugh Knowles Center for Clinical and Basic Science in Hearing and Its Disorders at Northwestern University in October 2010.

→ **Kenneth Gillis** (CE '58, LL.M. '90), Chicago, served as an elected judge from 1978–1990 and now works as an attorney. He has taught classes in trial advocacy and remedies at IIT Chicago-Kent College of Law. He enjoys doing jigsaw and crossword puzzles with his grandchildren and traveling. Gillis and his wife have three children.

1960s

John Vinci (ARCH '60), Chicago, helped to complete the book *The Complete Architecture of Adler & Sullivan*. With more than 800 images, the book is recognized as being the first complete record of the works of the two notable Chicago architects. Vinci, principal with Vinci/Hamp Architects, Inc., also contributed a series of essays to the publication.

→ **John LaPlante** (CE '61), Chicago, is a vice president and director of traffic engineering in the Chicago office of T. Y. Lin International. He and Linda, his wife of nearly 50 years, are active in their church and with their two grandchildren, and enjoy traveling.

Norbert "Pete" Pointner (ARCH '61, M.S. CRP '62), Wheaton, Ill., gave a presentation on green infrastructure at the regional conference of the American Public Works Association in May and wrote an article on the subject for the May newsletter of the Illinois Chapter of the American Planning Association. He authored "The Implications of Growth and the Challenge of Change," published in the June 2010 issue of the *Illinois Municipal Review*. Many of the principles proposed in the article are taken from his book, *Planning Connections—Human, Natural and Man Made*.

→ **Larry Darda** (EE '63), Frankfort, Ill., worked in the United States Armed Forces Reserves on research and development for the nation's defense weapons pertaining to semiconductors and other technologies. He wrote some of the defense policies regarding the sustainability of the nation's defense and satellite technologies. Darda enjoys politics, history, automobiles, racing, and investing.

Gerald "Jerry" Bepko (LAW '65), Indianapolis, was reappointed to the Indiana Commission for Higher Education for a four-year term by Indiana Governor Mitch Daniels in June 2010. Bepko is chancellor emeritus of Indiana University-Purdue University Indianapolis and the inaugural director of IUPUI's Randall L. Tobias Center for Leadership Excellence. He was formerly the interim president of Indiana University.

→ **Larry Gsellman** (Ph.D. BE '66), Reston, Va., worked to develop the first Energy Resources Council before the creation of the United States Department of Energy. He has also worked on advising the U.S. Social Security Administration on matters pertaining to its communications networks. Gsellman enjoys doing yard work, being outdoors, traveling with his wife, and serving on the building committee for his church. He has two daughters.

→ **David Vadman** (ARCH '66), Buffalo, N.Y., and his wife, Maureen, divide their time between homes in Irvine, Calif., and Black Butte Ranch, Ore., and enjoy being with their grandchildren.

→ **David Chernow** (MATH '67), Inverness, Ill., was senior vice president and head of the Investment Products Division of CNA Insurance before he retired as an actuary. He and his wife, Ann, collect books and enjoy attending mystery writers' conventions.

→ **Russell Whittman** (EE '67, M.S. '68), Aurora, Ill., retired from Alcatel-Lucent and enjoys spending time with his granddaughter.

→ **Scott Abbeduto** (EE '69), Orland Park, Ill., was employed at the Western Electric Co., Sciaky, Inc., and Holland Engineering, Inc. over his career. He enjoys working on cars and is an accomplished sailing racer. Abbeduto has two children.

Vincent Finnegan (LAW '69), Thousand Oaks, Calif., was promoted to chief executive officer of Pacific Cornerstone Capital in July 2010. He previously served as president and national sales manager of the real estate investment fund.

1970s

→ **Silas Cartland** (MAE '70), Elgin, Ill., retired from Cartland Kraus Engineering in 2004. His son John Cartland (ME '99) remains at the company as a new co-owner. Cartland enjoys spending summers in northern Wisconsin and volunteering in the Elgin area.

Fred Dew (CE '70), Altadena, Calif., is executive director of Global Field Operations at eSolar, where he leads the engineering, procurement, and construction of the Sierra SunTower, the world's first small-mirror concentrating solar power plant. The project was selected as a 2009 Project of the Year by *Power Engineering* magazine. A retired United States Navy Civil Engineer Corps officer, Dew and his wife, Betsy, have four grown children and eight grandchildren.

→ **Darryll Schiff** (DSGN '72), Chicago, is owner of Darryll Schiff Fine Art and principle of Unique Recycling USA. His photographic works are exhibited at various venues, including the museums the Art Institute of Chicago and the Metropolitan Museum of Art. He has two children.

→ **Kambiz Taleghani** (MAE '72), Los Angeles, is the co-founder of Kelar Corporation, an IT solutions provider, and its four subsidiaries. He and his wife, Adriana, have a daughter, Leila, who is a pianist. The family enjoys traveling, and drove around the world in 2008 in a converted van. Taleghani's passions are flying, reading, farming, and technology/gadgets.

→ **James Gatzliolis**

(LAW '73), Chicago, was elected as the 121st president of the Union League Club of Chicago in June 2010. He is a partner at Quarles & Brady, LLP.

Thomas Prindable

(LAW '73), Chicago, managing partner at Clifford Law Offices, spearheaded the firm's efforts in coaching and mentoring sixth-, seventh-, and eighth-grade students at a mock trial competition at Harriet Beecher Stowe Fine and Performing Arts Academy in spring 2010.

Jim Lavine

(LAW '74), Houston, was sworn in as president of the National Association of Criminal Defense Lawyers in August 2010. He is a partner with Zimmermann, Lavine, Zimmermann, & Sampson, PC.

Glenn Hoffman

(MET '75), Lancaster, S.C., received the Antoine M. Gaudin Award at the 2010 Annual Conference for the Society of Mining, Metallurgy, and Exploration. The award was established in 1975 and recognizes scientific or engineering contributions that further understanding of the technology of mineral processing. Hoffman is president and chief executive officer of Cardero Iron Ore Company, Ltd.

Klaus Kretschmann

(ARCH '75), Westport, Conn., joined Alvarez & Marsal, a professional services firm, as national practice leader for Distressed Real Estate and Receivership Services.

→ **Donald Cassil**

(CHE '76, LAW '82), Chicago, is director of design engineering for the Global Finishing Group of The Sherwin-Williams Company. He and his wife, Linda, have two children.

Alan Acker

(LAW '77), Columbus, Ohio, has spent 32 years in private practice with an emphasis on estate planning, estate and gift taxation, income taxation of trusts and estates, and charitable giving issues. He also serves as president of the Columbus Jewish Foundation.

Joseph Martan

(LAW '77), Western Springs, Ill., takes annual trips to the Czech Republic with a group of fellow attorneys to present seminars on American law topics to students, legal apprentices, and attorneys. In May 2010, Martan was invited to be a guest conductor at a Czech music festival.

James Reichardt

(LAW '77), Wheaton, Ill., has been appointed by the Illinois Supreme Court to the board of directors of the Lawyers Trust Fund of Illinois.

Mario Romero

(CHE '79, M.S. CHE '83), Ann Arbor, Mich., is vice president of operations at the Environmental Quality Company.

1980s

→ **Barbara Johnson**

(IE '80), Redondo Beach, Calif., is an information security and business continuity consultant. She and her husband, Doug, have two children.

→ **Ellen Bennett**

(LAW '82), Chicago, is associate director of the American Bar Association Center for Professional Responsibility. She has been a longtime active member of Amnesty International and serves as part of the AIUSA South Asia Coordination Group.

Francis Reiner

(CE '83), Ashburn, Va., is president of the Chlorine Institute, Inc., a not-for-profit trade association of chlor-alkali producers, packagers, distributors, users, and suppliers.

Richard Gerber

(LAW '84), St. Louis, is in practice at Brown & James, P.C. and focuses on large-loss insurance subrogation claims. He also practices in the firm's construction law, insurance law, and product liability practice groups.

Virginia Thomas

(M.B.A. '84, LAW '91), Detroit, was re-elected as vice president/president-elect of the Michigan Association of Law Libraries for the 2010–11 term. She has been director of the Arthur Neef Law Library at Wayne State University Law School since May 2009.



Martin Cooper

(EE '50, M.S. '57), Del Mar, Calif., was inducted into the National Academy of Engineering in February 2010. Executive chairman and co-founder of ArrayComm LLC, Cooper was honored for his leadership in the creation and deployment of the cellular portable handheld telephone. The NAE lists Cooper's first portable cell phone call of 1973 as one of its "Greatest Engineering Achievements of the Twentieth Century." Cooper also created the Improved Mobile Telephone Service system, high-capacity paging, and trunked land-mobile systems during his longtime career at Motorola, Inc. In 2010, Cooper received an Alumni Medal, one of IIT's highest awards, for his accomplishments.

John Walden

(LAW '86), Rogers, Minn., is chief executive officer and director of Activeion Cleaning Solutions, a privately held cleaning-technology company focusing on sustainable cleaning.

→ **Paul Clausen**

(ARCH '87), Chicago, is president of Clausen Management Services, Inc., a program/project management firm. He and his wife have two teenage children.

Arthur Liberty

(LAW '87), North Ridgeville, Ohio, is head of the Midwest Field Office of the United States Department of Health and Human Services Office of Medicare Hearings and Appeals. He is also an associate adjunct professor at the University of Maryland Graduate School of Management and Technology, developing and teaching the new graduate emergency-management distance-education curriculum.

→ **Franklin Baumann**

(PHYS '88), Aurora, Ill., is chief medical officer of Emdeon, a leading provider of health care revenue and payment cycle management solutions. Baumann received an M.D. from Rush Medical College of Rush University Medical Center in 1996.

Chris Konecki

(BA '88), Evergreen Park, Ill., was promoted to executive vice president of the Chicago Automobile Trade Association in May 2010. He joined the organization in 2004 as director of auto show operations. Konecki and his wife, Colleen, have three children.

Edward Rickert

(LAW '88), Downers Grove, Ill., is a partner in the health care practice at Krieg DeVault.

Amr Talaat

(M.S. CS '88), Cairo, Egypt, was named general manager of IBM Egypt. He had served as IBM Egypt territory manager since 2005 and has held other positions with the company, which he joined in 1988.

1990s

Tyler L. Duvall

(M.B.A. '90, J.D. '91), Henderson, Nev., and his wife, Donna, welcomed their second child, Brayden Tyler, in May 2010, and along with their daughter, Paris, are thrilled with this latest addition. Duvall is corporate general counsel for a Las Vegas commercial development firm.

Keith Turner

(LAW '90), Pacific Palisades, Calif., opened his own firm in February 2007; the company specializes in litigation involving business, real estate, insurance, and entertainment issues.

Sheryl Pethers

(LAW '91), Chicago, was profiled in the June 30, 2010 edition of the *Chicago Daily Law Bulletin*. She sits on the Cook County Circuit Court.

→ **William Sugarman**

(LAW '92), Chicago, is president and owner of Astor Professional Search, LLC, an executive search firm specializing in attorneys. He and his wife, Nicole, have a son, Reed.

→ **David S. O'Dea**

(M.S. ENVE '93), Evanston, Ill., is owner of the Environmental Consulting Group, Inc. and Bluestone Environmental, Inc. He and his wife, Maureen, have a son, Patrick.

→ **Michael Hunter**

(ARCH '94), Seattle, celebrated his 10th anniversary with Microsoft in 2010 by joining the Windows Phone 7 team as a test architect. At home, he draws, writes, and posts to his blog about testing.

→ **Lisa Pfeiffer**

(M.B.A. '95), Naperville, Ill., is office manager of the Law Office of Robert B. Williams. She and her husband, Scott (M.B.A. '95), have two children, Nicholas and Kristin. Pfeiffer also enjoys volunteering at her children's schools and for the cheerleading organization Naperville Pom & Cheer.

→ **Joel H. Bootzin**

(LAW '96), Chicago, is a patent attorney at Fitch, Even, Tabin & Flannery. He devotes his free time to his wife and two children.

Brian Graham

(LAW '97), Frankfort, Ill., joined Pedersen & Houpt in July 2010. His responsibilities include chairing the firm's Reorganization, Restructuring, and Bankruptcy Practice Group.

Tobin Hensgen

(M.P.A. '97, M.B.A. '99), Chicago, is assistant chief of the New Haven (Conn.) Police Department and heads professional standards, which includes internal affairs, professional development, and training.

Jorge Ramirez

(LAW '97), Chicago, is president of the Chicago Federation of Labor, an umbrella group for 300 unions representing more than 500,000 workers. He is the first non-Caucasian president in the group's 114-year history.



Indrani Medhi
(M.Des. '05), Guwahati, India, received honors in 2010 for her work on a text-free user interface designed to help illiterate and semi-literate individuals learn how to easily use computers. She made *Fortune* magazine's lists of both the "Smartest People in Tech" and "Global Forum Visionaries," and was named one of the "Young Innovators Under 35" in *Technology Review*, a Massachusetts Institute of Technology publication.

Hillary Frommer

(LAW '98), New York, has been appointed to the board of directors of the Parent-Child Home Program, an early childhood literacy and school readiness program that strengthens families and prepares children for academic success through intensive home visiting. Frommer is an associate with Farrell Fritz, P.C.

Russell Genet

(LAW '98), Frankfort, Ill., an intellectual property partner at Nixon Peabody, LLP, co-leads the firm's patent practice.

Michael Nicolas

(LAW '98), Palatine, Ill., is a partner at Neal, Gerber & Eisenberg, LLP, where he focuses on commercial disputes and business counseling. He is also president of the Northern Illinois University Executive Club. He and his wife, Janine, have two children, Connor and Ashley.

William Dec

(LAW '99), Chicago, recently received the Asian-American Hall of Fame Award, the Cook County State's Attorney's Asian Pacific-American Community Leadership Award, the Cook County Treasurer's Asian-Pacific American Entrepreneur Award, and the Illinois Secretary of State's Asian Pacific-American Business Leadership Award. He is chief executive officer and founder of Rockit Ranch Productions.

Rajat Goswami

(M.B.A. '99), Chicago, is a senior director with Leapfrog Online customer acquisition. A veteran in the online marketing industry, he enjoys staying current with advancements in the digital marketing arena. Goswami is also an avid musician.

2000s

→ Stuart Dorf

(LAW '01), Fairhope, Alaska, is executive vice president of RIIISnet, LLC, an electronic trading platform designed for the commercial real estate industry that matches real-time demand to real-time supply.

→ Biju Nair

(M.S. CS '01), Chicago, is president and chief executive officer of Sapience Knowledge Systems, Inc., a telecom software startup. He and his wife, Rami, enjoy spending time with their three children.

Victor Perez

(LAW '01), Tiffin, Ohio, was named Attorney of the Year by the Public Children Services Association of Ohio and received a certificate signed by then-Ohio Governor Ted Strickland.

Andrea (Ricker) Wolfson

(LAW '01), Miami Beach, Fla., was appointed to the Miami-Dade County Court by then-Florida Governor Charlie Crist in May 2010. Wolfson has been an assistant state's attorney with the 11th Judicial Circuit in Florida since 2001.

Justin Henry

(PHYS '02), Springfield, Ill., graduated from Southern Illinois University School of Medicine in May 2010. He is a resident in internal medicine at the San Antonio Military Medical Center at Lackland Air Force Base in San Antonio, Texas.

→ Anoop Kabra

(M.S. CS '03), Chicago, is a lead engineer at Navteq Corp. He keeps busy at his job and with his new baby.

→ Patrick Markey

(LAW '02), Chicago, was appointed a project officer with the Chicago Bar Association's Young Lawyers Section at the group's annual meeting in June 2010.

Degee Wilhelm

(LAW '02), Bexley, Ohio, was appointed to a Democratic seat on the Ohio Elections Commission by then-Governor Ted Strickland in August 2010. She has served as a self-employed business and public policy consultant since 2009. Prior to that, she was director of Ohio surrogate scheduling for Obama for America.

Allan Chung

(ARCH '03), Chicago, has been included in the Worldwide Edition of *Strathmore's Who's Who* for his outstanding contributions and achievements in the field of architecture.

Holger-Christian Gaidosch

(LL.M. '03), Munich, Germany, is a legal counsel at PlanetHome AG, Unicredit Group. Unicredit Group is one of Europe's leading private banks. Gaidosch's practice focuses on all legal aspects of international and national information technology, real estate, employment law, and unfair competition. He married in 2009.

Timothy Polz

(LAW '03), Chicago, has been promoted to vice president and general counsel of Midwest Wind Energy, LLC. He was formerly a MWE senior project developer and has been with the company since 2004.

William Gibbs

(LAW '04), Chicago, was elected to serve on the Chicago Police Memorial Foundation Advisory Board in May 2010. The mission of the foundation is to provide support and assistance to the families of Chicago police officers who have been killed or injured in the line of duty.

Jacqueline L. Anderson

(PSYC '05), Lisle, Ill., and her husband, Stephen, added a new addition to their family, Brooke Lynn Anderson, born in October 2010.

Ashly Iacullo

(LAW '05), Chicago, was appointed as a director with the Chicago Bar Association's Young Lawyers Section at the group's annual meeting in June 2010.

Jason Gordon

(LAW '06), Chicago, was appointed as a director with the Chicago Bar Association's Young Lawyers Section at the group's annual meeting in June 2010.

Michael Hill

(LAW '06), Chicago, joined American Tower Corporation in spring 2010 as in-house counsel in the DAS Strategic Relations Division. He works on regulatory approvals, licensing, and government relations for deployment of telecom infrastructure in the Midwest.

Corwin Reese

(CE '06), Eden Prairie, Minn., has earned a Pile Driving Analysis Signatory-Advanced certificate, which ranks him internationally among a small and elite group of pile-driving analysis specialists. He is employed in the geotechnical engineering department of Braun Intertec.

Julia Campana

(PTC '07), Vancouver, Canada, is a video game designer and soccer fan who grew up playing the sport in Rio de Janeiro.

Gina Bicknell

(LAW '08), Chicago, co-authored the United States commentary for *Drafting Agreements in the Biotechnology and Pharmaceutical Industries*, published by Oxford University Press in April 2010. She is an associate in the IP Transactions Group of Marshall, Gerstein & Borun LLP, focusing on intellectual property transactions for universities, small companies, and Fortune 500 corporations.

Brandon Lloyd

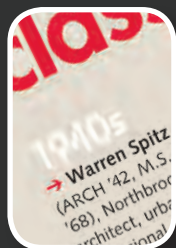
(AE '08), Houston, is in training flow to become a flight controller for the International Space Station environmental and thermal systems at NASA.

James Dodgen

(AE '10), Chicago, was commissioned as a second lieutenant in the United States Air Force in 2010. He is stationed at Edwards Air Force Base, where he is part of a flight-test squadron.

Michael Keefe

(LAW '10), Chicago, has joined Questar, Inc. as director of business, and legal affairs.



See What's New Through Velocity

The Velocity Initiative is revealing new and exciting information about your fellow classmates. In this and future issues of *IIT Magazine*, all alumni class notes that resulted from a Velocity interview are marked with the → icon. To submit your own class note online, visit www.iit.edu/alumni or write to us at alumni@iit.edu.

Only 1 in 10 students could attend IIT without scholarship assistance.

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

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

To discuss how to include IIT scholarships in your estate plan, please contact:

Stuart Gold

Director of Gift Planning

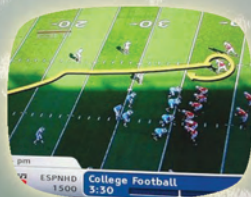
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Don't Keep Your Gift a Secret

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.



Wide Margin of Victory

ALL **LEONARD REIFFEL** (EE '47, M.S. '48, PH.D. '53) WANTED TO DO WAS MAKE IT EASIER FOR VIEWERS OF HIS POPULAR TELEVISED SCIENCE PROGRAMS TO SEE EXACTLY WHAT HE WAS POINTING TO ON THE AIR.

"I got tired of saying, 'Now, over there in the corner of the picture and a little bit to the left, you can see that little thing.' There was no way to reach into the picture," explains Reiffel, recalling his days as a science commentator for WTTW Channel 11 in Chicago and the CBS Network. "That's what led to the Telestrator."

The Telestrator—a name coined by Reiffel's mother, Sophie, by combining "television illustrator"—enabled sportscasters to sketch out plays and explanations onscreen and was the forerunner of the interactive video screens widely used today. Reiffel never intended for his invention to be used primarily for sports broadcasting. After patenting the Telestrator in 1971, he convinced WBBM-TV weatherman John Coughlin to try drawing raindrops and fronts with the device, which employed a transparent, electrically conductive coating on a glass sheet covering the TV screen. A pencil-like stylus could be used to write or draw freehand directly on the glass and into the TV image.

Johnny Morris, the Chicago Bears all-time leading receiver and former sportscaster for WMAQ-TV and WBBM-TV in Chicago, and analyst for CBS Sports, used Reiffel's Telestrator for the first time in a Bears vs. Washington Redskins regional game broadcast in the mid-to-late-1970s.

"It was a new football experiment and very basic. But I managed to draw a few lines and circle a few players with the Telestrator," Morris recalls, in a phone conversation from his home in north

suburban Chicago. "It was enough to convince CBS, where it became a staple and an effective tool." The Telestrator became the new "CBS Chalkboard" and made its national network debut at Super Bowl XVI on January 24, 1982.

While the National Academy of Television Arts & Sciences Emmy™ Reiffel won in 2004 for engineering the Telestrator occupies a place of honor at his home in Chicago's Lincoln Park, it is not what brings the inventor the greatest joy when he sees those familiar squiggles on the Super Bowl.

"Every time the Telestrator comes up, I think, 'Hey, my mom gave that word to the English language or—for that matter—to the world.' That tickles me," says Reiffel, who continues to come up with creative ways of doing things at his three companies—Reiffel Technologies LLC; the Exelar Corp., which focuses on medical interests; and the Luxelar Corp., which looks at how to make environments attentive to the activities and needs of people as well as objects.

The Telestrator is not Reiffel's only achievement. He served as group vice president of IIT Research Institute and led the team that developed the world's first nuclear reactor for industrial research, which was built and operated on Main Campus. He was

MORE ONLINE

"6 Questions for Telestrator Inventor Leonard Reiffel": www.popularmechanics.com/technology/gadgets/4247541

"U.S. Cold War Plans to Explode Nuclear Device on the Moon": www.abc.net.au/worldtoday/stories/s127959.htm



Photo: Bonnie Robinson

Leonard Reiffel (EE '47, M.S. '48, Ph.D. '53)

also the deputy director for sciences at NASA Headquarters' Apollo Program Office in the late 1960s, managing all manned lunar experiments and the lunar landing site-selection process. Reiffel's syndicated newspaper columns and broadcasts contributed to public understanding of complex scientific and technical subjects. It is little wonder that his notable invention would help to bring the same degree of understanding to sports fans.

"The Telestrator revolutionized the coverage of sports, and especially pro football, for viewers," says Morris. "Football can be a complicated game. The system made football much clearer and much more enjoyable for viewers. That's what it's all about."

—Marcia Faye

ALUMNI AWARDS 2011

FRIDAY, APRIL 15, 2011

IIT has been recognizing outstanding alumni through the Alumni Awards program for more than 60 years. As one of the university's oldest Tech Traditions, the event is met with excitement, anticipation, honor, and prestige. The Alumni Award is one of IIT's highest honors, and the brilliant and distinguished alumni and friends who return to accept their awards continue to inspire the IIT community.

Awards are given to honor individuals who have made outstanding contributions to the university, the community, and/or their profession. Visit <http://alumni.iit.edu> to find more information about the 2011 Alumni Awards, read descriptions of each award, and submit a nomination for the 2012 Alumni Awards.

ALUMNI MEDAL

ALUMNI SERVICE AWARD

COLLENS MERIT AWARD

GALVIN AWARD

GLOBAL SERVICE AWARD

LIFETIME ACHIEVEMENT AWARD

OUTSTANDING YOUNG ALUMNUS/A AWARD

PROFESSIONAL ACHIEVEMENT AWARD



Copyright: Bruno Cogez

French chef Thierry Marx [left] and David Edwards (Ph.D. CHE '87) take a whiff of Le Whif.

SWEET whiff

ESPECIALLY ON VALENTINE'S DAY, nothing can compare to the rich, sensory experience of biting into a chocolate-covered confection. But inventor David Edwards (Ph.D. CHE '87) has a delectable compromise for those who wake up on February 15 faced with a firm dietary resolve: Le Whif chocolate inhalers. Edwards says that a mere puff of chocolate powder on the taste buds delivers satisfying flavor minus the fat.

Using the lipstick tube-sized device is almost as effortless as popping a truffle into your mouth. After pulling open the colorful inhaler—the world's first biodegradable model, made of a form of polylactic acid—you place it on your lips and inhale gently, up to eight to 10 times before Le Whif is depleted. In addition to its sweets line, featuring such flavors as raspberry chocolate and mint chocolate, Le Whif also comes in coffee flavor, including the caffeine. A vitamin supplement line, featuring an antioxidant Le Whif, a multivitamin Le Whif, and a "Smart Age" Le Whif—with vitamin D and resveratrol—provides 100 percent of the daily recommended dose while bypassing the digestive tract, making absorption more efficient.

Edwards, who is Gordon McKay Professor of the Practice of Biomedical Engineering in the School of Engineering and Applied Sciences at Harvard University, introduced the concept of "eating by breathing" during the 2007/2008 debut season of *Le Laboratoire*, part of his Artscience Labs complex, an experimental cultural center Edwards founded in Paris where art and science are explored jointly as part of the creative process.

"I began to think about consumer products and food, and how to come up with a new way of eating; nothing can be more basic than what we put into our mouths," says the soft-spoken Edwards in a telephone conversation from Paris, where he lives during the majority of the year with his wife, Aurélie, and their three children. He collaborated with a team that included his Harvard students and the Michelin-rated French chef Thierry Marx before introducing a Le Whif prototype in spring 2009. Le Whif can be purchased online for approximately \$2.50 each and is today carried in about 300 stores worldwide.

The science behind Le Whif is the result of years of breakthrough research done by Edwards and his colleagues in drug delivery, infectious disease treatment, and inhalable therapies. Darsh Wasan, IIT Motorola Chair Professor of Chemical Engineering and Edwards's doctoral advisor, recommended that Edwards pursue his post-doctoral education at Massachusetts Institute of Technology, where he had the opportunity to work with pioneering biomedical researcher Robert Langer. Years later, Edwards and Langer led an international team that designed a whiffleball-like microparticle to deliver medicine, including insulin and testosterone, by dry, aerosol mist inhalation.

"When David was a student at IIT, I saw enormous potential in him," says Wasan, who co-authored the textbook *Interfacial Transport Processes and Rheology* with Edwards and MIT colleague Howard Brenner. "I have very high expectations of my students, but he exceeded all of them."

MORE ONLINE

Artscience Labs: <http://artsciencelabs.org>

Le Whif: www.lewhif.com

Newsweek "The Search for Solutions": www.newsweek.com/2007/09/28/the-search-for-solutions.html



ENTREPRENEURSHIP AND IIT

OF SUCCESS

In 1997, Edwards founded Advanced Inhalation Research, Inc., the first of several organizations focusing on innovative drug-delivery technologies. He is currently a board member and co-founder of Pulmatrix, a clinical-stage pharmaceutical company developing broad-spectrum inhaled therapies that treat and prevent such diseases as influenza, asthma, and chronic pulmonary disease.

Edwards is passionate about developing and commercializing affordable and effective dry-powder vaccines and drugs for distribution in poverty-stricken countries, and in 2003, he co-founded the nonprofit group Medicine in Need (MEND) to carry out that mission. With offices in Africa, France, and the United States, MEND is supported primarily by the Bill & Melinda Gates Foundation and has received grants totaling \$18.9 million for nanoparticle research, including work on an inhalable *Bacillus Calmette-Guérin* vaccine for tuberculosis and a vaccine against malaria. The World Economic Forum recently named MEND a 2011 Technology Pioneer.

—Marcia Faye



Photo: Phase One Photography



TAKE A LOOK AT US!

Illinois Institute of Technology students will be the future leaders who drive change in areas of global significance: energy independence, improving people's health, protecting the environment, and strengthening national security. The **IIT STEM+** (Science and Psychology, Technology, Engineering, Mathematics, Business, and Architecture) **Educational and Scholarship Initiative** will provide financial scholarship assistance to qualified students pursuing an IIT undergraduate degree.

We also offer guaranteed on-campus housing, a low student:faculty ratio, plus our unique **Interprofessional Projects (IPRO) Program**, which utilizes our new 13,000-square-foot **Idea Shop**, where students from various academic disciplines work together to tackle a real-world problem.



IIT HAS BEEN NAMED A FISKE 2011 BEST BUY SCHOOL!



SPECIAL IIT REFERRAL PROGRAM OFFERS:

IIT Scarlet Hawk Award: Admitted undergraduate students referred by a friend of the university are eligible. Annual awards range from \$1,000–\$2,500.

First-Semester Book Voucher: New first-year or transfer students who enroll at the university upon the recommendation of a friend of the university will receive a \$100 book voucher toward the purchase of their first-semester's books.



ARMOUR COLLEGE OF ENGINEERING CHICAGO-KENT COLLEGE OF LAW
COLLEGE OF ARCHITECTURE COLLEGE OF SCIENCE AND LETTERS
SCHOOL OF DESIGN COLLEGE OF PSYCHOLOGY
SCHOOL OF APPLIED TECHNOLOGY STUART SCHOOL OF BUSINESS

admission.iit.edu



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

Upcoming Alumni Events

National Society of Black Engineers Alumni Reception

Wednesday, March 23–
Sunday, March 27, 2011

St. Louis

The reception will be held in conjunction with the National Society of Black Engineers annual convention. At the convention, IIT's own Nate Thomas, former director of admission, will be honored as the 2011 recipient of the Golden Torch Legacy Award.

Mies' 125th Birthday Celebration

Monday, March 28, 2011

6–8 p.m.

S. R. Crown Hall
IIT Main Campus
Chicago

Celebrate with the Mies van der Rohe Society at the annual birthday party for Mies. This year's cocktail party will include a presentation by Wright Auction on how to tell "real vs. fake" Mies furniture.

Tickets are \$50 per person or \$125 per person including a one-year membership in the Mies van der Rohe Society. For more information, contact Kelly Merrion at 312.567.5025 or miesmembership@iit.edu.

Fifth Annual Karl Menger Lecture and Award

Monday, April 4, 2011

The McCormick Tribune Campus Center
IIT Main Campus
Chicago

Join mathematics alumni for this day, which will include a lecture and reception, to honor Karl Menger.

Watch your inbox and the Alumni Association website for information about IIT alumni events in your region. For additional information, please contact Marian Quirk at 312.567.5017 or quirk@iit.edu.



CS++: Celebrating 40+ Years of Computing at IIT

Honor the early pioneers of computing at IIT at an event planned for fall 2011. Additional information will be announced this spring.

An Evening for Psychology at Goodman Theatre

Thursday, April 7, 2011

theWit
201 North State Street
Chicago

Goodman Theatre

170 North Dearborn Street
Chicago

Join alumni of the College of Psychology for a reception at theWit to honor the career of Distinguished Professor Chow Lam, former head of the Rehabilitation Counseling Division. Then enjoy the social comedy *God of Carnage* at Goodman Theatre, followed by a post-performance talk. Tickets are available for \$250 by contacting Olivia Anderson at 312.567.6750 or andersono@iit.edu.

Society for Industrial & Organizational Psychology, Inc. Alumni Reception

Friday, April 15, 2011

Hilton Chicago

The reception will be held in conjunction with the Society for Industrial & Organizational Psychology, Inc. annual conference.

Alumni Awards Luncheon

Friday, April 15, 2011

Hermann Hall
IIT Main Campus
Chicago

Join fellow IIT Alumni Association members to celebrate the accomplishments of our distinguished alumni. The day will begin with a reception at 11 a.m. followed by a formal luncheon and presentation of awards at noon.

IPRO Day

April 2011

IIT Main Campus
Chicago

Come back to campus to see the work of student teams from the Interprofessional Projects (IPRO) Program during their formal presentations and exhibits at IPRO Day. For more information, including volunteer judging opportunities, please visit <http://ipro.iit.edu/ipro-day> or contact Jennifer Keplinger at keplinger@iit.edu.

American Institute of Architects Alumni Reception

Thursday, May 12, 2011

New Orleans

The reception will be held in conjunction with the American Institute of Architects annual convention.

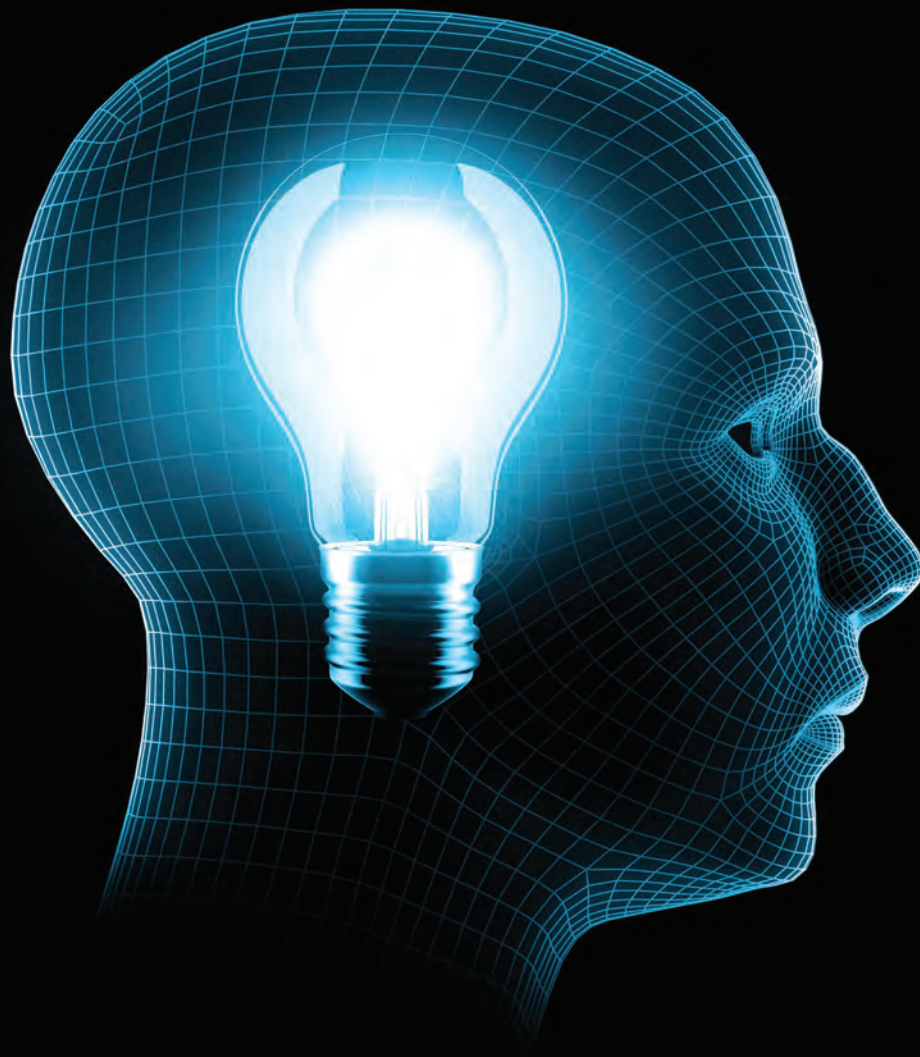
IIT Commencement

Saturday, May 14, 2011

IIT Main Campus
Chicago



IIT on the Road



Your gift helps keep the lights **on.**

Give a little or give a lot. Either way, you're helping generate bright ideas.

You don't need a fortune to make a meaningful gift to IIT. Thousands of alumni make annual gifts to the IIT Fund in support of scholarships, laboratories, and, yes, even the cost of light bulbs to keep our students out of the dark. Whether it's \$10, \$100, or \$1,000, your gift helps students make new discoveries and hit on the kind of bright ideas that IIT grads are known for. Visit www.iit.edu/giving or call **Brandon O'Hare** at 312.567.5029 to learn more about supporting IIT students.

Give a little or give a lot. Either way, you're transforming lives.



iit alumni
SCHOLARSHIP FUND



Class of 1960 Celebrates 50

The Class of 1960 celebrated its 50th anniversary on September 25, 2010. Other IIT alumni from earlier class years who attended the annual Golden Society Reunion joined the group.

Photo: Bonnie Robinson



Alumni Event in New York

Richard Lindsey (CHE '76) and his wife, Rebecca, hosted a gathering for alumni in their Manhattan home. [Left to right] Mostafa Analoui (M.S. EE '87), Lindsey, and Walter Ciciora (EE '64, M.S. '66, Ph.D. '69)

Photo: Joy Malone



Presidential Space

University Regent Robert Galvin delivers a toast at the conclusion of a space dedication ceremony honoring IIT past presidents Henry Linden (Ph.D. CHE '52), Thomas Martin, and John Rettaliata.

Photo: Bonnie Robinson



Martin Cooper NAE Induction

[Left to right] IIT National Academy of Engineering members Darsh Wasan, vice president for international affairs; Arun Phadke (M.S. EE '61); John Anderson, IIT president; Bhakta Rath (Ph.D. MET '63); and Martin Cooper, life trustee (EE '50, M.S. '57); along with Life Trustee Michael Galvin (LAW '78), at a reception honoring new NAE inductee Cooper at the Cosmos Club in Washington, D.C.

Photo: chriscrossphotography.com



Student Gift

Students from the 2010 Student Gift Committee held a ceremony during Homecoming 2010 to dedicate furniture purchased for The McCormick Tribune Campus Center using funds they raised.

Photo: Bonnie Robinson



Triangle Winery Tour

Alumni of the Armour Chapter of Triangle fraternity and their spouses went on a Southwest Michigan winery tour in August.

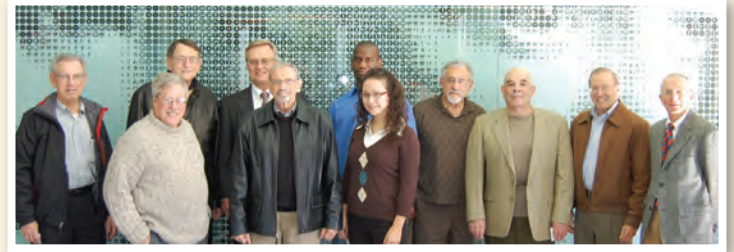
Photo: Brooke Beardsley (EE '99, M.S. '01) and Sara Kryda Beardsley (ARCH '02)



Wasan Lecture

[Left to right] Richard Lindsey (CHE '76), T. S. "Rama" Ramakrishnan (Ph.D. CHE '85), Vice President for International Affairs Darsh Wasan, Susan Solomon (CHEM '77), Hamid Arastoopour (M.S. GE '75, Ph.D. '78), Life Trustee Kaarina Koskenalusta, and President John Anderson at the 2010 Darsh T. Wasan Lectureship Dinner, which followed a campus-wide lecture delivered by Solomon

Photo: Bonnie Robinson



AEPI Tour of Campus

AEPI alumni visited campus for a tour and lunch. [Left to right] Robert Abrams (PHYS '59), Larry Kane (MET '62), Chuck Kramer (ARCH '57), President John Anderson, Ernie Schubert (BE '62), students Trevor Townsend and Raquel Alvarez, David Cohen (EE '60, M.S. '64), Don Weil (PHYS '62), Jay Fisher (CHE '63), and Chuck Chadd (IE '64). Later that evening, Board of Trustees member Vic Morgenstern (CHE '64) and his wife, Faye, hosted the group for dinner at their home.

Photo: Evan Venie

FOX Backlot Tour

Andrea Berry (CS '84), senior vice president of broadcast operations, FOX Network Engineering and Operations, arranged for IIT alumni to tour the FOX backlot in southern California. The group is on the New York street set of *Hello, Dolly!*

Photo: Jenna Albright



Idea Shop Tour

Ray Ballard (CHE '10), Michael Morley (BME '08), Helen Buzyna, and George Buzyna (ME '60, M.S. GT '62) gather for a reception and tour of the Idea Shop at University Technology Park at IIT during Homecoming 2010.

Photo: Bonnie Robinson



Connecticut Alumni Event

Walter Ciciora (EE '64, M.S. '66, Ph.D. '69) [right] hosted Connecticut-area alumni at his home. With Ciciora are Judith Platt (EE '59, M.S. '62, Ph.D. '71) and her husband, Marvin.



Indiana Alumni Event

Life Trustee Dirk Lohan and his wife, Cathy, attend an alumni event in Beverly Shores, Ind., at the home of Harold Olin (ARCH '54), along with other IIT alumni and Mies Society members.

Velocity Welcomes New Ambassadors, Plans Programming for New Year

In fall 2010, The Velocity Initiative expanded its ranks, welcoming 10 new student ambassadors and continuing to organize interviews with Chicago-area alumni. For the alumni who visited Main Campus during IIT's Homecoming, the event provided a fun setting to connect with the ambassadors. Many of these alumni were previously interviewed through Velocity, the university's alumni re-engagement program, now in its second year.

As a result of alumni feedback through Velocity, the Alumni Board Volunteer Management Committee has continued to develop programming in the top three areas of volunteer interest (mentorship, speakers bureau, and admissions). The members of the committee have invited many alumni, including those interviewed through Velocity, to volunteer in piloting such programs as a speakers bureau on campus and mentoring opportunities.



Velocity*Discoveries* *Fun facts about IIT alumni interviewed through Velocity:*



A **B.A.C. ARCH** alumnus set a world record for solo-flying a hot air balloon from Rockford, Ill., to Burma. His balloon, which has IIT's logo on the side, is in the Smithsonian National Air and Space Museum.

A **B.S. ARCH** alumnus worked to create some of the first pedestrian malls in the United States.

A **Ph.D. BE** alumnus worked to develop the first Energy Resources Council before the existence of the Department of Energy.

A **B.S. and M.S. CE** alumnus was the head project manager for Millennium Park in Chicago.

A **B.S. EE** alumnus wrote some of the United States' defense policies regarding the sustainability of the nation's defense and satellite technologies.

Velocity
initiative

the forward momentum of **iit**
through **alumni**

obituaries

in memoriam

Stuart Brent

ARSC '36

Before there was a Borders bookstore or a Barnes & Noble or even an Amazon.com, there was Stuart Brent, a venerable book establishment founded in Chicago in 1946. Brent, its namesake proprietor, opened his original one-room shop—Seven Stairs—with a \$300 GI loan and a dream of selling books. His first customer requested a book he didn't have in stock, but gradually other visitors came in for books and records Brent did carry, and for literary conversation.

Among his notable clientele were the writers Nelson Algren, Saul Bellow, Philip Roth, and Ernest Hemingway. Additionally, in the 1950s, Brent hosted the television show "Books and Brent," which aired locally and was then syndicated nationwide. Brent eventually closed Seven Stairs and opened a larger bookstore, Stuart Brent, on North Michigan Avenue, where he continued to recommend favorite books and introduce customers to the joy of reading. Changes in the book-buying business and an increase in area rents led Brent to close his bookstore in 1996.

Brent was preceded in death by three wives—Jeanette, Hope, and Caroline. He is survived by three daughters, including Amy Wexler, who continues to operate the Stuart Brent Children's Book Club, and five sons.

Richard Fu Hsien Yang

Department of Electrical and Computer Engineering

Professor Richard Fu Hsien Yang, a member of the IIT faculty from 1962–1973, was an enthusiastic educator who was known for challenging his students and for his traits of honesty, humility, and sincerity. A native of Changji, China, Yang received his bachelor's degree from National Wuhan University and his master's and doctoral degrees in electrical engineering from the University of Illinois. After serving on the faculty of South Dakota State University from 1950–52, Yang worked for the Andrew Corporation before joining IIT. He developed several patents and was named an IEEE fellow in 1967.

Yang was preceded in death by his wife of 61 years, Jean. He is survived by two daughters, a son, a grandson, and many nieces and nephews.

Ralph Erisman
ME '40
Bensenville, Ill.

Robert Kerney
FPSE '42, EE '46, M.S.
EE '48
Chula Vista, Calif.

Kenneth Jacobs
ME '43
Redlands, Calif.

John Volakakis
CE '43
Arlington Heights, Ill.

William Zechel
FPSE '46
Rye, N.H.

Robert Boyar
ME '47
La Grange, Ill.

Warren Long
IE '48
Aurora, Ill.

William Abbott
EE '49
Brooktondale, N.Y.

Robert Batch
ME '49
Burr Ridge, Ill.

Otto Curth
ME '49
Northbrook, Ill.

Lawrence Lange
ME '49
Auburn, Calif.

Eugene Dymek
FPSE '50
Fontana, Wis.

Gregory Streb
ME '50
Crystal Lake, Ill.

William Zion
DSGN '50
Chicago

Gustav Barnes
IE '51
Sun City, Calif.

Edwin Storer
FPSE '51
Sheboygan Falls, Wis.

Douglas Drake
ARCH '52
Milwaukee, Wis.

Lois Kozman
DSGN '52
St. Louis

Joseph Lokay
CHE '52, M.S. '53,
Ph.D. '55
Monroeville, Pa.

Sophie Koch-Weser
DSGN '54
North Andover, Mass.

Don Masterton
M.S. DSGN '54
Marblehead, Mass.

Joann Matthews
PHYS '65
Fort Myers, Fla.

Nick Lorandos
CE '66
Valparaiso, Ind.

Robert Phillips
ARCH '68, M.S. '70,
CRP '72
Greeley, Colo.

David McCoy
M.S. SOCT '69
West Nyack, N.Y.

Allen Oposnow
ARCH '71
Lincoln, Mich.

John Handbury
LAW '72
Saint Helena Island, S.C.

Thomas Ryan
EE '72
Palatine, Ill.

Manickam Annamalai
M.S. CE '75
Woodridge, Ill.

Joan Clements
LAW '77
Western Springs, Ill.

Ginger Esler
M.S. REHB '79
Itasca, Ill.

Marvin McCray
M.S. PSYC '83, Ph.D. '87
Tallahassee, Fla.

William Grundmann
ME '85
Oregon, Ill.

Beverly Tiesenga
LAW '85
Oak Brook, Ill.

Susan Epich
M.B.A. '88
Oak Lawn, Ill.

Juliana Veeck Brosnan
Ph.D. PSYC '94
Chicago

Brett Gorovskiy
LAW '02
Buffalo Grove, Ill.



Thinking Machine Pioneer

BY MARCIA FAYE

While brilliant polymath and Nobel Laureate **Herbert A. Simon**, who died 10 years ago, performed notable research in the specific domains of psychology, administration, economics, and artificial intelligence, his work in human decision making and problem solving, and their place within social institutions, served to unify his many interests, sharply defining and cementing his reputation.

From 1942–49, Simon was at IIT, where he served as a professor of political science and chair of the Department of Political and Social Sciences. During that time he also published the seminal book *Administrative Behavior*, considered a major development in understanding the organizational decision-making process.

“Simon inaugurated the embodiment of intelligence into computing, pioneered the incorporation of computing into decision making, and seeded the development of computer science in the process,” says Xian-He Sun, professor and chair of IIT’s Department of Computer Science. “His work continues to have great importance today.

With the immense amount of available information and networked electrical devices, scientists are facing the same kinds of problems but now in the context of digital decision making and making the digital space smarter.”

Simon left IIT to help develop the School of Industrial Administration at Carnegie Mellon University, where he held a variety of positions over the next 52 years. He expanded his research into human thinking with the help of a new machine—the computer—and became a leader in artificial intelligence. In an email, Edward A. Feigenbaum, Kumagai Professor of Computer Science Emeritus at Stanford University, recalls how he became one of Simon’s doctoral students, a decision he has never regretted.

“I took the course Mathematical Models in the Social Sciences from Herb Simon in my senior year at Carnegie Tech. In January 1956, after the New Year break, Herb walked in and said, ‘Over Christmas, Allen Newell and I invented

a thinking machine.’ I said to myself, ‘Wow—thinking and machine? What did he mean by ‘machine’ and what did he mean by ‘thinking?’” Herb gave us all a copy of the IBM701 manual as an example of a machine because we didn’t yet have a computer at Carnegie.

“I took the manual home that night, and I remember this vividly,” says Feigenbaum, acknowledging that by dawn, he had undergone an epiphany. “How many times in one’s life does one have a born-again experience? I became a born-again something that is now called a computer scientist. I knew then what I wanted to do: It was staying on with Herb Simon.”

For his dissertation, with Simon as mentor and later co-developer, Feigenbaum constructed EPAM, an influential information-processing model of human learning, and then moved on to build DENDRAL, the first expert system in artificial intelligence.

MORE  ONLINE

Herbert Simon Collection (Carnegie Mellon Libraries): <http://diva.library.cmu.edu/Simon>



Herbert A. Simon [second from right], winner of the 1978 Nobel Prize in Economic Sciences, stands with other laureates.

Image used courtesy of Carnegie Mellon University Archives



LEARNING BEYOND THE CLASSROOM

IIT students know that traditional coursework is only the beginning of a rich educational experience. With more than 100 student organizations on campus—from social groups to academic and discipline-based clubs—opportunities to grow and excel beyond the classroom are around every corner.

It's what we call distinctively defining the IIT graduate.



SPOTLIGHT: ILLINOIS TECH ROBOTICS

Illinois Tech Robotics is a student-led organization that provides IIT students hands-on experience applying robotics technologies. This includes putting their skills to the test by building full-sized robots as well as mentoring high school students through the FIRST (For Inspiration and Recognition of Science and Technology) program.

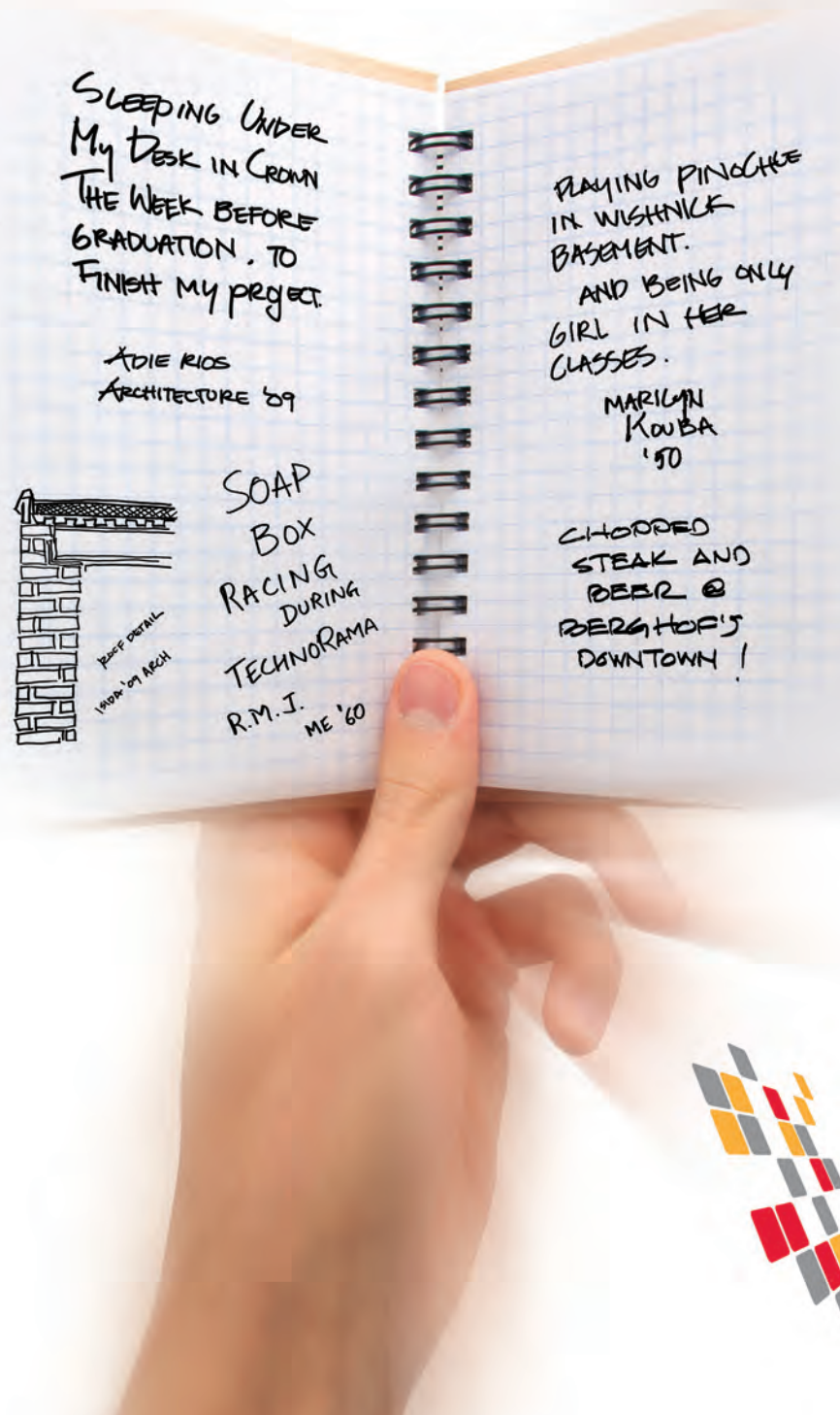
Do you know talented young people who would excel as IIT students?

Refer these potential IIT students to us. To learn more, contact Gerald P. Doyle, vice provost for undergraduate admission and financial aid, at doyle@iit.edu or 312.567.5203.

To learn more about **Illinois Tech Robotics**, contact Sabrina Fesko at sfesko@iit.edu.

To learn more about **IIT's student organizations**, contact Erin Gray at gray@iit.edu.





SHARE YOUR STORY WITH IIT

We want to know your Tech Traditions—what made IIT memorable for you? More than 200 alumni came back to their alma mater for IIT's Homecoming weekend in September to share their stories with us. Old friendships were rekindled and new friendships were established—all because of the Tech Tradition of Homecoming. Help us to create a living record of your favorite IIT moments. Find us on Facebook and join the discussion, or visit www.iit.edu/community/tech_traditions and tell us your tales!

What are Tech Traditions?

Tech Traditions are cherished activities and experiences—large and small—that are distinctive to the IIT community. From longstanding IIT customs and beloved campus happenings to students' personal favorite memories, Tech Traditions create the connective fibers of IIT.

