

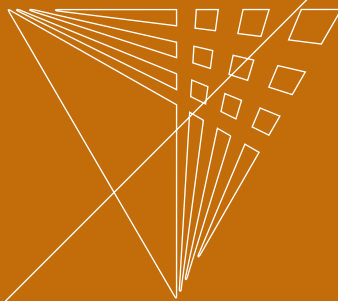
ILLINOIS INSTITUTE OF TECHNOLOGY
iit magazine

FALL 2015

IITAT125

PEOPLE PLACES THINGS

125



**OBJECTS OUT OF
OUR IMAGINATION**

The Who and the What
Yesterday, Today and Tomorrow

New Leadership
The Next Big Thing
Automotive Innovations
Historical Documentation



letter from the President

It is with deep gratitude that I offer a heartfelt ‘thank you’—to our faculty, students, staff, alumni, friends, and members of the Board of Trustees—who have placed their confidence in me to lead Illinois Tech as its ninth president. I am honored and excited to see what is possible for this global technological university located in one of the greatest cities in the world.

As the 125th anniversary of our university comes to a close, we can look back at our legacy with respect and admiration. It is time now to co-author the next chapter of Illinois Tech’s story.

Looking ahead, my vision for Illinois Tech is that we will become:

- A university where there is a strong focus on both education and the development of new knowledge—and where excellence is expected and not an aspiration;
- A university where outstanding faculty scholarship is combined with an ability to inspire our student body to high achievement;
- A university that values creativity, innovation, and the entrepreneurial endeavors of its faculty, students, staff, and alumni;
- A university where students are the focus of our endeavors and their success after graduation is the major outcome of their education;
- A university whose faculty, students, staff, and alumni have pride in the accomplishments of all; and
- A university whose culture is inclusive, its people diverse, and its accomplishments more than the sum of its parts.

In short, we will be a premier global technological university that is based in Chicago.

All of us need to write that next chapter for it is only by working together that we can realize our goals.

First, we must ensure the success of our graduates by offering them a total student experience. This will include a great education in a discipline of their choice and an out-of-class experience that will allow them to grow as people, develop an appreciation of the accomplishments of others, and start on the path that will allow them to become leaders in their careers.

Second, we must continue to build the visibility of our university as a premier global technological university in Chicago, in the United States, and across the world.

Third, we must build a community that supports the achievement of our goals. We must ensure that our university values all of its members—and that diversity and inclusion are hallmarks of our community.

And fourth, we must grow. Growth in all areas is necessary: growth in student numbers, growth in stature, growth in academics, growth in scholarship and research, and growth in pride. This includes pride in the accomplishments of our faculty, staff, students, alumni, and friends.

Our future is tied to strong undergraduate enrollment and our continued ability to attract some of the best and brightest graduate students and researchers from around the world. I ask for your help to identify students who could benefit from an Illinois Tech education and to tell the Illinois Tech story with pride. To our alumni, let us know when you do something exciting so that we can share it proudly across the institution.

In the years ahead you will hear me use the words ‘celebrate’ and ‘share’ together. We have much to celebrate—faculty recognition, student achievement, alumni accomplishments, and staff service. It is important that we share that news across the university so that we all know the breadth of our success.

And so when people ask you about Illinois Tech, let them know that our university is indeed known for engineering. But Illinois Institute of Technology is also known for science. And design. And law. And business. And human sciences. And architecture. And applied technology. Indeed, we have much to celebrate—and to share.

Our path is clear. Let the next phase of our journey begin.

Alan W. Cramb

President

IIT MISSION STATEMENT

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

Armour College of Engineering
Chicago-Kent College of Law
College of Architecture
College of Science
Institute of Design
Lewis College of Human Sciences
School of Applied Technology
Stuart School of Business

ADA STATEMENT

Illinois Institute of Technology provides qualified individuals with disabilities reasonable accommodations to participate in university activities, programs, and services. Such individuals with disabilities requiring an accommodation should call the activity, program, or service director. For further information about IIT's resources, contact the IIT Center for Disability Resources at disabilities@iit.edu.

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IIT Magazine Online-Only Content!

Read extended coverage of stories featured in the print edition as well as special online-only content at iit.edu/magazine



Good Article Selection

I'm sure it's tough for the staff to select various articles for *IIT Magazine*; the selections continue to be very good. Not only do I look forward to receiving the magazine and reading the articles, but I also look forward to the regular departments such as Alumni News. The cover letter by Andrea Berry (CS '84) was great! My wife and I have spent over 45 years in Wisconsin, but I, like Andrea, grew up on Chicago's South Side. I can still name the theaters at 63rd and Halsted, where I was every Saturday morning. It's hard to believe that there is now a Starbucks at 35th and State.

Ronald A. Dickman BE '67

Bronzeville Revisited

I lived on campus starting in September 1954 with one semester in Farr Hall and then in the Phi Kappa Sigma house until I graduated. When I came to IIT the majority of buildings on the campus were older civilian-owned and -occupied buildings inhabited by people from the neighborhood. When taking night school classes we were warned to be careful, but I did not hear of any problems. By June 1958 IIT, the City of Chicago, [and other organizations] had removed [most of] the buildings that were not part of IIT.

I read your magazine with interest. I visited the campus in the late 1960s to see the 'new' Phi Kappa Sigma house. I owe IIT for helping me to get a degree and a commission in the Navy. Through the Navy I later obtained a M.S. in EE at the Naval Postgraduate School. I retired from the Navy in June 1989 in Alameda, Calif., and took a job as engineering manager with Calnex Manufacturing. I retired from the company in 2001; in 2006 we moved to Columbia, S.C.

Charles W. Soules EE '58

The Map Is Where It's At

The summer 2015 issue article by Chelsea Kalberloh Jackson "Mapping History" along with the map was very interesting and brought back memories of my father's recollections as a contractor building many of the buildings on campus. From 1939 to 1950 Willard P. Carr of Dahl-Stedman Company handled the management of construction of buildings at Illinois Institute of Technology for [Ludwig] Mies van der Rohe, who was associated with architects Holabird & Root. A list of all the buildings on campus with their architects and contractors would bring back lots of memories for your alumni and show the progression of the campus.

James R. Carr

Editor's Note: *The sender is an engineer and Illinois native who now resides in Michigan.*

"Mapping History" was wonderful. I recalled many memories; some I wished I'd seen. The summer 2015 issue was great. Keep up the good work.

Bob Kamm M.S. PHYS '67

Editor's Note: *Boris A. Stern (CHEM '50) forwarded IIT Magazine questions raised by Col. Richard K. Johnson USAF (Ret.) regarding gravitational-force limits on aircraft from the article "Soaring Above" in the summer 2015 issue. The staff thanks David R. Williams, professor of mechanical and aerospace engineering, for addressing Johnson's inquiries.*

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
10 West 35th Street, Suite 4D7-1
Chicago, IL 60616
Email: iitmagazine@iit.edu

newsbriefs

NAYAR PRIZE

ILLINOIS INSTITUTE OF TECHNOLOGY

Three teams at Illinois Tech are recipients of the first round of funding of the Nayar Prize, a \$1 million gift package created to encourage and challenge university faculty, staff, and students to develop breakthrough, innovative projects that will produce meaningful results with a societal impact within a three-year period. Established in 2015 by Illinois Tech Board of Trustees member Madhavan Nayar (M.S. IE '68) and his wife, Teresa, on behalf of the Nayar Family Foundation, the prize initially awards up to \$100,000 each to a maximum of three teams. At the completion of the first year of the project, the teams will be evaluated and one will be selected to continue its work for the next two years with \$200,000 in additional funding. Upon the successful completion of benchmarks/performance metrics set by the team, members will receive \$500,000.

Visit <https://web.iit.edu/nayar-prize> to learn more about the Nayar Prize and the winning teams.



[Left to right] Cutting the Rettaliata Engineering Center ribbon are Illinois Tech President Alan W. Cramb, Former President and Trustee Emeritus Lewis Collens, Chairman of the Board of Trustees Bud Wendorf (ME '71), Caryl Pucci Rettaliata, Carol and Ed Kaplan Armour College Dean of Engineering Natacha DePaola, Distinguished Professor of Chemical Engineering and Former President John L. Anderson, and Dirk Lohan.

Celebrating Campus Transformation

Fueling Innovation: The Campaign for IIT celebrated a milestone on September 25 with the dedication and ribbon-cutting ceremony of John T. Rettaliata Engineering Center and investiture of the John T. Rettaliata Endowed Chair in Armour College of Engineering.

These events were made possible through a generous gift from Caryl Pucci Rettaliata in memory of her husband, the late John T. Rettaliata, who served as Illinois Tech's second president. Her commitment funded the first phase of extensive renovations to the structure, formerly known as Engineering 1 Building. Originally designed by Myron Goldsmith, the building now features renovations designed by Lohan Anderson and includes a light-filled atrium, new laboratory spaces, and a new collaborative and interactive educational space.

The dedication took place under the Rettaliata Engineering Center's

new outdoor canopy, where the Illinois Tech community gathered for a ribbon-cutting ceremony and toast. Following the dedication, longtime faculty member Hassan Nagib was invested as the John T. Rettaliata Endowed Chair in the College of Engineering.

These enhanced classrooms and meeting spaces will impact generations of students, and the beauty of the exterior and interior renovations will uphold the university's tradition of architectural excellence. The transformation of Engineering 1 will ensure that it remains the heart as well as the home of Armour College of Engineering for decades to come.

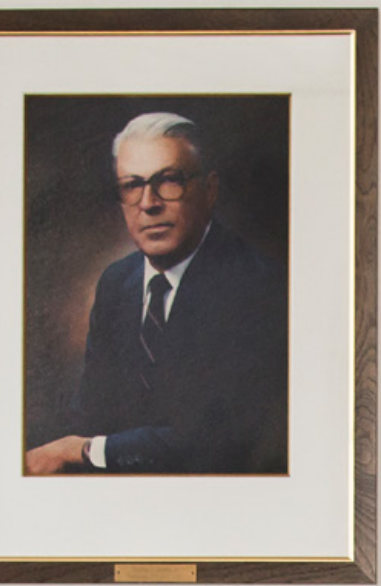
Visit fuelinginnovation.iit.edu to learn more about the Rettaliata Engineering Center and how the campaign is transforming IIT. Be sure to check out the many innovative alumni, students, and faculty featured on the site.

Campaign Progress August 31, 2015

\$214,379,933 Raised

- 15 Endowed Chairs
- Capital Projects:
 - › Ed Kaplan Family Institute for Innovation and Tech Entrepreneurship: \$32.6 million (includes \$10 million challenge gift from the Kaplans)
 - › Robert A. Pritzker Research Center: more than \$5 million
 - › John T. Rettaliata Engineering Center: more than \$10.3 million
- More than \$35 million raised for scholarships
- Six families have made gifts of \$10 million or more

fuelinginnovation.iit.edu



Provost President Builder

By Marcia Faye

I IT IS THE WEEK PRECEDING CHICAGO'S annual Air and Water Show, and the blue-sky view from Alan W. Cramb's office on the 19th floor of IIT Tower is more spectacular than usual. The unobstructed view stretching all the way to the Loop by way of the Mies Campus is further heightened by a bird's-eye perspective of a Blue Angels air squadron flying in formation, coupled with the sound effect of the occasional jet as it roars by directly over the tower. The aerobatic warm-ups, much like the conversation taking place in Cramb's office, signify important and exciting things to come.

"It was my wife who reminded me that when I decided to give up being a professor and move into administration, I told her I was going to work toward becoming president of a university," recalls Cramb, who on August 1 began his new position as ninth president of Illinois Institute of Technology, where he served as provost for the past seven

years. "I like the world of administration, thinking about how to move a large organization forward. Plus I really like our university and I want to be part of its future—and we have a great future. This is the job I want to do until it is time for me to retire."

The roots of Cramb's passion for higher education as well as his sense of community lie in Saltcoats, Scotland, in a home where he and his two older sisters grew up considering nearly everyone in the town family. His grandmother raised 10 orphans and his mother made every visitor feel welcome.

"We used to say that she could make friends in an empty room," Cramb says, with a laugh, as he leans back in the office's comfortable couch. "So I had a lot of aunts and uncles who were not related to me through blood but just by being there. I grew up in that type of community, where family was much bigger than who you were related to; we had this very interwoven dynamic where many people were involved."

Both his parents valued education, and at the age of 11 Cramb was one of four local students who passed the national qualifying exams ensuring admission to Ardrossan Academy, a college-preparatory high school. Knowing

that the young Cramb excelled in mathematics, chemistry, and physics, the school's headmaster suggested that he consider the metallurgy program at the University of Strathclyde in Glasgow. An American professor on sabbatical from the University of Pennsylvania encouraged Cramb to become his doctoral student; he was accepted into the program on a full scholarship. Cramb says that his parents were very supportive of his educational decision and that he even had his travel ticket paid for—with money earned during the three years he was a professional disc jockey while pursuing his undergraduate degree.

"My father was an absolute music aficionado. My parents allowed me to buy albums when I was growing up and they would listen to them, too—all types of music from the big bands to punk rock," he explains. "Someone asked my friend and me to play records at a local hall for people to dance, which was new then because people were used to dancing to bands. So we put our money together and bought a double record player and amplifiers. The next thing you know, we were playing at a bar on Wednesdays, Fridays, and Saturdays at lunchtime and on Saturday nights. We stopped only when I decided to go to America. I also have a very nice acoustic guitar that I bought when I came here in '75. I moved into my apartment and had \$400 left, so I bought the guitar because I liked to play. I haven't played in a long, long time, though."

After graduate school, Cramb spent the first part of his career at Inland Steel Company and at Bethlehem Steel Corporation, both now defunct, conducting and managing research as well as teaching technology best practices to steel workers. He entered academe in 1986 at Carnegie Mellon University and obtained his first departmental administrative position through a man who would become a "great mentor" to him: John L. Anderson, Illinois Tech Distinguished Professor of Chemical Engineering and former president.

"John is an amazing person with an amazing empathy for people; I've learned a lot about that from him," Cramb acknowledges. "Earlier in my career I was less empathetic and didn't listen as much. I've learned by watching him and others that you need to listen a lot and really get beyond the words to what people mean. I've also learned from him the need to understand the position of the university in the community and the position of the university within other universities."

Before coming to Illinois Tech, Cramb served as dean of engineering and John A. Clark and Edward T. Crossan Professor of Engineering at Rensselaer Polytechnic Institute. Then, as now, students remain his focus. Even though he is widely credited with making significant contributions to

“**My one word for Alan is charismatic. He is a very engaging individual, and a good and kind man.**”

—Michael Byrne

today's steel-casting process, Cramb is quick to include the students who were also involved in that research. He adds that his greatest accomplishment in metallurgy was that he mentored 19 doctoral students who are now living across the globe and making their own contributions to the field. And, as a father of two, Cramb says that observing his daughter Liana navigate her way through her first year of college gave him an intimate view of how important being a real member of the university community was to her. It all starts with a sense of belonging.

"One of my goals as president is to make sure that the university values all of its people, from the faculty to the staff to the students, and knows how important it is that we work together,"

says Cramb. "We also need to connect our future alumni with our past alumni to develop networks so that when a student comes to our university they're not just here for four years; they've joined a club for life. We need to think about not just what happens during the years they are here but what happens with their relationship with the university over time."

Michael Byrne—fellow countryman, university roommate, wedding best man, and godfather to one of Cramb's daughters—says that his friend of more than 40 years is the right person to encourage teamwork and further promote Illinois Tech esprit de corps.

"The university has made an admirable choice with Alan. As I think back to the highlights of his career, he has what I always thought of as star quality," says Byrne, senior manager for technology and strategy at TimkenSteel. "He's particularly good at building relationships. When I worked with Alan in the industrial world, one of the things I noticed about him is that he can work across all levels of an organization, meeting with people and relating to them very, very well. My one word for Alan is charismatic. He is a very engaging individual, and a good and kind man."

Speaking as Cramb's predecessor, Anderson concurs.

"Good academic leadership is grounded in decision-making skills, respect for the institution and its people, high standards of performance for himself and the university, and a full understanding of the mission and culture of academe," Anderson says. "Alan Cramb has all of these qualities. Furthermore, international recognition of his technical and professional achievements, including membership in the National Academy of Engineering, will bring widespread attention to IIT. The university is in great hands going forward."

View a photo gallery and watch a video of Alan W. Cramb's inauguration at <http://web.iit.edu/inauguration>.



Inauguration of Alan W. Cramb, the Ninth President of Illinois Tech

On the afternoon of September 18, it seemed that all roads led not to Rome but to Chicago, specifically, the “arena” known as Hermann Hall Auditorium on Illinois Tech’s Mies Campus, as Alan W. Cramb was inaugurated as the university’s ninth president. Hundreds of faculty members dressed in the regalia of their respective alma maters processed across campus to the ceremony as bagpipers and drummers announced their arrival. Not simply pomp and circumstance, the procession was for many of the faculty a show of respect for someone who has represented them for the past seven years as provost. Indira Samarasekera, former colleague and friend of Cramb’s for more than three decades, also hailed the new president in her keynote inaugural speech.

The president emeritus of the University of Alberta likened Cramb’s approach to the presidency as that of Theodore Roosevelt’s “man in the arena” from Roosevelt’s speech “Citizenship in a Republic,” about a figure who has the courage, tenacity, and talent to head a noble cause.

“I have watched Alan over the last 25 years with awe and have witnessed him explain the most complex of ideas in exquisite simplicity to those who have a full range of

educational backgrounds,” said Samarasekera. “Alan’s gift of oratory along with his intellect, vision, and capacity for clear-sighted leadership will be the hallmarks of his presidency. Alan Cramb, your ninth president, will be the man in the arena.”

Other speakers who have known Cramb during his Illinois Tech tenure, such as Board of Trustees Chair Bud Wendorf (ME ’71), agreed that he is the right person to lead Illinois Tech. “Alan has proven time and again that he has not just the intelligence but also the enthusiasm and the leadership skills needed to move IIT forward,” Wendorf said.

Student Government Association President Rahul Wadhvani (EE 4th year) recalled the interaction his classmates had with Cramb at various student events and meetings. While the president may be a gifted orator, what most impressed Wadhvani was the full breadth of Cramb’s communications strengths.

“President Cramb’s approachability and willingness to listen to students and work with them has really stood out to all of the students who I speak with; I’d like to thank him for that,” said Wadhvani. “He’s won [the students’] trust and respect.”

Intellectual Matchmaker

Frances Bronet

Provost and Senior Vice President for Academic Affairs

By Marcia Faye



“PEOPLE ASK ME TODAY IF I ALWAYS knew that I wanted to be the chief academic officer of a university,” says Frances Bronet (pronounced *bron-ett*), from her partially furnished, 19th-floor IIT Tower office, just over one month into her job as President Alan W. Cramb’s go-to senior administrator. “What I did know, in fact, and as a 17-year-old, was that I could recognize genius. I could recognize other peoples’ incredible intelligences and connect them, one to another.”

Even before she was aware of her interest in “navigating and brokering relationships amongst people,” the Montréal-born Bronet was a perpetual pupil—deriving information wherever possible, even shadowing her friends’ university-educated parents. An overachiever, she entered McGill University on a full scholarship and graduated with three bachelor’s degrees in architecture and engineering before earning a master’s degree from the Graduate School of Architecture and Planning at Columbia University.

Prior to coming to Chicago—“the architectural capital of the modern world”—where she lives in a Mies-designed building in Streeterville with her husband, a STEM (science, technology, engineering, mathematics) educator, Bronet last served at the University of Oregon, where she was ACSA Distinguished Professor and dean of the School of Architecture and Allied Arts. She also was acting provost during her final year.

“Frances Bronet was a visionary administrator at the University of Oregon; we expect that she will bring the same level of attentive leadership and artful exuberance to her role as provost at IIT,” says Scott Coltrane, senior vice president and provost at UO. “As dean and as acting provost she provided stability and creative inspiration to faculty,

staff, students, alumni, and community members. She has the rare ability to build bridges across deep divides and to bring out the best in the people around her.”

Bronet further discusses her life and the contributions she hopes to make to Illinois Tech here and on the Web in an expanded article.

What drew you to Illinois Tech besides the chance to live in Chicago?

I’ve always known about IIT for its renowned architecture school and for having one of the top design programs in the world; both disciplines are my foundational bailiwicks. Of course, Alan Cramb, the new president, was a huge draw. His understanding of what IIT is and what a world-class institution is and how to support it was central to my coming. In doing a little more research I began to understand the core of this extraordinary student body and the leading-edge faculty, and how they are determined to make a difference in the world while creating the tools and investigative practices by which they could make that difference. The strategic plan impressed me by its focus on students and on excellence, by the action-oriented vision and implementation strategies. Seeing the IPRO [Interprofessional Projects] Program as a fundamental model for learning, knowing that positioning design across the curriculum was in play, and that the students were already engaged in global problem solving, were critical to why I came to IIT. And the opportunities I have to further build relationships amongst the disciplines, the other universities that Chicago houses, as well as industry partnerships are incredible.





PHOTO: COURTESY OF MITCH BORNSTEIN

The Horse *Listener*

By Marcia Faye

THE BLACK SUV TURNS ONTO the dirt driveway, passing the postal boxes and the tiger lilies, the old dairy barn, and silvery-domed silo. As the truck approaches the farmhouse in rural Woodstock, Ill., the bucolic silence is broken as a trio of barking dogs runs toward the familiar vehicle, tails wagging. A line of Chinese geese and a Bantam rooster couple waddle, squawk, and cluck in the direction of the driver, Mitch Bornstein (LAW '95), and his passenger, who climb out of the Chevy only to be met by a meowing member of the welcoming party, Asbestos, the feral tabby.

The dark-brown head of a mustang named Samson protrudes from a corncrib where he is taking shelter from biting flies. He is ever vigilant, having been forcibly evicted and separated from his herd at age six from federal rangeland in Nevada in a helicopter roundup through the United States Bureau of Land Management (BLM). As if not traumatic enough, the horse was then adopted by an

individual in Illinois and over the next six years, physically abused by one or more owners before being taken in by “Amy,” owner of the farm in Woodstock. When she realized that she had an animal that was wild by nature and more crucially, fearful and hateful due to lack of proper nurturing, she contacted Bornstein, who is locally known for successfully training horses that most no one else can.

“The simple answer to what drove me to work with damaged and abused horses is that I have a knack for it and am good at it,” says Bornstein, 45, a Highland Park, Ill., native who trained his first problem horse when he was 20 and who now has a client waiting list in the dozens. “From my very first horse I felt that there was an intuitive element at work and that I could size up a horse pretty well. I could train an easygoing, run-of-the-mill horse, which is fine. But I figure that I could take that same amount of time and instead help a horse that someone tells me is on its way to a slaughterhouse in Mexico unless its problem can be fixed.”

Beginning in the fall of 2009, Bornstein spent nearly two years intensely working with Samson and documented his experiences in *Last Chance Mustang*, published this summer by St. Martin’s Press. A former litigator who has since changed his practice to consultation as his equine workload increased, he selected Chicago-Kent College of Law for its renowned legal research and writing program headed by Professor Ralph Brill. It took St. Martin’s Press Editor Daniela Rapp, who specializes in animal-related books, one weekend to decide to publish Bornstein’s memoir.

“The [books] that would be classified [at St. Martin’s] as memoir all have two things in common: the right mix of humor and emotional depth, and a very strong bond between the human and the animal. When Samson’s story came in on submission, I had been looking for a great horse book for a little while, and the manuscript had both the right tone and the bond,” Rapp explains. “And it is also such a necessary book, given that many readers might be utterly and sadly unaware of the plight of the American mustang.”

Bornstein continues to make the three-hour round-trip drive to Samson’s farm twice each week to groom, exercise, and ride him, and considers his relationship with the now nearly 18-year-old gelding as special and significant; all of his work with the horse has been pro bono. He regards Samson as representative of the remaining American mustangs on public lands, whose status continues to be threatened across nine western states in spite of the passage of the Wild and Free-Roaming Horses and Burros Act of 1971.

“If one less person hits a dog or a cat or a horse, or if a few readers go to the Internet to learn about the wild horse issue and perhaps call their congressman or congresswoman, then I’ve accomplished something with this book,” says Bornstein. “After all, this is a story about redemption, love—and hope.”



PHOTO: VIRAJ S. BHATT (PWR MASTER'S CANDIDATE)

The inaugural IIT Color Run, a “non-intimidating” one-mile walk/run around campus during which participants were doused with brightly colored powder, marked a celebratory finish to the school year.

Promoting Playtime

By Amanda Cleary-Eastep

SINCE FIRST COMPETING IN SOCCER at the age of four, Courtney Budd has channeled her love of sports and fitness into her educational and career pursuits. Today she brings that dedication to her position as Illinois Tech’s director of intramurals and recreation. This spring Budd joined the Illinois Tech Department of Athletics and strives toward the team’s goal to reinvigorate the intramurals program and inspire students to “get out and play.”

The program now features a new logo and a name change from Intramurals and Recreation to Recreational Sports and Fitness in addition to offering more non-traditional classes, including Zumba and kickboxing. Budd says there is something for everyone. Students may

participate in leagues, tournaments, group fitness classes, and special events, such as last semester’s IIT Color Run, the largest intramurals event in university history.

During the spring semester, the department witnessed significant increases in student participation, with nearly three times the number of students than the fall semester. Most notable was the increase in participation among female students, with 16 times the number of participants.

Budd has spent months planning this fall’s Campus Cup Challenge and The Great IIT Race, which will mimic CBS’s multi-E Emmy Award-winning reality series, *The Amazing Race*. Students have already benefited from

the re-energized program. Sharuk Ashfak Majid (BMED 1st year), an international student from Bangladesh, says participating in intramurals enabled him to meet students from different majors, join his roommate in making it to the basketball quarter-finals, and stay healthy.

“The student experience is a huge focus at Illinois Tech, and recreational sports and fitness can have a positive impact on that,” Budd says.

That impact extends beyond improving the physical health of students. Budd recalls how sports taught her as many life lessons as it did soccer techniques.

“Playing organized sports taught me how to be confident, work with other people, and become a leader.”

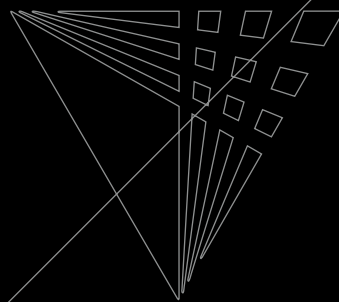
IIT AT 125

PAST, PRESENT, AND FUTURE

THINGS



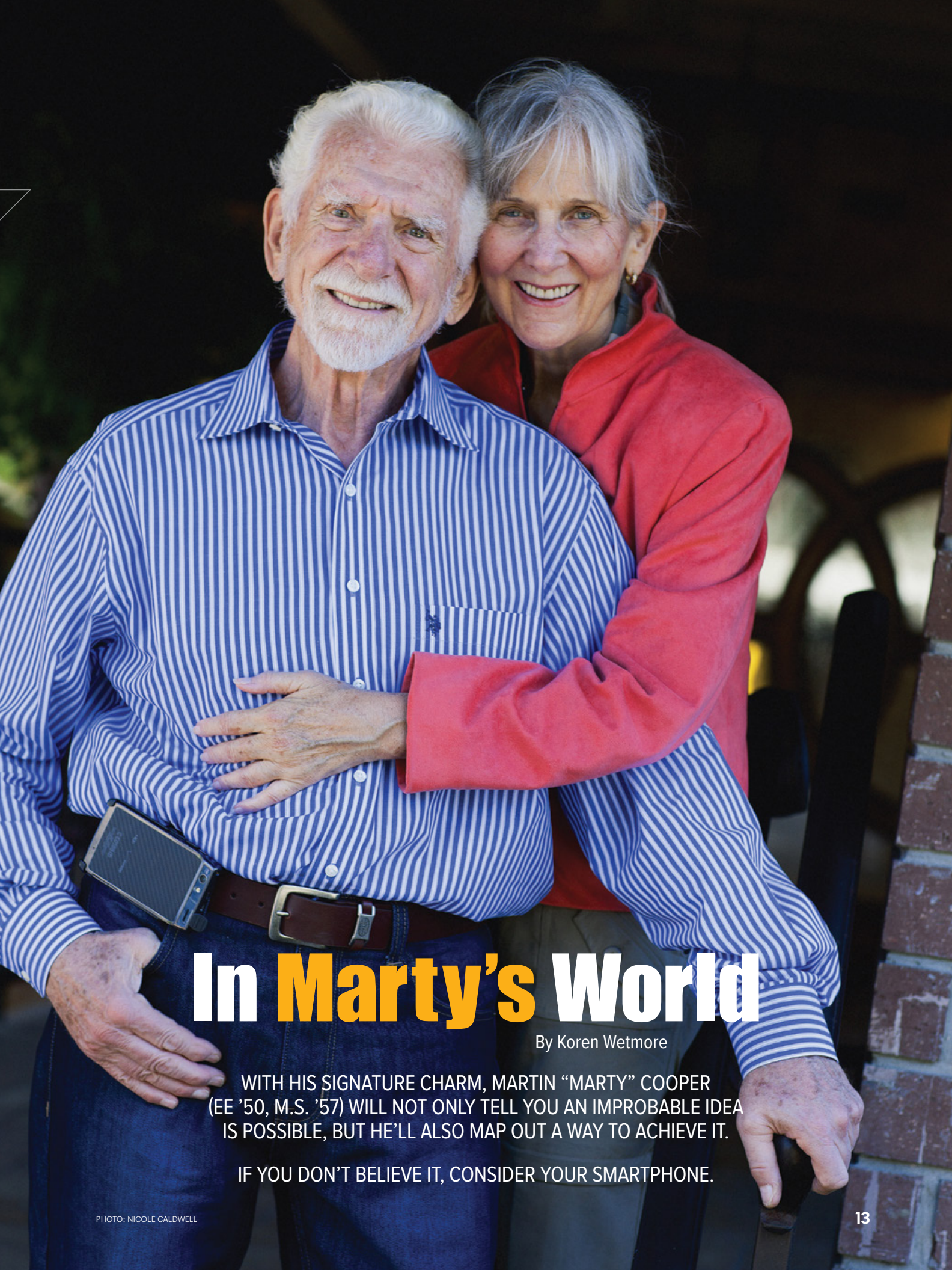
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Things. Objects. The tangible. They are the results of research, the pursuit of knowledge, a commitment to give back, and the determination to lead. They are the products of makers whose workshop is our wildest imagination. Some are everyday tools while others remain influential artifacts. And they all generate a sense of pride that is far less tangible—but just as meaningful—as the objects themselves.

In this final issue of a three-part series chronicling the history of Illinois Tech in its 125th year, *IIT Magazine* looks at the things associated with the university—from automotive and communications innovations to fashion—through stories that define an era.

Follow IIT on Twitter at [#illinoistech125](https://twitter.com/illinoistech125) or visit web.iit.edu/125.



In Marty's World

By Koren Wetmore

WITH HIS SIGNATURE CHARM, MARTIN "MARTY" COOPER (EE '50, M.S. '57) WILL NOT ONLY TELL YOU AN IMPROBABLE IDEA IS POSSIBLE, BUT HE'LL ALSO MAP OUT A WAY TO ACHIEVE IT.

IF YOU DON'T BELIEVE IT, CONSIDER YOUR SMARTPHONE.

IN THE EARLY 1970s, communications giant AT&T dismissed the idea of personal cell phones and instead focused on what it thought people wanted: in-dash car telephones. The company planned to offer the service under the condition that it be the nation's sole mobile communications provider. When it sought to secure this monopoly from the Federal Communications Commission, Cooper and his team at Motorola sprang into action.

They were determined to give people a truly mobile device that wouldn't keep them "trapped in their cars." So, in a mind-blowing three months they created a prototype—the 2.5-pound DynaTAC.

On April 3, 1973, with a journalist in tow, Cooper took the DynaTAC outside a press conference in New York and dialed his rival at AT&T's Bell Labs to share the good news. The occasion marked the world's first personal cell phone call, which contributed materially to the demise of AT&T's planned monopoly. Forty-two years later, there are more than 7 billion cell phone subscribers worldwide. Clearly, Cooper saw something others missed.

"There were very few people who thought it would ever be big business, so I was really an outlier," says Cooper, who at 86 still serves as a consultant for the wireless industry. "Yet there were two guys who really supported me: Bob Galvin [the late Illinois Tech Board of Trustees chair and Motorola CEO], who allowed the company to spend what today would be \$1 billion on a technology with no projected revenues, and John Mitchell [EE '50], who taught me that people are inherently mobile. So IIT had a significant role in the creation of the cell phone."

Cooper left Motorola in 1983 and went on to launch several companies, including two—the consulting firm Dyna LLC and GreatCall, Inc. (the maker of the senior-friendly Jitterbug phone)—with his wife, Arlene Harris. Popularly known as the "First Lady of Wireless," Harris complements

Cooper. The two enjoy working together and sharing pursuits such as skiing, tennis, and the occasional spirited conversation.

"I am mad about her, but she is uncompromising," Cooper says. "She's one of the smartest engineers I know and we sometimes argue, but the result is that I always learn something"

Currently writing a book about the cell phone's creation, Cooper admits to being a dreamer and continues to envision the future of wireless technology. With successes beyond the cell phone that include expanding pager technology from single-building

"There were very few people who thought it would ever be big business, so I was really an outlier."

use to services that stretch across cities, Cooper continues to project and inspire. His uncanny vision prompted FCC Chairman Tom Wheeler to state in a 2009 *Economist* article that the man sees "how things should be" and "then he makes them happen." More recently, a video documentary about Cooper appears in the online magazine and video channel *Motherboard*. He sees our world growing ever more

connected and personal.

Your future cell phone, he says, will "learn" your needs and preferences and include an app that automatically finds or builds other apps to meet those needs. It will also likely evolve into a voice- or thought-responsive implant that connects you to the Internet and other people. Social media will shift from a simple photo- and story-sharing platform to a collaborative online work environment, which allows everyone to contribute their knowledge and skills.

"Things like Twitter and Facebook have gotten us hooked into continuous communication, connection, and mental stimulation, which will lead to a productivity revolution that's going to make us all more wealthy," says Cooper.

He also predicts a coming health-care revolution via wireless devices such as "smart" clothing that will measure our functions round-the-clock.

"If we can sense a few cancer cells or a virus before your body starts getting damaged, we can target and eliminate those things," he says. "That's one way wireless technology will allow us to live perhaps not longer, but much healthier lives."

Sound far-fetched?

So did the cell phone. ●





PHOTO: SCOTT BENBROOK

THE ART OF CAR-HACKING

By Koren Wetmore

DURING HIS SENIOR YEAR AT ILLINOIS Tech, Nishanth Samala (CS '14) took his Mazda in for routine maintenance and received a shocking \$2,000 repair bill. Later he learned the total was significantly inflated for the type of work done. This disturbed the self-proclaimed gearhead, who has tinkered with cars since childhood. It also raised the question: If a mechanic could rip him off, how could everyday people protect themselves?

Fortunately, there's now an app for that.

Strados, a phone app developed by Samala and his business partner, Bingkun Zhao, connects to an online machine-learning platform that analyzes a vehicle's computer signals and alerts the owner to potential problems. Diagnosed issues are assigned a severity rating and a cost estimate. For example, Samala says that Strados might detect that a car's oxygen sensors are reading erratically and send an alert indicating a possible problem. Strados would then begin to investigate.

"It will let you know if you need to replace an oxygen sensor, which is about a \$200 repair," Samala says. "Without that warning, your failing sensor could lead to a catalytic converter failure, which can cost up to \$3,000 to fix."

An early Strados prototype included a small device that plugs into a car's diagnostic port, located under the steering wheel of vehicles made after 1996, but the latest version integrates with third-party devices.

"We're talking with potential hardware partners, so we don't have to do the extra work of developing a device," he says.

Strados processes vehicle data using sophisticated algorithms and prediction models to determine whether a problem exists. The prototype has worked well on a handful of test vehicles. The creative duo's goal is to gather and test data from hundreds of vehicle makes/models to fine-tune their data models so that, according to Samala, "the computer can do the calculations instead of us."

Strados drew interest at the 2014 Chicago Auto Show and was included in *Inc.* magazine's 2014 list of "America's Coolest College Startups." The budding company has been primarily funded from Samala and Zhao's own cash reserves and, for now, is relegated to being a part-time pursuit, as both men work full-time jobs. (Samala is a computer engineer at Nokia.) However, Strados was recently accepted into Microsoft's BizSpark Plus startup program, which provides \$10,000 per month to support the app's online infrastructure.

Samala hopes to keep the app free for users by monetizing it through contracts with companies that have expressed interest in the data it will generate. Potential income may come from the insurance industry, which hungers for accurate driver mileage data and has been in conversation with Samala about the possibility of purchasing quarterly mileage updates.

A beta version of Strados may become available by year's end on Google Play. ●



Voices from
CHILDHOOD

By Koren Wetmore



ON THE SOUTHWEST COAST OF

Oahu, Hawaii, the remains of the now-defunct Ewa sugar plantation stand like a relic of a generation and way of life that has faded into history. But in the mid-twentieth century, when Dennis Irie (ARCH '66) grew up there, it was a bustling community complete with its own hospital, school, post office, store, theater, and fire department.

"You may think 'plantation' and relate that to the South and slavery, but that wasn't the case at Ewa. The plantation treated its workers well," says Irie, a retired architect who now lives in Honolulu with his wife, Patsy. "The children had a lot of nice amenities and the people in the close-knit community had decent homes. So they generally have good memories about the place."

He hopes to capture and secure those memories for future generations through his forthcoming book, *Cane Tassels, Work Whistles and Labor Day Carnivals*.

Irie spent a decade gathering photos, stories, and oral histories from those who lived on the plantation from the 1940s to 1970. After retirement, he wrote a narrative, drew town maps, organized the photos and stories into chapters, and now is close to completing his manuscript. The final book will include the personal accounts of more than 60 former plantation residents.

"Many former Ewa kids contributed to this collection... Some accounts are funny and some are wistful," writes former plantation resident Carolyn Okinaga in the book's introduction. "[The book] truly reflects this love for the Ewa where we grew up."

Irie recalls a pleasant childhood, including playing sports and hanging out at the plantation's recreation center. Although he had chores, such as raking and cutting grass, he never worked for the plantation company.

"Parents generally made a big push for their children to get a good education and to pursue careers outside of the plantation. It's interesting

that a lot of us went on to become educators, engineers, architects, dentists, or attorneys," he says.

The grandson of Japanese immigrants, Irie was a third-generation Ewa resident. His grandparents came to Oahu in the late 1800s when his grandfather accepted a position as a contract laborer for Ewa (he was later promoted to supervisor). His parents also worked on the plantation and the family lived in a three-bedroom rental home there for \$40 per month.

Their lives shifted suddenly on December 7, 1941, with the attack on nearby Pearl Harbor.

"Friends who were fishing in the West Loch of Pearl Harbor quickly came running up the hill back to the village after seeing all the explosions," recounts a story from Irie's book, contributed by two residents who lived on a part of the plantation that overlooked the harbor. "Many gathered at the overlook to take in all that was happening, not realizing this was the start of a war."

When the United States entered World War II, Irie's maternal grandparents were placed in internment camps on the mainland, while his mother was allowed to continue working in the plantation's main office and care for the 1-year-old Irie. His father, who had graduated from the University of Missouri, was part of the U.S. Army's 100th Infantry Battalion, an all-Japanese unit that was sent to fight in the European Theater. He was among the 10 men from their community of 4,000 who died in the war.

Irie recently rescued a plaque honoring these men and had it installed in the courtyard of the Administration-Library Complex that he designed at the town's elementary school. He has created a storyboard for the courtyard that explains the plaque's significance so that, like his book, it can help future generations connect with their town's past. ●

MORE ONLINE ►

Hawaiian Sugar Planters' Association Plantation Archives: www2.hawaii.edu/~speccoll/p_ewa.html

Photo courtesy of the Hawaiian Collection, University of Hawai'i at Manoa Library from the Ewa Plantation Photographs Collection

IT WAS ONE GAS OF A RIDE, BABY THE BLUE FLAME

BY MARCIA FAYE

FORTY-FIVE YEARS AGO THIS OCTOBER 23, a missile-shaped, pearlescent-blue rocket car roared down the Bonneville Salt Flats in Wendover, Utah, and into the record books because a derring-do band of technically brilliant car enthusiasts, IIT engineering students and their professors, and one highly regarded academic visionary—energy researcher Henry R. Linden (Ph.D. CHE '52)—believed that it could.

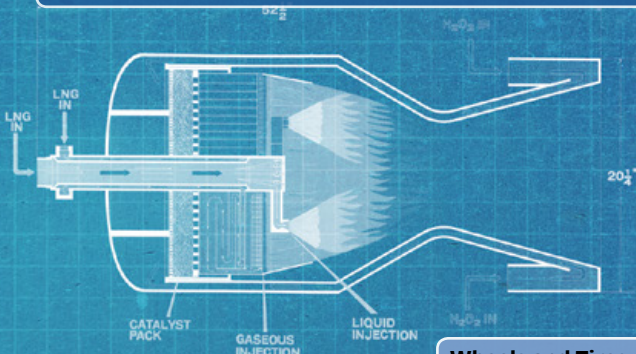
Named for the color of ignited liquefied natural gas (LNG) that served as fuel for the vehicle, The Blue Flame (TBF), driven by Gary Gabelich, blew away the existing land speed record (LSR) set in 1965 by 30 mph.



PHOTO: COURTESY OF DICK KELLER

Braking System

Parachutes and disc brakes were used to stop the car. At high speed the first parachute was deployed by a slug fired by compressed air projecting a small pilot parachute, which then pulled the high-speed parachute from its housing. At 300 mph the driver then released a larger, low-speed parachute and finally applied the wheel brakes (rear wheels only) at 100 mph to come to a stop. A second complete parachute system provided redundancy.

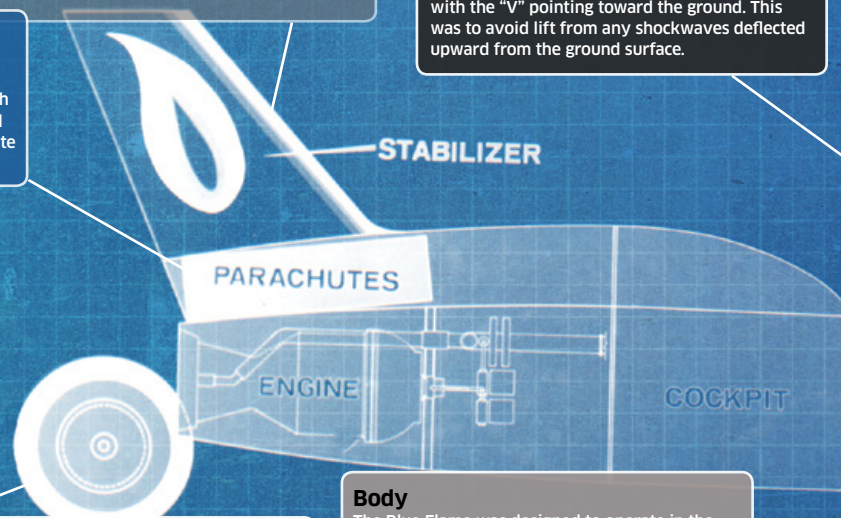


Vertical Tail Fin

The vertical tail fin added to the vehicle's stability much like the feathers on an arrow.

Fuselage

The fuselage cross-section was a tri-oval shape with the "V" pointing toward the ground. This was to avoid lift from any shockwaves deflected upward from the ground surface.



Wheels and Tires

A triangular wheel layout with the front wheels one-inch apart inside the fuselage and the rear wheels seven-feet apart provided roll stability and moved the aerodynamic center of pressure rearward. The Goodyear Tire & Rubber Company individually tested the wheels and tires at more than 850 mph; however, in 1970 the company required that the maximum speed be kept below 700 mph.

Body

The Blue Flame was designed to operate in the supersonic realm above Mach 1. The most critical part of the aerodynamic design was to provide vehicle stability through the estimated transonic speed transition of Mach 0.9 through Mach 1.1.

“The Blue Flame’s 630.478 mi/h (1,014.656 km/h) record speed in the kilometer remains the fastest ever at the Bonneville Salt Flats; the 1,014 km/h record speed was the first record over 1,000 km/h and resulted in much acclaim throughout Europe,” says Dick Keller, who was a chief technologist at IIT Research Institute when he and colleague Ray Dausman developed their idea for the X-1 rocket dragster, the prototype to TBF, in the mid-1960s. “The 622.407 mi/h record speed in the mile lasted 13 years. The 1,014.656 km/h kilometer record speed lasted 27 years.”

Dausman (who originally suggested using a rocket to power TBF but left the project before the car went to the salt flats) and Keller enlisted the services of dragster builder Pete Farnsworth to form Reaction Dynamics, Inc., the core

team that designed and fabricated the vehicle. Keller presented the concept to Linden, then president of the Institute of Gas Technology, an IIT affiliate; Linden subsequently obtained funding for the vehicle from a large group of American natural gas industry supporters. Linden also enlisted a cadre of talented IIT students led by faculty members T. Paul Torda and Sarunas C. Uzgiris (M.S. ME '63, Ph.D. MAE '66), who refined the aerodynamic qualities of the car by incorporating a specially designed nose for low drag, triangular body cross-section shape, and slight nose-down body slant.

The Blue Flame, now displayed at Germany’s Auto & Technik Museum Sinsheim, primed the possibility that LNG could be utilized as a clean transportation-fuel alternative, an option still being researched today. And the insatiable desire to surpass world-record speed also continues, as two groups—a British team and team Aussie Invader 5R from Australia—are working to achieve 1,000mi/h in 2016 in

Hakskeen Pan, a dry lakebed in South Africa’s Northern Cape province.

“The Blue Flame has always been my favorite LSR car not only because she was really slick and pretty—boasting the best technical backing of any project ever before or since 1970—but also because The Blue Flame team [members] were total professionals,” says drag-racing record holder Rosco McGlashan, who is already the “Fastest Aussie on Earth” and has been working to become the fastest man on Earth for more than 50 years.

“Richard Keller has been a godsend to our project, assisting us with design ideas and rectifying construction problems we had to overcome. My team is building a car with a 62,000-lbf [pound-force, or pounds of thrust] bi-propellant motor; it has often been referred to as ‘The Blue Flame on Steroids.’ We’ve had some real highs and heaps of real lows but [what] keeps us motivated are the achievements the pioneers before us have won, including the great work Illinois Institute of Technology did back then. Their research is our bible.” ●

MORE ONLINE ►

IIT Magazine Online Exclusive: Bio sketches of Blue Flamers
IIT Magazine Video Extra: Memories and discussion about the importance of The Blue Flame.

A Real Blast from the Past

A unique set of structural, aerodynamic, and mechanical features developed by Reaction Dynamics, Inc. and Illinois Tech worked in concert to shoot The Blue Flame down the Bonneville Salt Flats not once, but twice. According to rules established by the Fédération Internationale de l’Automobile, the average speed was calculated by the average of two runs—the vehicle needed to make a run in one direction, turn around, and make a second run in the opposite direction within one hour’s time.

Here are some of the major specs that helped to make the nearly 38-foot-long, two-ton (when empty) Blue Flame a record breaker:

Chassis

The central chassis structure beginning at the rear of the nose cone was a riveted, stressed aluminum skin over aluminum ring structures and aluminum I-beam longerons, or stringers, similar to what is used in the construction of an aircraft’s body.

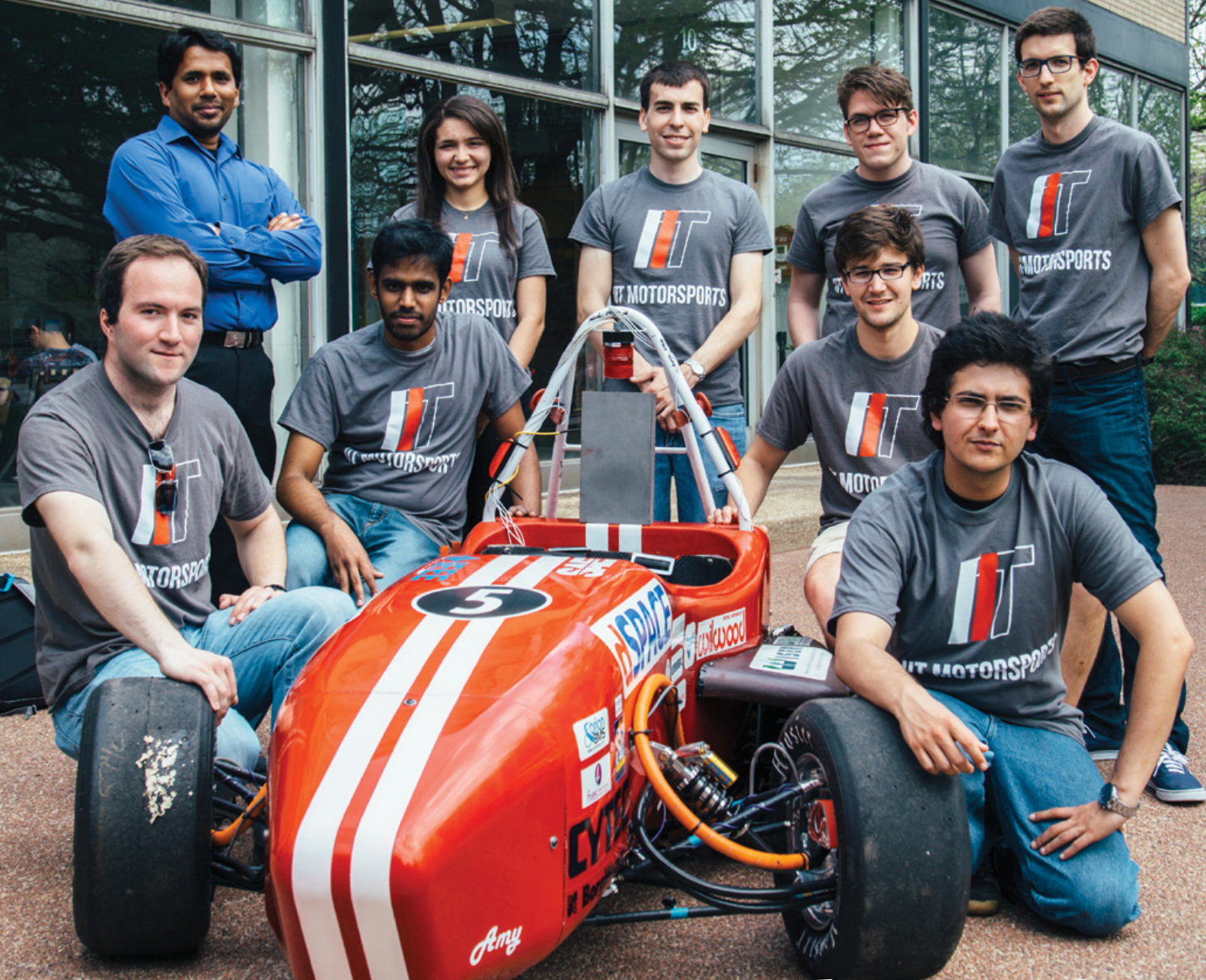
Propellant System

The nose cone held two titanium spheres with high-pressure air for pressurizing the hydrogen peroxide tank and a smaller fiberglass-reinforced sphere containing helium for pressurizing the cryogenic liquefied natural gas (LNG) tank. Behind the front wheels a large stainless steel tank held the hydrogen peroxide propellant and a smaller aluminum tank contained the LNG propellant, which were pressurized to 600 psi. The rocket motor, plumbing, control valves, parachute canisters, and various accessory hardware pieces of equipment were behind the cockpit. The Blue Flame carried a fuel load of five gallons of LNG and 180 gallons of hydrogen peroxide.

Nose

The nose shape was a Von Kármán ogive (roundly tapered end) to avoid separation of the airstream at Mach speeds.

Into the Engine-less Future:



WISER Tomahawk

By Marcia Faye



“SAE HAS BEEN THE MOST IMPORTANT

experience that I’ve had at IIT so far; it’s definitely the most tangible project that I’ve seen at a university,” says Katy Banks, Camras Scholar, third-year student at Stuart School of Business, and member of the IIT Motorsports Formula SAE team. “It’s a huge undertaking and a wonderful thing to pour your time into; it has a lot of return.”

She and fellow members of the IIT Formula SAE team had entered their WISER Tomahawk racecar in the 2015 Formula Hybrid collegiate competition in Loudon, N.H., and took home the Fiat Chrysler Automobiles Innovation Award and a third-place General Motors Best-Engineered Hybrid System Award, among other honors. At the competition Banks had such a technically savvy conversation about the racecar’s carbon fiber body with a Chrysler engineer that he declared her an “honorary engineer”—not bad for a business administration major who can now add to her resume that she helped to build a car from the ground up.

Students from a variety of majors have been designing and assembling hybrid and electric racecars at Illinois Tech for more than a decade, says Mahesh Krishnamurthy, the team’s faculty advisor. He notes that students average anywhere from 10 to 40 or more hours per week working on

the vehicles, especially when the team is in pre-competition mode. Over the summer students redesigned and built a new battery pack for WISER Tomahawk and will enter the 2016 competition, after which time the electric car will be retired and a new generation of “Hawk” will begin to take flight.

For the past seven years, Wanger Institute for Sustainable Energy Research has supported Illinois Tech in the annual Formula Hybrid Competition.

“This project embodies the WISER mission to advance interdisciplinary education, research, and outreach initiatives in energy and sustainability—in this case, in the specific area of sustainable vehicle technology development,” says WISER Director Hamid Arastoopour (M.S. GE ’75, Ph.D. ’78). “These types of broad-based initiatives are essential to the development of the next generation of electric and hybrid vehicles.” ●

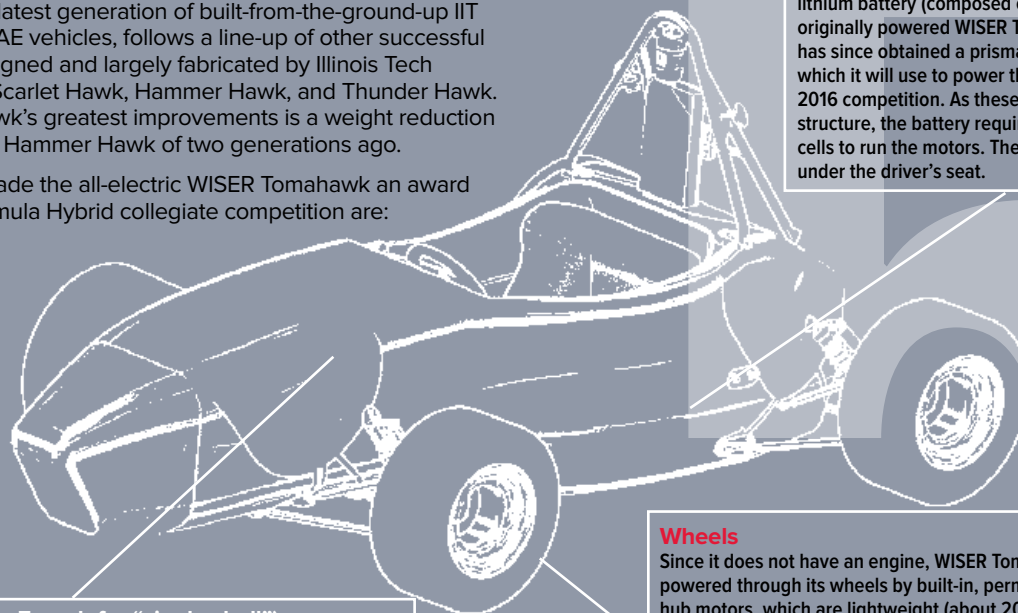
MORE ONLINE ▶

IIT Magazine Online Exclusive: Read bio sketches of Formula SAE members Katy Banks (BA 3rd year), Associate Professor of Electrical and Computer Engineering Mahesh Krishnamurthy, and Frank La Marca (ME ’14, M.S. candidate).

Gentlemen (and Ladies) Start Your Batteries!

WISER Tomahawk, the latest generation of built-from-the-ground-up IIT Motorsports Formula SAE vehicles, follows a line-up of other successful racecars that were designed and largely fabricated by Illinois Tech students: Red Rocket, Scarlet Hawk, Hammer Hawk, and Thunder Hawk. One of WISER Tomahawk’s greatest improvements is a weight reduction by 50 percent from the Hammer Hawk of two generations ago.

The innovations that made the all-electric WISER Tomahawk an award winner at the 2015 Formula Hybrid collegiate competition are:



Body (or monocoque, French for “single shell”)

Made out of carbon fiber, WISER Tomahawk weighs only 400 lbs.; Hammer Hawk weighed a hefty 800 lbs. The Illinois Tech team learned the arduous construction process with the help of Sammy Tin, professor of materials engineering. The only steel in the car is the roll hoop and the front roll hoop.

Battery

The car uses the energy from the battery directly to run the motors, and the motors run the wheels. An ultra-capacitor, pouch-cell lithium battery (composed of about 150 cells) originally powered WISER Tomahawk. The team has since obtained a prismatic-cell battery, which it will use to power the car in the spring 2016 competition. As these cells are flat in structure, the battery requires only about 80 cells to run the motors. The battery is housed under the driver’s seat.

Wheels

Since it does not have an engine, WISER Tomahawk is powered through its wheels by built-in, permanent-magnet hub motors, which are lightweight (about 20 lbs. each) and high-performance. The car has four-wheel drive and a full-torque vectoring system, hence no drive shafts. The wheels are water-cooled to dissipate heat.



PHOTO: GETTY IMAGES

He Said Yes to the Dress!

By Jeanne Hartig

I NEED TO BE HONEST ABOUT SOMETHING.

Over the past year, I spent a lot of time in the IIT Archives in the lower level of Paul V. Galvin Library on Mies Campus, secretly hoping I might end up being the person who discovered a famous (or infamous) student whose former presence in our classrooms would come as a surprise (or shock) to today's university community. As the co-chair of Illinois Tech's 125th-anniversary celebration along with Betsy Hughes, vice president of Institutional Advancement, I went to the archives looking for stories about people, places, and things associated with Illinois Tech's history that, for whatever reason, had remained hidden from view or were otherwise lost for more than a century.

I figured, if I were lucky, I might find another Martin "Marty" Cooper (EE '50, M.S. '57), widely acknowledged as the father of the handheld cellular phone, or a Marvin Camras (EE '40, M.S. '42), whose research made magnetic tape recording possible, or even a Susan Solomon (CHEM '77), whose findings confirmed the presence of the ozone hole over Antarctica. In

other words, I went looking for a previously unsung engineer or a scientist whose work had been overshadowed or under-appreciated.

Instead I found a former editor of the French edition of *Vogue* magazine, a haute couture designer whose dresses, suits, and gowns were worn by Hollywood and European royalty. His name was Main Rousseau Bocher, also known as Mainbocher, and he studied at Lewis Institute, one of the forerunners of Illinois Tech, in 1907.

The IIT Archives was not the place where I first ran across his name. My late mother-in-law, a stylish woman whose husband was an auto industry executive in the 1970s, gave me a gift one Christmas that was life-changing and eye-opening: a subscription to *Women's Wear Daily*. The bible of fashion, it remains chock full of the latest comings and goings of designers from fashion houses in the United States and Europe—and where I first read about Mainbocher.

I knew him as the man who had designed Wallis Simpson's wedding dress for her marriage to Edward VIII as well as the uniforms for the World War II WAVES in 1942, the American Girl Scouts in 1946, and the U.S. Marine Corps Women's Reserve in

1951. Mainbocher's clients, including the actors Loretta Young and Claudette Colbert as well as C. Z. Guest and other New York society matrons, idolized him for his ability to make them look "well-bred." His clothes reflected his deep understanding of what his clients wanted and how they wanted to be seen. Luxurious fabrics, quality workmanship, and cuts that flattered without shouting were Mainbocher's hallmarks.

For the next 40 years, I would remember his name. Perhaps it was that his suits seemed to embody the elegance and grace associated with understated affluence or that the models wearing his gowns always appeared to be confident, albeit a bit remote. Maybe it was his designs, which were captured by some of the world's most legendary photographers. Or was it that he had fashioned for himself a life that took him beyond the edges of his middle-class, Midwestern family into a world of which most of us can only dream?

Whatever the reason I now will proudly be able to tell people that Mainbocher is one of Illinois Tech's own and another fascinating, compelling, and exciting personality from the university's illustrious past. ●



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- **Kelly Lohr** (MSE '13), product designer in the making
- The 75th anniversary of the Snow Cruiser and how it is inspiring an IPRO class
- **Courtney Budd**, new director of Recreational Sports and Fitness
- **David Boder**, Holocaust interviewer and Illinois Tech Hall of Fame inductee

Also check out Video Extras and Audio Extras with

- **Mitch Bornstein** (LAW '95), on his special equine friend, Samson
- Members of The Blue Flame rocket car team
- University Archivist **Ralph Pugh**, on the Illinois Tech coat-of-arms

Kelly Lohr



Ralph Pugh



Courtney Budd



1950s

Melvin Friedlander (ME '50) Menifee, Calif., has one class to complete before he receives his master's degree in education from California State University. After spending 40 years in aerospace engineering, including working on the Apollo moon missions and the space shuttle, he plans to teach courses in rocketry or computer-aided drawing.

George Gallagher (CE '52) Baton Rouge, La., participated in the Transpac race in July aboard his son's boat, *Chim Chim*. His son and grandson were both a part of the crew. In recognition of Gallagher teaching his son how to sail, his son proudly flew the Illinois Tech flag on the boat during the race.



Leonard Petraitis (EE '48), Pittsboro, N.C., and his wife, Sharon, celebrated their 70th wedding anniversary. His brother, Albert, who is also an Illinois Tech alumnus, recently celebrated his 100th birthday and lives in San Diego.



with Combat Distinguishing Devices, and 29 other personal and unit decorations after 28 years in the United States Navy and four tours in Vietnam. Retired in 1988, he lives with his wife, Suzan, and enjoys playing golf twice a week.

Daniel Biezad (EE '66) San Luis Obispo, Calif., has retired after 24 years of teaching and chairing the Department of Aerospace Engineering at Cal Poly State University. Prior to that, Biezad spent 24 years in the United States Air Force as a test pilot manager in avionics systems development.

Joanne Gucwa (CHEM '68) Des Plaines, Ill., has published two books this year: one as a collaborator, *People, Places and (Tough) Plastics*, by Howard H. Irvin; another as author, *Whoosh; Old Faithful Uncovers a Mystery*. The latter is the first of a 12-book children's BioFables series aimed at spurring interest in STEM subjects.

Richard Oracheff (EE '68) Glendale, Ariz., is a consulting engineer in the aviation market providing design and certification services to large OEM aircraft builders in the military and commercial markets. He is retired from Honeywell Worldwide after 30 years of service. Oracheff and his wife, Jean, enjoy traveling and golfing.

Robert "Bob" Craig (Ph.D. PSYC '69) Bolingbrook, Ill., recently published his eleventh book, *State of Mind: Life and Work in a Mental Hospital*. He is now retired and enjoys visiting with his three children, playing the guitar, and golfing.



Paul Gartz (EE '69) Seattle, is a member of the Boeing Technical Fellowship. He currently leads Boeing Commercial Airplanes' Systems Engineering University. Gartz also consults to program executives and numerous functional organizations, and has led critical program groups. He is an IEEE Distinguished Lecturer and has lectured on all continents.



Leonard Gittleman (DSGN '54) Watertown, Mass., had his artwork displayed as part of the exhibition *Integrated Vision: Science, Nature, and Abstraction in the Art of Len Gittleman and György Kepes* at deCordova Sculpture Park and Museum. The display was on view from May 9–September 6.

Edward Rosenberger (CE '57) Naperville, Ill., retired in 2012 as chief executive officer and chair of FGM Architects. He is enjoying his retirement by cruising; visiting Marco Island, Fla.; and spending time with his five grandchildren and his wife of 57 years, Betty.

1960s

Kenneth Mauro (CE '61) Centennial, Colo., has been an avid skier for 52 years and is enjoying his retirement.

Norbert "Pete" Pointner (ARCH '61, M.S. CRP '62) Wheaton, Ill., served as the lead planner for a pro bono American Planning Association Community Assistance Planning Team that developed a plan for a new town center for Deerfield Beach, Fla. He has expanded his blog, *Readings in Urban Planning and Design*, to include six more published and four unpublished papers. His paper "Planners: Impact the Future of Your Region" will be published this year in *Audubon* magazine and "Don't Waste Money on Public Environment" was published on the group's blog this past February.

Wayne Bernath (BE '62, M.S. BE '64) Halifax, Nova Scotia, spent years teaching accounting and financial management, including at Illinois Tech (1964–1970), and was a financial systems development executive for Baycrest Centre for Geriatric Care. Bernath is a bookseller and writes short stories and memoirs about the Atlantic seaboard.

John P. Calamos Sr. (ECON '63, M.B.A. FIN '70) Naperville, Ill., was honored by the American Hellenic Council with the Aristeion Award for his extraordinary accomplishments in his fields of expertise.

Francis Kulacki (ME '63, M.S. GE '66) Wayzata, Minn., was awarded the 2015 ASME Heat Transfer Memorial Award for fundamental contributions to the understanding of convective heat transfer in

porous media, and natural convection in volumetrically heated fluids and in tube bundles.

Ronald Waller (PS '63) Richmond, Va., conducts tours of the Virginia State Capitol eight days each month. Built in 1788, the capitol was designed by Thomas Jefferson.

Edgar Do Valle (ARCH '65) Porto Alegre, Brazil, had his watercolor landscapes and marine scenes featured in the exhibit *Interpretative Realms* at Chelsea's Agora Gallery in New York in August. Do Valle currently lives in his native Brazil, where he is the director of Valle Architects.

Winfried Rudloff (Ph.D. EE '65) Schneider, Ind., is professor emeritus of computer science, fellow of the International Institute for Advanced Studies in Systems Research and Cybernetics (IIAS), Distinguished Professor of Internet-Based Global Education for the IIAS, and doctor honoris causa at Governors State University. The author of numerous publications, Rudloff gave a keynote address at the 27th International Conference on Systems Research, Information, and Cybernetics and the 35th Anniversary Annual Meeting of the IIAS in Baden-Baden, Germany, in August. Rudloff is also a certified airline transportation pilot, commercial pilot, and flight instructor.

Jerry Thomas (MATH '65) San Diego, holds the Bronze Star, Purple Heart, three Navy Commendation Medals

1970s
Leon Hoffman

(M.S. PSYC '69, Ph.D. '70), Chicago, continues to enjoy his private practice of clinical psychology. He values his involvement as a lifelong chamber music cellist and maintains an active writing schedule on disparate subjects for lay, scientific, and professional publications.

Fred Michaels

(M.S. SOC '70) Scottsdale, Ariz., is executive consultant at Michaels & Associates, assisting companies in creating custom online training.

Michael LaRocco

(CE '74) Fair Lawn, N.J., was awarded an M.S. in civil engineering concentrated in geotechnical engineering and foundation design from New Jersey Institute of Technology in May.

Upen Bharwada

(M.S. CHE '75) Scottsdale, Ariz., was appointed a senior executive at Abtech Holdings.

Joyce Mate

(M.S. CST '75) San Diego, along with former classmates Charles Lenzini (ME '95) and John Malo (PHYS '64), is an alumni volunteer, recruiting future Illinois Tech students at college fairs and encouraging other alumni to get involved. She also enjoys photography as a hobby.

David Siljenberg

(EE '75) Byron, Minn., just completed his 36th year at IBM.

Paul Katz

(LAW '76) Scottsdale, Ariz., retired from his position at the Arizona Superior Court in December 2010 and is working as an Arizona assistant attorney general in the Natural Resources Section. He has three married daughters, a son, and six grandchildren.

Douglas Beck

(MSC '77) Palo Alto, Calif., spent eight years in the United States Navy followed by a career in commercial real estate after graduating from Illinois Tech. He also received an M.B.A. from Rice University. He currently works in Palo Alto and splits his time living there and in St. George, Utah. He and his wife of 35 years have one daughter.

**Larry Phelps**

(ARCH '70) Bloomington, Ind., had his home, which he designed in 1978, featured in the June 2015 issue of *Bloom Magazine*.

Richard Bumstead

(CRP '78) Flossmoor, Ill., is a fellow of the American Society of Landscape Architects and was invested at the ASLA Annual Conference in Chicago.

Antonio Di Venere

(PHYS '78) Chicago, is director of the Nanotechnology Core Facility in the School of Engineering and the Research Resources Center at the University of Illinois at Chicago after many years in the semiconductor startup industry and as principal of his own consulting group.

Ivonne Lalyre

(M.S. LING '78) Boston, is teaching in Panama after more than 40 years of living abroad.

1980s
Thaddeus Bukowski

(ME '81) Park Ridge, Ill., is celebrating his 10th year with Weber Stephen Products as the R&D lab manager. He is married to Judy Langston (M.S. '82).

Timothy Grabacki

(EE '81) Barrington, Ill., recently joined Cummins Allison, an international leader in high-speed coin and currency banking equipment, as director of product management.

Demitris Kouris

(M.S. CE '84) Fort Worth, Texas, is provost and vice

president for academic affairs at the South Dakota School of Mines and Technology. He is the former dean of the College of Science and Engineering at Texas Christian University.

Phillip Singleton

(EE '84) Raleigh, N.C., enrolled at Southeastern Baptist Theological Seminary after more than 25 years in IT networking and security. He plans to pursue a Master of Divinity in Biblical Counseling.

William Konefes

(ME '86) Fort Gibson, Okla., is president and chair of the board of the PRB Coal Users Group.

Arthur Liberty

(LAW '87) North Ridgeville, Ohio, completed his doctorate in civil security leadership, management, and policy this past spring. He teaches graduate homeland security and emergency management courses for the University of Maryland University College as an adjunct professor, and was recently hired to teach as an adjunct in the Healthcare Emergency Management master's degree program for Boston University School of Medicine. Liberty also hears and decides Medicare provider appeals as a supervisory judge in the DHHS Cleveland Field Office.

Tony Marchese

(CS '87, M.S. CS '90) Orland Park, Ill., has been working for Morse Data Corporation

since applying for a part-time position via the Illinois Tech Career Services bulletin board 30 years ago. He enjoys his two grandchildren, Hailey (4) and Tony IV (2).

1990s
Kristina O'Brien

(BA '90) Honolulu, recently moved from Germany to Hawaii to serve as the chief of logistics readiness, Logistics Directorate, Headquarters Pacific Command.

Stephen Lesavich

(Ph.D. CS '91) Kenosha, Wis., was interviewed for the cover story of the March 2015 issue of *#WORLDCLASS* magazine.

Mark Brown

(LAW '93) Highland Park, Ill., represents plaintiffs in personal injury and medical malpractice matters as a partner in the Chicago firm of Lane & Lane, LLC. He has represented victims of child sexual abuse against such groups as the Archdiocese of Chicago and the Boy Scouts of America, and is currently representing the family of a 14-year-old who was shot and killed by the police.

John Fialko

(ARCH '94) San Diego, recently completed the conversion of St. Roch's Church in La Salle, Ill., into a home. The Slovenian Catholic church was built in 1917 and is now a three-bedroom, three-bath home with 37-foot

ceilings. He is now redeveloping other buildings and properties in the same town.

Nathan Ballou

(ME '96) Virginia Beach, Va., was commissioned from the NROTC unit at Illinois Tech. He took command of the *VFA-83 RAMPAGERS*, a United States Navy F/A-18C squadron, in September 2014. His team is expected to deploy later this year.

William Bauer

(BIOL '96) Raleigh, N.C., completed a doctorate in philosophy from the University of Nebraska-Lincoln. He is a faculty member at North Carolina State University and teaches an introductory course in philosophy, logic, and biomedical ethics.

Robert Besecker

(BA '96) Tinley Park, Ill., has worked in health care for more than a decade, mostly with Advocate Health Care, and completed an M.B.A. from Purdue University. He has suffered from chronic and progressive heart ailments and muscular dystrophy for many years; in spite of his health challenges, Besecker is an adventurer and has visited all seven continents. His biggest adventure was a hiking expedition to the base camp of Mt. Everest, Nepal, where he survived an earthquake that claimed the lives of more than 20,000 people. Besecker has been working on *For Ever Strong*, an inspirational memoir, and looks forward to its publication in December.

Julie Deisinger

(Ph.D. PSYC '96) Orland Park, Ill., is a tenured full professor at Saint Xavier University, where she has been a faculty member since 1998. She also maintains a part-time private practice. Her book *The Broad Autism Phenotype* was published in March. In May the Midwestern Psychological Association named her a fellow.



Pablo Almaguer and family

Pablo Almaguer

(LAW '97) McAllen, Texas, was reappointed by the board of directors of the State Bar of Texas to serve a three-year term on the Commission for Lawyer Discipline. He also serves as vice chair of the commission.

Matthew Coffey

(CE '98) Roselle, Ill., and his wife, Ivy, welcomed their second son, Nevin, who was born in Delhi, India in October 2014. The Coffeys are both employed as full-time staff in the Southeast Asia office of Engineering Ministries International.

2000s

Tonya Parravano

(LAW '00) Wheaton, Ill., joined fellow alumni, Lyle B. Haskin (LAW '72) and Bruno W. Tabis Jr. (LAW '73), in the firm Haskin, Corrigan, Tabis & Parravano P.C. in March and focuses her practice on representing financial institutions and private business entities. She is also co-owner of the florist and event floral design firm Andrew's Garden in downtown Wheaton.

Jessica Horning

(METM '02) Chicago, is enrolled in the master's program in bicultural bilingual education at DePaul University.

Melissa Zabel

(M.S. TCID '04) Indianapolis, was promoted to vice president of operations at xiik Strategic Marketing Agency in December 2014 and gave birth to her second son this past January.

Virgil Abloh

(ARCH '06) Rockford, Ill., former creative director for Kanye West, was the only American finalist for the 2015 LVMH Prize. The annual prize recognizes one fashion designer under the age of 40 with a year of mentorship and €300,000.

Amanda Kastern

(PA '06) Hillsborough, N.J., earned an Ed.D. in higher education administration from George Washington University this past January. Kastern works at Princeton University and lives with her husband, Steve Beitzel (CS '01, M.S. '02, Ph.D. '06) and their two children, Abigail (4) and Nathaniel (2).

Alexandra Molesky

(LAW '07) Chicago, is employed at the Cook County State's Attorney's Office and is

assigned as a third chair in a felony trial courtroom in the Sixth Municipal District.

Katharine Netherton

(PSYC '07, M.S. REHB '09) Tinley Park, Ill., works at the Sertoma Centre as a linkage and outreach case manager in mental health services.

Pattie Piotrowski

(BA '07) Lockport, Ill., was elected vice president/president-elect of the Illinois Library Association for 2015–2017.

Scott Justus

(BCHM '09) Astoria, N.Y., graduated from Icahn School of Medicine at Mount Sinai in May with a Ph.D. in biomedical science.

Avelo Roy

(CPE '09) Chicago, co-founded a student startup, eMotion Group Inc., with the help of the Illinois Tech IPRO Program, and grew it to a million-dollar valuation after graduation. He is patenting his technology in the United States and the United Kingdom, and in Japan. He has hired many Illinois Tech students and also has a mentorship program to help college students learn entrepreneurship and how to balance the deeper needs of life through meditation and spirituality.

2010s

Manuel Lopez Morales

(AE '10) Palo Alto, Calif., is graduating from Stanford University with a Ph.D. in aeronautics and astronautics and will begin his career at Northrup Grumman Corporation.



Elizabeth Corson

(CHE '11) Palo Alto, Calif., is enrolled in the University of California, Berkeley, doctoral program in chemical engineering and received a National Science Foundation Graduate Research Fellowship.

Mark Silverman

(LAW '11) Northbrook, Ill., is an associate at Lewis & Gellen LLP as part of the firm's Corporate and Litigation practice.

Stephanie Marx

(PSYC '12) Chicago, recently completed Dev Bootcamp, a 19-week intensive program for Web developers, and is now employed as a software application developer at UL LLC.

Fan Wu

(M.S. EE '12) San Diego, is a senior software test engineer at Microsoft.

Adriana Tudela

(ME, AE '13) Columbus, Ind., is enrolled in the London School of Economics and Political Science graduate program.

Joseph Wright

(LAW '13) Chicago, was appointed in June by Illinois Governor Bruce Rauner as director of the state's medical marijuana program. Wright assisted general counsel in the governor's office and has been a law clerk for Holland & Knight, the Illinois attorney general, and the Illinois Department of Financial and Professional Regulation.

Guang Yang

(BME '13) San Diego, is in the master's program in bioengineering at the University of California, San Diego.

Shuo Yang

(M.S. BIOL '13, BME Ph.D. candidate) Qingdao, China, was one of five young investigators invited to present at the 22nd Annual Congress of the International Society for Rotary Blood Pumps. His presentation merited him the Helmut Reul Young Investigator Award of a \$1,000 check and a plaque.

Utsav Gandhi

(EMGT '14) Chicago, is employed at Tusk Strategies. He previously worked as a program intern for ISTC, a nonprofit organization created by the State of Illinois to set up public-private partnerships for technology-based economic development.

Afrin Subair

(CS '14) Trivandrum, India, has been traveling and taking road trips across the United States since graduating from Illinois Tech.

Conrad Merced

(BA '15) Chicago, is media manager at the Chicago headquarters of Performics.

Cynthia Wojdyla

(M.S. MAC '15) Crystal Lake, Ill., is a user insight analyst at UBM.

IIT GLOBAL SPIRIT DAY 9.18.15

20 EVENTS WORLDWIDE

125 REGIONAL ATTENDEES

530 PRIZES WON

2,800 T-SHIRTS WORN

258 VOLUNTEERS ENGAGED

51 GREETINGS TO PRESIDENT CRAMB

310 TWEETS #ILLINOISTECH125

53 INSTAGRAM PHOTOS #ILLINOISTECH125

216,300 SOCIAL MEDIA IMPRESSIONS

20 SPIRIT SELFIES

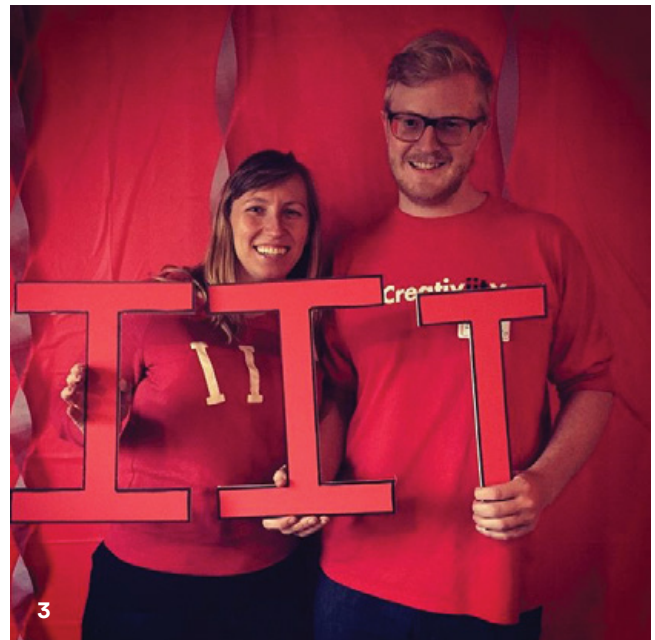
101 PHOTO-A-DAY CHALLENGE ENTRIES

4,200 PHOTO-A-DAY CHALLENGE VOTES

1 PHOTO-A-DAY CHALLENGE GRAND PRIZE

SOCIAL MEDIA GROWTH SINCE JUNE 2015

+1,345 **+327** **+100**



Alumni gathered in 20 cities around the world to show their Scarlet Hawk pride as part of the first-ever IIT Global Spirit Day. United States gatherings were held in the Bay Area; Dallas; Washington, D.C.; Detroit; New York City; Philadelphia; and Southern California.



1. Alumni in India gathered for a breakfast event in Bangalore.
2. Thai alumni celebrated by hosting a charity luncheon for 400 children with disabilities at Baan Nontapum, a government institutional care center in Nontaburi, Thailand.
3. Alumni in Seattle celebrated with a birthday cake for their alma mater and a festive photo booth.
4. The Chicago Mies Campus Spirit Day event took place at the reception following the inauguration of Alan W. Cramb as the ninth president of Illinois Tech. Students, alumni, faculty, staff, and trustees enjoyed many activities, including a prize wheel. The line to spin the wheel and win a prize stretched from the north to south end of Hermann Hall.
5. Robert Hoel (BE '70) and his wife, Nancy, were proud to show their support of President Alan W. Cramb at the on-campus Spirit Day event.
6. Chicagoland Alumni Chapter volunteers Ann Trandai (EE '89, M.S. '93), Bill Lam (ME '82, M.B.A. '88), and Joe Koblich (BA '88) show off the hats they won spinning the prize wheel at the on-campus Spirit Day event.



What do Mars rover missions, Twitter, and the Olympics have in common?

IIT alumni helped make them happen!

Visit alumni.iit.edu/awards to read about the amazing alumni whose innovative achievements helped make history.

Who will be honored this year?

Join us on April 29, 2016, on IIT Mies Campus for the annual Alumni Awards ceremony to celebrate the accomplishments of the next set of visionary leaders.

Visit alumni.iit.edu/awards for more information and to view past winners.



Create a Legacy That Transforms Lives



CHARLES GOODMAN (ARCH '34) changed American architecture with projects such as Hollin Hills and Ronald Reagan Washington National Airport. His wife, Dorothy, shared his love for architecture, art, and design. She supported him throughout his career and volunteered for many causes.

Charles wanted to encourage tomorrow's innovators by including Illinois Institute of Technology in his estate plan. After he passed, Dorothy honored his wishes and added her own legacy by making two planned gifts to Illinois Tech. One gift helps to fund the architectural engineering department, while the other provides the Charles M. Goodman FAIA Scholarship, which will help educate generations of students.

“Architecture reflects the social phenomenon. . . We deeply need more offbeat personalities, people with unique interests, more people strong enough to stand unafraid to be themselves.”

– Charles Goodman

Charles Goodman (ARCH '34)



Dorothy Goodman



Hollin Hills

Benefits of a Bequest:

- Help ensure Illinois Tech's future.
- Leave a legacy of giving back.
- Give without affecting your current cash flow.
- Retain control of your assets during your lifetime.
- You can direct your gift to a particular purpose—check with us to make sure the gift can be used as intended.

If you have named Illinois Tech as a beneficiary in your estate plan through your will, trust, IRA, or retirement plan, please let us know so that we may acknowledge your generosity and include you as a member of our esteemed Gunsaulus Society.

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

Gunsaulus | SOCIETY

ALUMNI EVENTS

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

Connect Today!

Are you connected to the IIT Alumni Association? When you update your mailing address, phone number, and email you ensure that you receive up-to-date information from your alma mater, including event invitations, networking opportunities, and university news. Visit alumni.iit.edu/information-update to update your contact information today! Members of the alumni online community enjoy extra perks such as access to the alumni directory—perfect for networking!

Visit alumni.iit.edu/sign-up to join today.



Inauguration Tour of President Alan W. Cramb

As newly inaugurated President Alan W. Cramb begins his first year leading Illinois Tech, he will travel the country to share his vision for taking the university forward. Join the Office of Alumni Relations at one of our upcoming regional events to reconnect with alumni in your area and meet and visit with President Cramb.

New York City

Tuesday, November 10, 2015

Phoenix

Wednesday, December 2, 2015

Bay Area

Tuesday, January 12, 2016

Southern California

Tuesday, February 9, 2016

San Diego

Wednesday, February 10, 2016

Houston

Tuesday, March 15, 2016

Seattle

Thursday, April 7, 2016

Chicago

Thursday, May 5, 2016

SAVE THE DATE Alumni Awards

Save the date for Illinois Tech's 2016 Alumni Awards luncheon on **Friday, April 29, 2016** in Hermann Hall! Plan to be on Mies Campus to help us celebrate our innovative and exceptional alumni.

Illinois Tech Deans are Headed Your Way

Join us for a series of unique events across the country featuring Rowe Family College of Architecture Dean Wiel Arets, Lewis College of Human Sciences Dean Christine Himes, and College of Science Dean Russell Betts. Mark your calendars and join us for one of these upcoming exclusive events with university VIPs.

New York City

Tuesday, March 29, 2016

Dean Wiel Arets

Washington, D.C.

Wednesday, March 30, 2016

Dean Christine Himes

Phoenix

Tuesday, April 5, 2016

Dean Russell Betts

Southern California

Wednesday, April 6, 2016

Dean Russell Betts

Bay Area

Thursday, April 7, 2016

Dean Russell Betts



Save the Date! Mies' Birthday Party

Mark your calendars to celebrate the annual birthday party for Mies with the Mies van der Rohe Society on **Thursday, March 31, 2016** in **S. R. Crown Hall!**



Guests stood shoulder-to-shoulder to see the celebrated images.



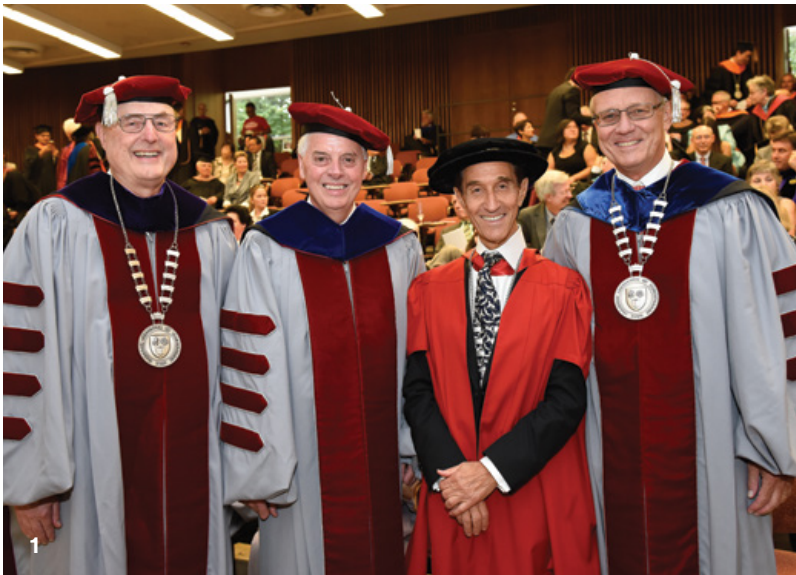
[Left to right] John Lankford, Anne Neri Kostiner, and Lewis Kostiner

Forever Photos

More than 300 individuals attended the opening night gala of the exhibition *A Lasting Vision: Photographs from the Institute of Design 1970–2001*, that celebrated the final three decades of one of the world's most distinctive photography programs. The show, which ran July 31–August 14 on Illinois Tech's Mies Campus, featured more than 50 photos taken by faculty and students. Organizers Anne Neri Kostiner and Lewis S. Kostiner (M.S. PHOT '74), along with John Lankford from Illinois Tech's Office of Institutional Advancement, spent five months coordinating the exhibition.



Some of the 41 alumni who participated in the show took time for their own group photograph.





1. FOURSOME OF PRESIDENTS Illinois Tech President Alan W. Cramb [left, center] with Former President and Trustee Emeritus Lewis Collens [left], Former President Meyer Feldberg [right, center], and Distinguished Professor of Chemical Engineering and Former President John L. Anderson [right] before the procession.
Photo: Bonnie Robinson

2. CELEBRATING HOMECOMING With balloon animals, a climbing wall, a bounce house, games, and rides, the Homecoming carnival offered everyone the chance to be a kid again. Photo: Bonnie Robinson

3. JAPAN ALUMNI GATHERING Alumni in Tokyo celebrate Alan W. Cramb's first alumni event as president of Illinois Tech.

4. HALL OF FAME [Left to right] Martin Cooper (EE '50, M.S. '57), Susan Solomon (CHEM '77), and Phyllis Lambert (M.S. ARCH '63) accept their awards along with Margaret Seres (M.S. SED '64, M.S. REHB '69) and Andy Marovitz (accepting on behalf of David Boder and the Honorable Abraham Marovitz (LAW '25), respectively) at Illinois Tech's Hall of Fame event. Photo: Bonnie Robinson

5. GOLDEN SOCIETY REUNION [Upper right] Hank West (ME '65), chair of the 50th reunion committee, enjoyed some laughs with classmates and Illinois Tech President Alan W. Cramb at the Golden Society Reunion Luncheon. Photo: Bonnie Robinson

6. 125TH GALA Illinois Tech Distinguished Professor of Chemical Engineering and Former President John L. Anderson and his wife, Pat [seated], along with family members, enjoyed each other's company at the university's 125th Anniversary Gala in honor of John L. Anderson. Photo: Bonnie Robinson

7. BLOCK CITY This past summer, kids of all ages came together at S. R. Crown Hall to build a city made entirely of LEGO pieces. Photo: Bonnie Robinson

8. ARBORETUM FUN Alumni and their families enjoyed a beautiful June day at Morton Arboretum in Lisle, Ill. Photo: Michael Goss



Visit bit.ly/alumni-event-photos to see more event photos from the IIT Alumni Association.

OBITUARIES

Robert “Bob” Boydston

CHE '49

Olympia, Wash.

Retired from IBM in 1984 after a 22-year career, United States Army veteran Robert “Bob” Boydston developed a method of dynamic optimization of a chemical reactor by computer control, a model describing the factors defining programmer productivity, and a model for determining the intrinsic value of a common stock. He obtained an M.B.A. from the University of Chicago in 1954. A strong supporter of Illinois Tech, Boydston was recognized with both the Alumni Service Award and the ChE Distinguished Alumni Award in 2005.

Irving X. Burg

ME '38

Corona del Mar, Calif.

Irving X. Burg had a long and successful career in manufacturing, sales and promotions, and real estate. He would have instead preferred to play major league baseball, but after a short stint with the Cincinnati Reds minor league, Burg’s coach told him that a life on the diamond was not in his future. He served for four years in the United States Army Air Corps and in 1961 began working in real estate, developing a number of southern California communities. In 1965 he founded Preferred Properties and served as the company’s president. A leader in the Pasadena and Orange County Jewish neighborhoods, Burg also supported Illinois Tech and was a member of the President’s Council and the Gunsaulus Society.

Robert Dewar

College of Science

Associate Professor of Computer Science

Bennington, Vt.

Born in Oxford, United Kingdom, Robert Dewar was a computer scientist who helped to develop software languages and compilers, and a strong supporter of freely licensed open source software. He was co-founder, chief executive officer, and president of the AdaCore software company. Dewar began his career at Illinois Tech in 1968 as assistant professor of information science and then advanced to associate professor of computer science before leaving the university in 1975. A skilled musician, Dewar supported the Village Light Opera Group in New York City for more than three decades.

Donald E. Goss

Board of Trustees

Western Springs, Ill.

Donald E. Goss had a 37-year career at Ernst & Young (Arthur Young & Co.) until his retirement in 1990 as vice chair and regional managing partner. He served Illinois Tech in many capacities: as trustee of the IITRI Board of Directors beginning in 1982, chair of the IITRI Audit Committee and member of the Board of Governors from 1985, and director of Alion Science and Technology Corporation from May 2002–September 2009. Goss was also active with the Archdiocese of Chicago and the Chicago Zoological Society.

Charles Horn III

MGT '82

Deerfield, Ill.

Charles Horn III began honing his business acumen in treasury management and financial analysis before embarking on a 20-year career with BMO Harris Bank/BMO Capital Markets as vice president and managing director of new business development and sales. He left that role to join the Bank of Tokyo-Mitsubishi UFJ, Ltd. and later founded Flight Style International, LLC, serving as its president. In addition to serving on the executive board of the North Shore Men’s Health Initiative, Horn was a member of the Stuart School of Business Board of Overseers and chair of the Admissions Committee of the Illinois Tech Alumni Board of Directors.

Raymond and Betty Nepute

Both BE '51

Atlanta

Raymond and Betty Nepute met as Illinois Tech students, graduated together, and remained avid supporters of the university, even decorating their home in Atlanta with various types of Illinois Tech memorabilia. Betty Nepute was one of 12 female members of the Class of 1951; Raymond Nepute, a United States Army Signal Corps veteran, worked in private industry for 20 years then operated his own accounting practice for the next three decades. Betty Nepute preceded her husband in death by eight months.

INMEMORIAM

Arthur Goldsmith EE '37, M.S. EE '40 Annandale, Va.	Norman Beyer ME '47 Penney Farms, Fla.	Edmund Sowa CHE '51 Oregon, Ill.	Robert Einweck ME '57 Brookfield, Wis.	David Edwards LAW '65 Osage Beach, Mo.	Mark Goldberg M.S. DSGN '79 Lido Beach, N.Y.
Willard Kruse CHE '39 Dickson, Tenn.	Wilbur Drake LL.B. '47 Morgantown, Ky.	Gordon Van Erden CHE '51 Orland Park, Ill.	Shirley Stewart Farmer ENGL '57 Richton Park, Ill.	Paul Dolter MATH '66 Dubuque, Iowa	John Baldwin Ph.D. PSYC '80 Deerfield, Ill.
Sigmund Mentzel EE '40 Valparaiso, Ind.	Lane Wolman EE '48 Encinitas, Calif.	Andrew Brudnak ME '52 Burr Ridge, Ill.	Robert Wolfe ARCH '57 Mayo, Fla.	Robert Furman BE '66 Williams Bay, Wis.	William Kelley LAW '87 Chicago
Leonard Reinke ARCH '41 Oshkosh, Wis.	George Boddeker CE '49 Chula Vista, Calif.	William Gunn VDGN '52 Scottsdale, Ariz.	Richard Brown EE '58 Duluth, Minn.	Nina Spalek BCHM '66 Renton, Wash.	Michael Patton M. ARCH '88 Denver
John Landeck EE '42 Des Plaines, Ill.	Herbert Carpenter DSGN '49 San Francisco	Alvin Karbin ME '52 Los Angeles	Ivar Laos M.S. CHEM '58 Des Plaines, Ill.	James Karlin DSGN '67 Hendersonville, N.C.	Vinh Truong EE '90 Sunnyvale, Calif.
Leonard Koch ME '43 Oro Valley, Ariz.	Thaddeus De Wolf M.S. MECH '49 Berne, Ind.	Edward Powers CHE '52 Ballwin, Mo.	George Blair ME '59 Nashville, Ind.	Louis Larsonneur CHE '67 Palos Heights, Ill.	Rupa Raote M.S. PSYC '93 Derwood, Md.
George Cherimpes CHE '44 St. Charles, Ill.	Donald Duft EE '49 Grand Lake, Colo.	Jack Friedheim MATH '53 Naperville, Ill.	Ned Chapin Ph.D. BE '59 Menlo Park, Calif.	Leonard Masulis MAE '67 Elyria, Ohio	Bernard Tacito M.S. OTM '96 Gurnee, Ill.
Victor Moy CE '44 Skokie, Ill.	Howard Hughey ME '49, M.S. IE '56 Robins, Iowa	F. Gale Walker ME '53 Oak Brook, Ill.	William Franz LL.B. '59 Crystal Lake, Ill.	Edward Rawles LAW '70 White Heath, Ill.	Bray Ficken M.Des. '01 Durham, N.C.
Angelo Sharres EE '44 National City, Calif.	Werner Neuman EE '49 Boulder, Colo.	Hugh Hempill CHE '54 Pleasanton, Calif.	Donald Kappes MATH '59 Elgin, Ill.	William Charvat MET '71 Sun City West, Ariz.	Attendees/ Non-Degreed Status
William Horn CE '45 Arlington Heights, Ill.	Stanley Cohn EE '50 Annapolis, Md.	Paul DeLeeuw FPE '55 Clinton Twp., Mich.	John Mathias Paul EE '59, M.S. EE '64 Colorado Springs, Colo.	William Shastal MAE '72 Sister Bay, Wis.	Marvin Brooks Palm Springs, Calif.
Sidney Mayster ME '45 Chicago	Dorothy Dyra HE '50 Lena, Ill.	Elliot Eisner M.S. DSGN '55 Stanford, Calif.	Roger Thomas IE '59 Saint Petersburg, Fla.	Michael Wicnienski EE '72 Lake Villa, Ill.	Lynn Christensen Wilson, N.C.
Shirley Peach HE '45 Cary, N.C.	Antone Gregorio LAW '50 Lake Forest, Ill.	Richard Pesavento CE '55 Rockford, Ill.	Florian Wasik ME '59 Arlington Heights, Ill.	Julia Anderson Ph.D. BIOL '75 Iowa City, Iowa	William Crookshank Decatur, Ill.
Raymond Winkler CHE '45 Vero Beach, Fla.	James Keith CHEM '50, Ph.D. '59 Villa Park, Ill.	Richard Carlson CHE '56 Heathrow, Fla.	Victor Habisohn EE '60 Hoffman Estates, Ill.	Ralph Johler MGT '76 Arvada, Colo.	Frank Difronzo Laguna Niguel, Calif.
Edward Forhan ME '46 Jacksonville, Fla.	Paul Margolis ME '50 Los Angeles	Ronald Chapman EE '56 Wheaton, Ill.	Cowden Wiley "C. W." Horton EE '60 Florence, Ala.	Joseph Bohn LAW '77 Vernon Hills, Ill.	Julius Dziak Englewood, Fla.
William Parker ME '46 Charlotte, N.C.	Charles Padgitt CHE '50 Cocoa Beach, Fla.	Warren Kelleher EE '56 Yorba Linda, Calif.	William McElroy M.S. PHYS '60, Ph.D. PHYS '65 Coffeyville, Kan.	Lewis Janowsky LAW '77 Santa Ana, Calif.	Renard Kampstra Montgomery, Texas
Whitney Pearson CHE '46 Mackinaw, Ill.	Frank Sauer ME '50 Chicago	Eugene Lewis CE '56 Fort Bragg, Calif.	Ernest Wilhelm LAW '61 Leesburg, Fla.	Robert Moss LAW '78 Atlanta	Jerome Lunkes Siesta Key, Fla.
Donald Zimmerman ME '46 Bradenton, Fla.	Carl Schelin ME '50 Bonifay, Fla.	Thomas Schumacher BE '56 Saint Petersburg, Fla.	Richard Moll MET '62 Madison, Wis.	William Curtis LAW '79 Springfield, Ill.	James Osborn Alamo, Calif.
					Bernard Padgett Hawthorn Woods, Ill.
					Leon Trumpp Sedalia, Mo.

Editor's Note: In the summer 2015 issue of IIT Magazine, Jerome Hall (FPSE '81) of Anthem, Ariz., was mistakenly listed as being deceased. The staff apologize for this error.



PHOTO: MICHAEL GOSS

All Hail to the *Armours and the Lewises*

By Marcia Faye

While Illinois Tech's official seal has symbols representing the merger of Armour Institute, Lewis Institute, and Chicago-Kent College of Law, the university's coat-of-arms honors the two families—the Armours and the Lewises—whose combined educational vision laid the cornerstone of today's Illinois Tech. And while the seal is used as an identifying mark on diplomas, certificates, and special forms and publications, the coat-of-arms was created to recognize Illinois Tech and a select group of other institutions of higher learning in a uniquely grand fashion: as a nearly 3' x 4' wood carving that hangs in Cathedral Hall at the University Club of Chicago.

The coats-of-arms made their first appearance at the club in about 1928 or 1930; Illinois Tech's coat-of-arms was added in 1965. A total of 20 coats-of-arms are displayed in Cathedral Hall today. According to the June 1965 edition of "IIT Reports," Joseph C. Wolf, former custodian of local history and genealogy at the Newberry Library, researched and designed Illinois Tech's heraldic emblem, which was then crafted by master woodcarver John Torell. The coat-of-arms has the following features and adheres to the custom of how marriages are depicted in heraldry:

- ❖ The actual Armour (Scotland) family coat-of-arms (silver shield with blue chevron, three arms with raised forearms, and three five-pointed silver stars) appears on the left, occupying the left, or "husband" side, since it is the older institute.
- ❖ The actual Lewis (England) family coat-of-arms (black shield with ermine chevron and three silver spear heads) appears on the right, or "wife" side.
- ❖ The Armour crest (right hand holding a squire's helmet) appears at the top.
- ❖ "IIT" appears in a ribbon at the bottom.

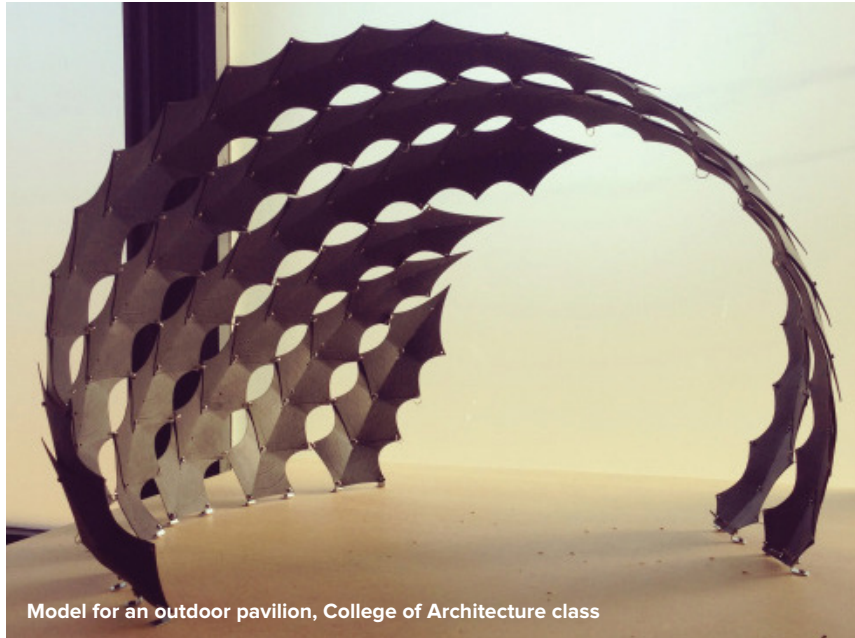
The colorful yet stately coats-of-arms complement the Gothic motif of Cathedral Hall, a dining room that is considered to be the club's crown jewel.

"It's a joy to see their expression of awe and wonder when guests and prospective members tour Cathedral Hall and see the crests and stained glass for the first time," says Dale Lenig, director of membership for the University Club of Chicago. *Learn more about Illinois Tech's coat-of-arms in an IIT Magazine Audio Extra at iit.edu/magazine.*

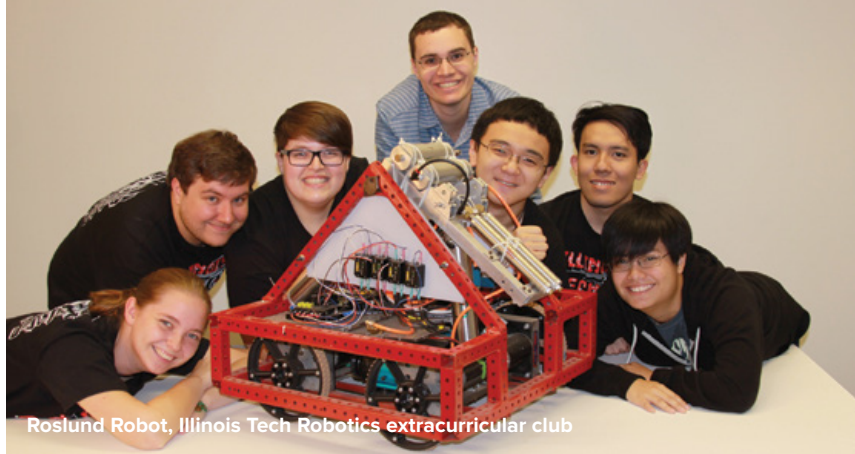
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Cardiovascular stent, Department of Biomedical Engineering Student



Model for an outdoor pavilion, College of Architecture class



Roslund Robot, Illinois Tech Robotics extracurricular club

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