# ILLINOIS TECH MAGAZINE

Spring 2022

## Shifting Focus

Wanting to solve problems, Marilyn Barrios (ITM, M.A.S. ITM ’18) traded sales for cybersecurity

**(App)lying Intervention**
**Cutting Through the Clutter**
**More Than a Game**

# A Letter from Raj Echambadi

With my first academic year at Illinois Tech drawing to a close, I'd like to take a moment to reflect on where we as a university are and where we are going. I am incredibly excited about the future of our university, fully recognizing that there will be some alterations in how we move forward as we begin to emerge out of a once-in-a-century pandemic that has left an indelible mark on every aspect of our lives, including higher education.

The reason that our university is so well equipped to continue to meet our founding mission—to harness the collective power of difference in order to advance technology and progress for all—is because of the work of every Illinois Tech faculty and staff member, each of whom has stepped up time and again over the last two years to ensure that our students have received world-class instruction in a safe, welcoming environment, regardless of circumstances.

Provost Peter Kilpatrick helped to steward the university through these challenges, and his conscientious judgment and care for every member of our community have been vital to our ability to succeed during uncertain times while also positioning ourselves for the future. I would like to thank Peter for all that he has done for the university, and warmly congratulate him on his recent appointment as the president of the Catholic University of America, effective July 1, 2022. I am grateful for all that he has done, and for his support and guidance during my transition to my leadership as president.

Since his arrival at Illinois Tech in 2018, Peter has helped to reinvigorate the academic mission of the university and to provide new investments in student life. He spearheaded the development of our five-year strategic plan, the creation of the College of Computing, and, most recently, the development of the Elevate program, which will prepare our students with the real-world experiences and human-centered skills that will complement our well-honed, highly relevant curriculum. Our one-of-a-kind Elevate program guarantees our students experiences outside of the classroom while also providing them with personalized academic and career mentorship.

With these skills, Illinois Tech graduates will be uniquely career ready and able to enter the professional world confidently. There, they will follow in the footsteps of our alumni, who continue to make positive change in the world. Take, for example, Ram Ramanujam (Ph.D. ENG '81), who created a social media platform that promotes mental health and wellness for teenagers, in addition to providing therapy resources, when it is needed most. In this edition of *Illinois Tech Magazine* you'll read more about Ram and several other alumni who are using technology and other skills they developed at Illinois Tech to be innovative and impactful leaders.

The work of these alumni and all that Peter has accomplished showcase why Illinois Tech holds a position of distinction among our peers: we're a comprehensive technology-based institution that, for more than a century, has focused on empowering students from all backgrounds with a quality education to meet the needs of the time. While those needs have changed, our mission remains as relevant, and essential, as ever before.

Sincerely,

**Raj Echambadi**
President

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Illinois Institute of Technology, also known as Illinois Tech, is a private, technology-focused research university. Based in the global metropolis of Chicago, Illinois Tech is the only university of its kind in the city. It offers undergraduate and graduate degrees in engineering, science, architecture, business, design, human sciences, applied technology, and law.

One of 22 institutions that comprise the Association of Independent Technological Universities (AITU), Illinois Tech provides an exceptional education centered on active learning, and its graduates lead the state and much of the nation in economic prosperity. At Illinois Tech students are empowered to discover, create, and solve, and thus uniquely prepared to succeed in professions that require technological sophistication, an innovative mindset, and an entrepreneurial spirit.

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

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# Contents

Spring 2022



## Features



## Departments



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# Letters

## What a Quality Education Can Do

*After reading the "Lift While You Climb" article in the fall 2021 edition of* Illinois Tech Magazine, ***Ronald A. Dickman (BE '67)*** *reached out to share how his experiences as a student mirror the vision that President Raj Echambadi has for the university.*

I sure enjoyed reading the article (interview) on Illinois Tech's new president, Mr. Raj Echambadi, in the fall 2021 issue.

In the article Mr. Echambadi said that he wants to empower and provide opportunities for everyone to receive a quality education. I agree, and I'm a good example. I never thought that a kid from Chicago's South Side (Englewood) would become a vice president, let alone a CPA.

Education has given my wife, Karen, and I a good life and a very good retirement!

## A Nudge in the Right Direction

***Edward Kokkelenberg (CHE '57),*** *professor emeritus in the Department of Economics at Binghamton University, recently shared memories of his time at Illinois Tech and provided an update on his life and career.*

As a lowly Junior Achievement student in the 1950s, I sat next to the president of IIT, John T. Rettaliata, at a dinner. He encouraged me to apply to IIT. And as a mail boy one summer in the 1950s, I worked at Armour Pharmaceutical. My route took me to several chem labs, inspiring me to become a chemist. When I won a scholarship to IIT, I enrolled.

Graduating in 1957 with degrees in chemical engineering and natural gas technology, to my amazement, I found my cohort was in demand. I received at least seven offers, but I took the staid one of Amoco Chemical, part of Standard Oil of Indiana. The other offers included Peoples Gas Light and Coke Co., Columbia Gas, Mobile Oil in New York, a company in Detroit, another in Pittsburgh, and one at Cape Canaveral [in Florida] fussing with rocket fuels. I also applied to the State Department and had a serious interview. They declined my application, but I was told later that that was normal, and they really wanted [me] to apply again. I was naïve and did not do so.

Several years later, I earned a doctorate from Northwestern in economics, secured tenure at Binghamton University, and worked at the National Academy of Sciences. Along the way, I supported many grad students, placed some of my doctoral students in academic and government positions, worked with Nobel laureates, published, and became a departmental chair. I retired about 10 years ago, and I currently write an occasional piece and give some modest talks.

My sincere thanks to IIT for the great education and the start they gave to me. It has helped me understand quantitative material [and] become an econometrician and a cited economist.

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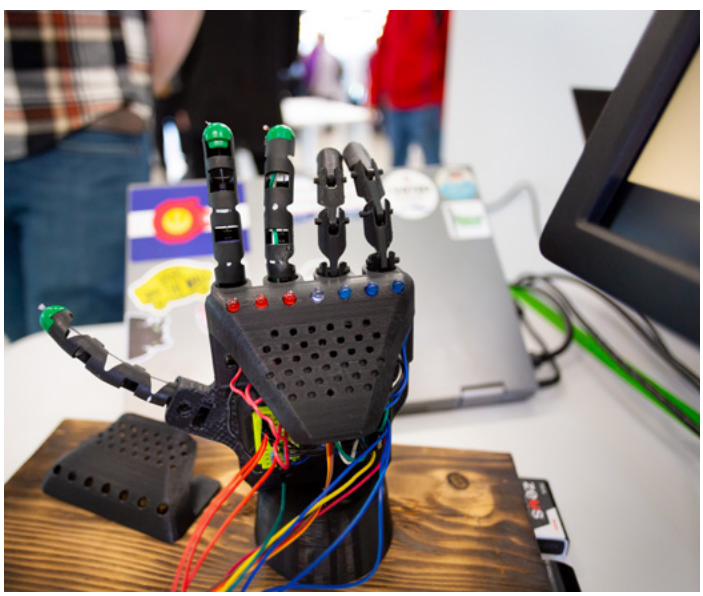
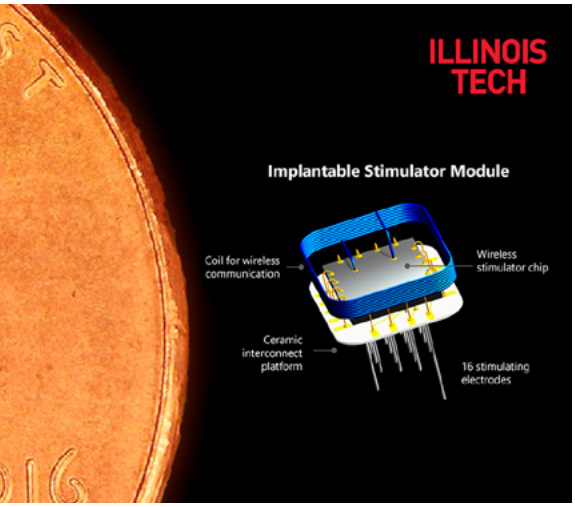


PHOTO: DAVID ETTINGER

STUDENT SUCCESS

# Innovation in Action

If the work that was presented during the Grainger Computing Innovation Prize competition and at Innovation Day was any indication, the next generation of Illinois Tech graduates already has a strong handle on creating community-focused, sustainable solutions to some of the most pressing issues facing our communities. Student teams offered creative technology solutions, including the winning team's sustainable digital currency, during the Grainger competition, while students worked in multidisciplinary teams to solve real-world problems facing businesses in Bronzeville and beyond during the fall 2021 semester Interprofessional Projects (IPRO) Program and then highlighted the results during its end-of-semester showcase. —*Andrew Wyder*




ENGINEERING

# Implanting Innovation

The potential to restore partial vision to people who have lost their sight took a giant step forward in February, when a first-of-its-kind artificial vision system was successfully implanted into a brain at Rush University Medical Center in Chicago. The Intracortical Visual Prosthesis (ICVP), an implant that bypasses the retina and optic nerves to connect directly to the brain's visual cortex, was surgically implanted in the ICVP study's first participant. This surgery is part of a Phase I Feasibility Study of an Intracortical Visual Prosthesis for People With Blindness.

The ICVP system was developed by a multi-institution team led by Robert A. Pritzker Endowed Chair in Engineering Philip R. Troyk and represents the culmination of nearly three decades of Illinois Tech research dedicated to ultimately providing artificial sight to those with blindness due to eye disease or trauma. —*Simon Morrow*

PHOTO: DAVID ETTINGER

STUDENT SUCCESS

# Elevate-ing Education

It wasn't all that long ago that an education at a top-tier university like Illinois Institute of Technology alone would help its graduates stand out in the job market. Increasingly employers across all industries are looking for more: according to the National Association of Colleges and Employers, 91 percent of employers prefer job candidates with previous work experience.

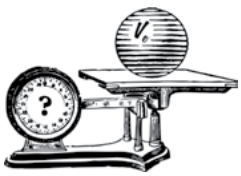
To address this need, Illinois Tech has expanded its Elevate program, which will now provide its students with guaranteed hands-on experiences and individualized mentorship to help them achieve their goals and stand out in the job market.

Elevate promises that Illinois Tech students who participate in the program will add experiences—such as internships, research and study away opportunities, competitions, and more—to their resumes. This will begin even before students arrive on campus, for example, through virtual internships the university will facilitate during their high school years. Illinois Tech will also provide every student with a team of mentors who will help them chart their own personal academic and career plan. The end goal is to make students career-ready, and students will be offered additional master's-level training and upskilling at Illinois Tech if they participated in the Elevate program but do not secure employment within six months of graduation.
—*Andrew Wyder*

# Headliners

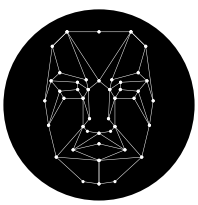
"In some cases it is still safe to drive. In some cases it can be very close to a dangerous situation, and engineering science sometimes cannot tell the cutoff line."

—Professor of Civil and Architecture Engineering Gongkang Fu discussing the concern, on Chicago television station ABC 7, surrounding the thousands of Illinois bridges that have been deemed "structurally deficient"



"This is pretty basic info that we know about all of the other Standard Model particles—even the Higgs boson, which was only first measured a few years ago! We know that they have mass, since we've been able to measure neutrino flavor-changing behavior, which is determined by the difference in the neutrino masses, but we don't know the absolute scale of those masses."

—Associate Professor of Physics Bryce Littlejohn providing context, in *Newsweek*, about why scientists know little about how much neutrinos weigh



"There are a few states, Illinois being one of them, that have laws governing biometric data, but, again, there is no comprehensive federal law. So what governs what this company does with your data? It's going to be their contract, their terms of service....You read your contract with them, it says there's a disclaimer of warranties. It says we are providing our services as is. That's worse than most products that you buy, where you have a 30-day warranty."

—Professor of Law and Michael Paul Galvin Chair in Entrepreneurship and Applied Legal Technology Nancy Kim discussing, on Chicago television station WGN 9, the potential legal issues of the IRS requiring facial scans by a third-party company to access the agency's online tax services

BUSINESS

# Put the Money Where the Eye Isn't

Have you ever watched a movie and saw a car that made you think, "That's a car I'd like to buy?" That was likely the point, the prominent placement in the movie a ploy to make you remember that product after you're done watching. Priming, or publicizing, the placement through advertisements is another way that marketers highlight those prominent placements.

A new project led by Siva K. Balasubramanian, Harold L. Stuart Endowed Chair in Business and professor of marketing, says those priming dollars may better be spent highlighting less prominent movie placements, with his new paper showing that consumers having a higher level of recall when a subtle placement is primed. —*Scott Lewis*

PHOTO: ©PUMPPUMP/123RF.COM

## Social Media Shoutout

COMMENCEMENT

# A Ceremony Worth the Cheers

There was more than one reason to celebrate on Saturday, May 14, on Illinois Institute of Technology's Ed Glancy Field: not only was it a culmination of one of life's great milestones, graduating from college, for 1,899 Illinois Tech students, but it was also a chance to gather together with peers, friends and family, and faculty and leadership to mark the occasion.

The university held its first in-person Commencement ceremony in three years on May 14, a milestone not lost on its participants. Graduates and their loved ones let out a roar when Illinois Tech Board of Trustees Chairman Michael P. Galvin (LAW '78) alluded to that fact: "How great is this to finally be back together again? Let's hear it for us! I missed this event, because this is what gives the Board of Trustees the inspiration to come and do our part for all of you."

In addition to the conferral of degrees, the ceremony included a keynote speech given by Calamos Investments Chairman and Global Chief Investment Officer John P. Calamos Sr. (ECON '63/M.B.A. '70), a member of the Board of Trustees who has established endowed chairs in philosophy and business; speeches from undergraduate student speaker Nashita Syeda (BIOL/PSYS '22), a Martin Cooper Endowed Scholar, and graduate student speaker Henry White (AE/M.P.P.A. '22), a Duchossois Leadership Scholar; and honorary degrees bestowed upon Calamos Sr. and activist and philanthropist Fred Eychaner.
*—Andrew Wyder*

PHOTOS: MICHAEL GOSS, BONNIE ROBINSON


Megan Burrill

SWIMMING AND DIVING

# Making a Splash

As if Megan Burrill (MSE/M.S. 4th Year) wasn't busy enough outside of the pool—be it as a standout Accelerated Master's Program student, leading student clubs like Material Advantage, or making blades and swords using heat, a hammer, and an anvil—she continues to find success in the water, too.

Burrill became the first individual Illinois Tech student-athlete to compete in a National Collegiate Athletic Association Division III championship event when she swam in the D-III women's swimming and diving championships on March 18 at Indiana University-Purdue University Indianapolis.

Named as the Swimmer of the Meet at the Liberal Arts Championships conference meet in February, Burrill qualified to the D-III meet in three events: 200 individual medley, 100 butterfly, and 200 butterfly. She also broke school records in the 100 butterfly (55.95 seconds) and 200 butterfly (2 minutes, 3.68 seconds) this season.

"Although she did not drop any time in any of her races, she cherished the opportunity and always left the pool with a smile on her face, knowing that she achieved an incredible feat coming to Indianapolis," Illinois Tech interim swimming and diving coach Billy Bafia says.

LEADERSHIP

# Taking the Reins

After spending more than a year helping to guide the Illinois Tech Athletics Department through the pandemic, Usha Gilmore was named the university's director of athletics in December 2021. She will also serve as a vice president at Illinois Tech, and will continue in her roles as coordinator of compliance, facilities director, and the athletics diversity and inclusion designee.

"As athletics director, Usha will lead the university's efforts to enhance the student experience by further developing and growing our competitive athletics program, while serving as a critical advocate for our student-athletes," Illinois Tech President Raj Echambadi says. "I am confident that under her leadership, the Scarlet Hawks athletics program will continue and thrive, while providing our student-athletes, alumni, and fans with an exceptional collegiate sports experience."

A former Women's National Basketball Association player, Gilmore, the former women's basketball coach at Illinois Tech, takes over for Joe Hakes, who retired in July 2020. Gilmore had served as co-interim director of athletics with Marc Colwell since Hakes's retirement.

"Our student-athletes are second to none in their commitment, both on and off the court, and I look forward to continuing to build out our partnerships to help the program grow and provide even more opportunities for our student-athletes," Gilmore says.


Usha Gilmore

PHOTO: BONNIE ROBINSON


ILLUSTRATION: SCOTT BENBROOK

SUSTAINABILITY

# Waste Not, Want Not

In the United States, it's estimated that up to 40 percent of food produced is never eaten. Illinois Tech Associate Professor Weslynne Ashton is part of a national network of researchers aiming to transform what is known about food waste and how solutions can be created to solve it, supported by $15 million in funding from the National Science Foundation. The project—the Multiscale Resilient, Equitable, and Circular Innovations with Partnership and Education Synergies (RECIPES) for Sustainable Food Systems—includes more than 40 researchers at 14 universities and institutions across the country, led by American University. —*Scott Lewis*


PHOTO: ELENA ZHUKOVA

ENGINEERING

# Engine Ingenuity

Despite accounting for more than a quarter of the on-road vehicle energy consumption in the United States, heavy-duty trucks and other long-haul transportation account for just 1 percent of on-road vehicles. That's a significant sustainability concern, one that Illinois Tech Associate Professor of Mechanical and Aerospace Engineering Carrie Hall is tackling—with software.

Hall has created a new computer model that can help enable diesel engines to run on a different fuel with just a software update. She says that the one big obstacle to running a diesel engine on gasoline is the difference in reactivity. Gasoline fuel injected into an engine cylinder normally won't burn until the engine provides a spark to start the fire, and then the resultant explosion will travel uniformly away from the spark through the engine cylinder. On the other hand, diesel tends to spontaneously combust after it is compressed in the cylinder. The timing is essential as engine efficiency depends on running multiple cylinders in harmony.

To understand how to get the most out of burning gasoline, diesel engines need real-time information on when the fuel has ignited.

Some engine control designers achieve speed in their models by utilizing machine learning techniques or storing large data tables to avoid model calculations, but Hall has taken a different approach. "We've been trying to create models that are based on the underlying physics and chemistry, even when we have these very complicated processes," she says.

Hall began with the complicated version of the calculations and explored ways to simplify them until she found ways to describe the science with equations that were faster to solve, while still achieving the industry standard of accuracy for control models. The result is a more adaptable model. While a pure machine-learning approach needs to be completely retrained for each new fuel, Hall can simply update some parameters that correspond to measurable fuel properties. —*Simon Morrow*

PHOTO: MICHAEL GOSS

Britt Burton-Freeman

HEALTH

# Diet, Deconstructed

Technology has been utilized to create solutions across all industries and sectors, so why not use it to make diets more effective?

Illinois Tech is one of 14 centers collaborating on a new nationwide nutrition study that will combine biometric data collected from 10,000 individuals with artificial intelligence and machine learning (ML) technologies to advance the development of personalized nutrition plans. The study is funded by the National Institutes of Health, which is awarding a combined total of $170 million to support five years' worth of research.

"This is personalized nutrition—providing the right diet for the right person at the right time," says Britt Burton-Freeman, a professor of food science and nutrition, who is leading Illinois Tech's involvement in the project. "You can't personalize [nutrition] if you don't understand variation in humans. The data we collect across all centers will come from physical assessments and biospecimen collections so that genetics, gut microbes, and biological data can be combined with lifestyle, social, and environmental data to determine why people respond the way they do to different dietary regimens, and then use these data to develop algorithms that predict individual responses to foods and dietary patterns powered by ML."

*—Linsey Maughan*

ENGINEERING

# An Unlikely Ally in the Fight Against Bacteria

Healing a wound is a battle, with bacteria congregating and multiplying on the wound surface, preventing healing and causing infections. Gathering bacteria can secrete a sticky material that keeps them glued to each other and the wound while also providing defense by making it harder for antibiotics to get inside, creating what is known as a biofilm. These biofilms are bacterial aggregates that are formed on any solid surface in an aqueous environment like those in the human body. About 80 percent of infectious diseases come from the biofilm state, according to Illinois Tech Associate Professor of Chemical and Biological Engineering Seok Hoon Hong. Recognizing the problems that are created by antibiotic-resistant bacteria, Hong wanted to develop a new approach in targeting biofilms—but he says that he wanted to be sure that the method wouldn't harm the good bacteria that can help the immune system. So, he went to an unlikely ally: E.coli, a bacteria commonly known to cause food poisoning. Hong's engineered E.coli creates an antimicrobial protein that only targets specific pathogens, allowing it to eradicate the harmful biofilm. Hong believes his method of attack could be used to treat many infectious diseases within 10 to 20 years.

*—Simon Morrow*

ILLUSTRATION: SCOTT BENBROOK

# Intervention On Demand

By Linsey Maughan

Inspired by his daughters, Ram Ramanujam (Ph.D. ENG '81) is using technology to bring peer-guided mental health services to young adults

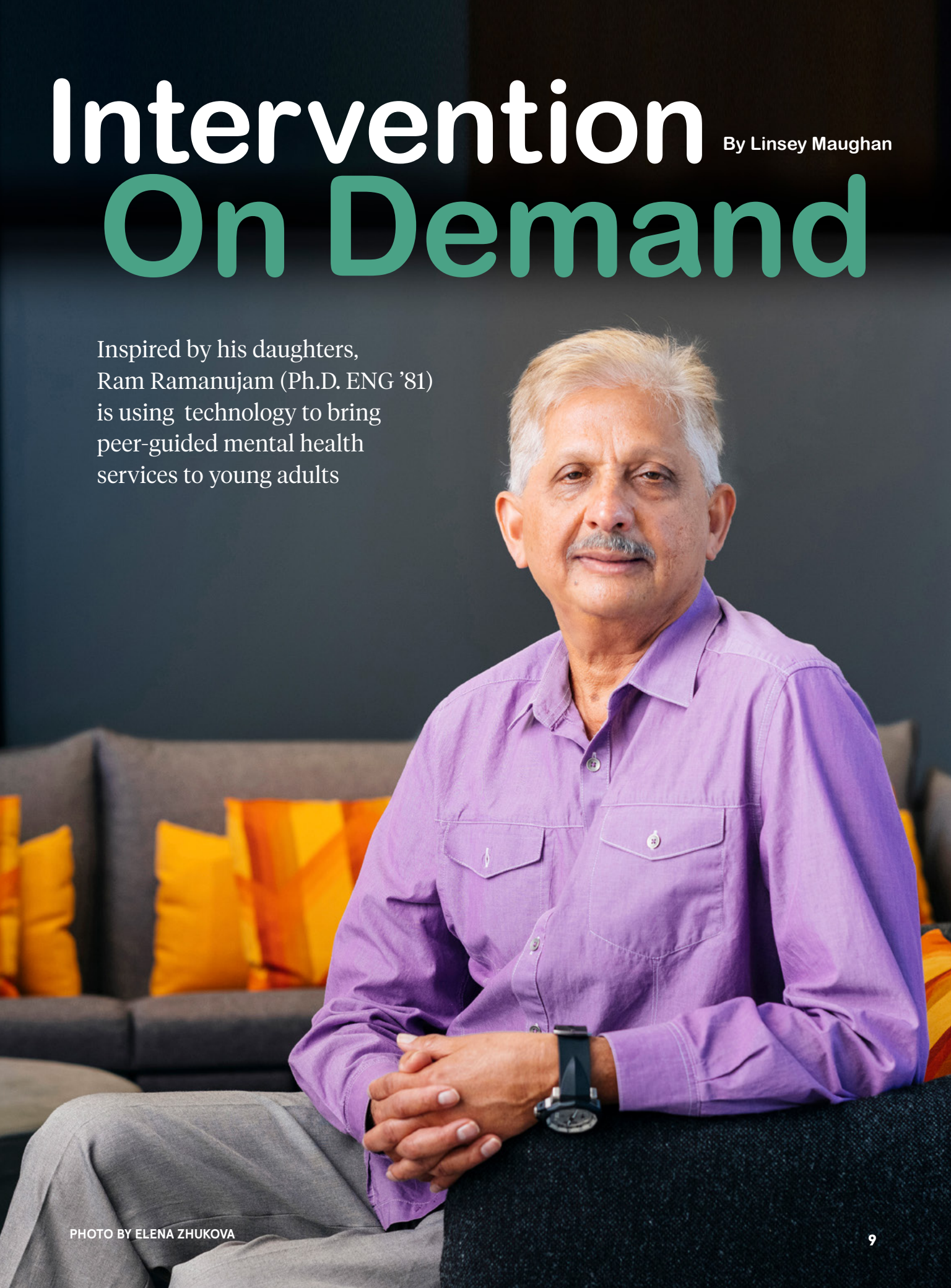


PHOTO BY ELENA ZHUKOVA

**AN ENTREPRENEUR AND** investor, Ram Ramanujam (Ph.D. ENG '81) has spent the last 31 years of his career leading a host of technology startups in Silicon Valley. Raised in the South Indian community of Gandhigram—"sort of a utopian village modeled after some of [Mahatma Gandhi's] teachings and rural education models," he says—Ramanujam has prized education and supporting others from an early age. These values have shone through as much as ever in recent years as Ramanujam co-founded a platform and app focused on teenage mental wellness care. He says his inspiration for the project was his own daughters, whom he and his wife adopted from India in the early 1990s.

"Since both of my children were adopted, growing up for them was very challenging," Ramanujam says. "Being girls, being adopted, they went through a lot of emotional ups and downs. I feel very strongly as an entrepreneur who has been very successful that I need to provide tools for teens and young adults. That's why we created the Lyftly platform; we started working on that in 2017."

Beyond his personal experiences as a parent, Ramanujam cites the mental health statistics of young adults as a motivator for launching Lyftly.

"Around 30 percent of the high school kids think they have some sort of a mental health issue," he says. "I was astounded to learn that around 20 percent of high school kids have felt that they were so down they wanted to take their life at least once in high school. It's more prevalent in women than men. In a survey from Boston University, 36 percent of college students felt that they would have lifelong mental health issues. Seventy percent of these people never get a chance to go talk to a therapist. We did a quick survey, and on the West Coast, the wait time to go see a mental health professional is six to eight weeks."

Together with his co-founder, the late Devendra "Dev" Joshi, who served as chief technology officer, Ramanujam launched a totally private, anonymous, and confidential social and peer chat platform for teens and young adults, where users could comfortably discuss issues affecting them and get help from expert peers. These peers have received special training in psychology and social work. They are able to guide and coach users through the app's chat function.

"When teens immediately need help, we direct them to the appropriate therapists, psychiatrist, hospital—whatever they need," Ramanujam says. "One of the key aspects is that we don't only have this free solution where they can seek help from peers; we felt we should also provide them with life coaching and emotional coaching, so we also developed a coaching platform. A lot of the work on the technology side includes the ability to leverage artificial intelligence, machine learning, and deep learning."

> "It's trying to change the world and make it better, it's so clear and transparent, and you could see it in everything Ram said and did. He is super well-meaning. I think he's a very special kind of person—just a lot of empathy."
>
> —Rajiv Bhat

Lyftly launched in 2019 in both the Apple app store and Google Play store. Based on features of users' profiles, the app is able to intuit what types of coaching can best serve the user. Basic app services are free to users, while more advanced services like coaching are offered at an affordable rate for young adults, Ramanujam says—approximately $9 per month.

Rajiv Bhat, co-founder and co-chief executive officer of Martini, a Silicon Valley-based fintech company, served as an adviser and early investor in Lyftly in 2018–19 as the app was launching. His support specifically pertained to utilizing the latest technology in AI and machine learning. Ramanujam likewise serves as an investor and board advisor for Martini.

"I have been a big believer in both interventions and machine learning, and to see the two come together [through Lyftly] was fantastic," Bhat says. "If someone is alone, in a dark situation, just having someone to talk to or being able to go to therapy to try to fix something can save people from getting to a really bad state. I was very excited to help. It's trying to change the world and make it better, it's so clear and transparent, and you could see it in everything Ram said and did. He is super well-meaning. I think he's a very special kind of person—just a lot of empathy."

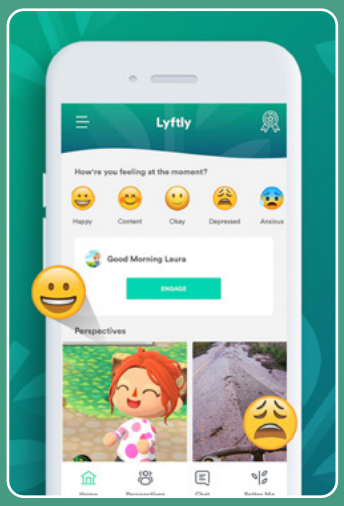
More online: linkedin.com/company/lyftly/about

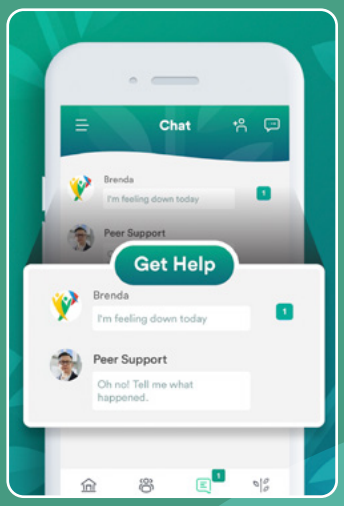
Ramanujam graduated with his Ph.D. in engineering, eventually taking a position at Stevens Institute of Technology as a research assistant professor. He also enrolled part-time in a master of business administration program at New York University's Stern School of Business to advance his skills in marketing and business strategy. His career eventually took him to the San Francisco Bay Area, where he served as a senior executive at multiple Fortune 1000 companies focused on designing and manufacturing superconductors before leaving to work in startups and to become an entrepreneur in Silicon Valley.

Ramanujam's focus shifted from hardware to software, ultimately leading him to co-found Lyftly, where he is now CEO. Lyftly is still an app available for download, but, in light of the passing of Joshi, Ramanujam has recently partnered with another company to help manage the app's software capabilities. Though he cannot yet reveal the company's name due to nondisclosure agreement, Ramanujam says it oversees a network of insurance companies and health care providers that focus primarily on teenagers and young adults. With the new collaboration, Lyftly will also be getting a new name.

"That process is working well, and we expect great progress," Ramanujam says. "I'm really excited about that—this is going to really help tens of thousands of teens and young adults by combining the social aspects, the sharing aspects, and also the peer and coaching aspects. The focus is more on preventative care and early intervention. I think that is something that we as a country do not do a good job on, and I'm hoping we can make a big impact."•

## How Lyftly Uses AI to Support Mental Health




**THE LYFTLY APP** targets teens to young adults, roughly ages 14 to 21. At present the app has about 5,000 active users in the United States and 3,000 in India. Users create anonymous profiles, and their social interactions and activities on the app provide valuable information that can be drawn upon to tailor personalized coaching and, if necessary, interventions.

"We're able to leverage many of the posts and chat topics that our users post," Ram Ramanujam says. "Based on the profiles that they've generated for themselves in a confidential, personal manner, we pull all of the data to then be able to offer them help. It is still very much a human-augmented artificial intelligence—the AI is meant for the peers and the coaches. We train them: 'Here is the background of the person, you may want to direct the person in the right manner.' We don't believe in 'bots for mental health. It's very personal. It's not the right thing to do."

In addition to offering users peer support and coaching services, Lyftly also recommends activities that can help improve the lives of teens and young adults, such as exercise, meditation, yoga, being with friends, social activities, and more.

"We ask them to get engaged in many of these aspects," Ramanujam says. "Go on a walk a few days a week. We remind them of that, we nudge them toward that. It's always good for them, for example, to go sit in a Starbucks, get a coffee, and watch people. The type of goals they set, how they complete those goals, and any feedback they give on how that is helping them—all of that data is available to help them in their mental health journey."

Lyftly previously partnered with several universities on the West and East coasts to pilot student ambassador programs that help promote Lyftly's services to young adults. They also recently began collaborating with high schools in Northern California. Once Lyftly is revamped with help from Ramanujam's new business partner, the app will target 13- to 18-year-olds. It will also involve collaboration with payers such as health insurance companies, Ramanujam says, "so they can offer even more evidence-based and comprehensive programs, if need be, that are backed by psychology and neuroscience."

"We want to provide a very safe and confidential environment," Ramanujam adds.

# CALLED TO DUTY

BY THADDEUS MAST

In 2017 the United States was fighting a common enemy—robocalls from overseas operations that scammed people of their hard-earned savings.

Citizens were turning to the federal government to ease the onslaught of calls that drained the bank accounts of vulnerable Americans. The Federal Communications Commission, the agency in charge of telecommunications in the U.S., turned to Eric Burger (Ph.D. CS '06). An executive and then a professor in the communications industry for 20 years, he had built a reputation as an expert with the know-how to potentially slow or halt the assault of harmful calls.

"They wanted me [at the FCC] for robocalling," Burger says. "But I was able to accomplish much more while I was there."

He had wanted to work as an adviser with the FCC more than a decade earlier, but was told a Ph.D. was a requirement for the job, so he turned to Illinois Institute of Technology. A longtime industry veteran, he had years of real-world experience as a chief technology officer and held a bachelor's degree from Massachusetts Institute of Technology and a master's degree from Catholic University of Leuven in Belgium. A colleague guided him to the Department of Computer Science, from which he graduated in 2006.

Dreams of an FCC advisory position faded—he was asked to consider the role in 2008 but was passed over—and he eventually took a faculty position at Georgetown University. Then, a federal official contacted Burger in 2017.

"The FCC called me, and I thought it was a joke," he says. "I thought it was Lucy pulling the football from Charlie Brown. I asked, 'Is it real this time?' And they said yes."

He took a position as chief technology officer and began working on a key FCC initiative—reducing the amount of robocalls in the U.S. The STIR/SHAKEN system was the result, named as a play on James Bond's martini of choice. Before calls are connected, the system verifies if the calling phone number is associated with a customer or if it's unknown. If the evidence doesn't stack

PHOTO BY ADAM B. AUEL

up, the call is blocked. The system isn't perfect, and sometimes a suspected robocall is listed as "spam likely" instead of blocking it altogether.

The program was just one of the projects he took on during his time at the FCC; Burger's expertise goes well beyond just robocalls.

"Eric is recognized as a leader in network security and wireless in a big way, and those people are in short supply," says Jon Pelson, a former coworker, long-time friend, and author of *Wireless Wars: China's Dangerous Domination of 5G and How We're Fighting Back*. "That made him important at the FCC."

Burger buffed the country's cybersecurity, particularly cell infrastructure that could have been open to foreign surveillance. He also worked to improve the technology to identify location information from 911 calls, helping first responders better know where to go when a call comes in—especially as cell phones overtook landlines as the preferred telecommunications device.

Suicide prevention wasn't on Burger's mind until nonprofit organizations approached the FCC, but it became his proudest achievement, culminating with the introduction of the 988 number—the National Suicide Prevention Lifeline.

"Do you know the full number of the suicide hotline before 988?" he asks. "There needed to be a better way [to contact mental health professionals]."

The "N11" numbers, such as 911 or 511, were all taken. So the first idea was to loop a suicide hotline into the 911 network. The mental health community was against that idea, as it was worried about police response and an increased call volume to 911 operators. A study found that 988 was the most memorable and easy-to-dial number outside of an "N11." Thus, the suicide prevention lifeline was created.

"We know how many attempted suicides there are a year, and we know how many are successful. We know the impact of being able to get counsel is on suicide prevention, so we could conservatively say this'll save 1,200 people's lives a year," Burger says. "That's huge."

The Trump White House took note of Burger's work and in 2019 asked him to take on another long-standing problem—working with the U.S. Department of Defense and telecommunications companies to offer more 5G service.

"I got a call from the White House asking to talk about 'an interesting problem to solve,'" Burger says. "The problem was moving spectrum used by the Department of Defense to commercial use."

Cell phones and other wireless communication are given a slice of radio spectrum space to operate—for example, the airline sector is given the frequencies from 108 to 136 megahertz for radio navigation and air traffic control. The FCC doles out frequency bands to the private sector and the National Telecommunications and Information Administration does that for the federal government. The problem was the rising use of the 5G broadband network. Cell phone carriers need more and more spectrum space to keep up with growing broadband use.

"First, there were calls and texts, then video calls, then augmented reality, then virtual reality—and they all need more frequencies," Burger says.

When Burger arrived, some of the best frequency to use for 5G was under DOD control. The decision to change uses came down to a policy choice, Burger says.

"There's no higher role of government than defense. So do we let DOD have the spectrum for free, or make it available for commerce and raise $30 billion," he says. "What's a better use? In this case, commercial use was better."

But the DOD didn't leave empty-handed—about half of the total revenue made will pay for upgrades to the defense systems impacted by sharing with 5G.

His government service over—and after decades working as an industry executive and as an educator at Georgetown—Burger is taking on a new project at Virginia Polytechnic Institute and State University: leading research for the Virginia Commonwealth Cyber Initiative. •

**The White House took note of Burger's work and in 2019 asked him to take on another long-standing problem—working with the U.S. Department of Defense and telecommunications companies to offer more 5G service.**

More online: cyberinitiative.org


PHOTOS BY TIM KLEIN

# LIFE'S A GAME

# LET'S CHANGE THE RULES

## Michael Anthony DeAnda (Ph.D. THUM '19) Is Using Game Design to Change How We Think About Ourselves and Each Other

By Simon Morrow

Michael Anthony DeAnda (Ph.D. Technology and Humanities '19) designs games with the aim of showing the game industry, and society at large, new ways of being.

"I want to create spaces of care where we can shape compassion between people," says DeAnda, a professional lecturer at DePaul University. "I want a game where I can just be, exist, and develop these moments of expressing humanity between people."

As both a game designer and game scholar, DeAnda centers much of his work on the experiences, needs, and histories of marginalized communities, with a particular focus on the lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) community.

When the COVID-19 pandemic began, DeAnda heard his community's struggles.

"A lot of folks in the LGBTQ community were worried about the loss of community identity at large, and with gay bars shutting down comes a loss of spaces that we have associated as our own where we can unmask and be in the presence of kin," says DeAnda. "Especially for people who weren't out, lockdown created a lot of anxiety for them, putting some in potentially harmful situations."

Out of this need came Golden Mart, a single-player tabletop role-playing game in which players take the role of a convenience store worker aiming to maintain the golden standard of excellence in their job, despite the recent onset of a magical apocalypse. Over the course of a night shift, players serve customers and handle tasks in the store until either their shift ends or a catastrophe destroys the store.

"The thinking behind Golden Mart was to provide players with a space to explore and grieve and sit with this anxiety through narrative storytelling," says DeAnda.

Funded by an exceptionally successful Kickstarter campaign, DeAnda and Golden Mart co-creator Carly Kocurek, an associate professor of digital humanities and media studies at Illinois Tech, are currently expanding the game and preparing it for wider distribution.

DeAnda is a founding member of the emergent area of queer theory in games, and some of his games create spaces for people to explore gender and sexuality directly.

Michael Anthony DeAnda (Ph.D. THUM '19) at Chicagoland Games Dice Dojo in Chicago

In a tabletop game formerly known as TRANS-gression, players take on drag queen personas. As part of the path to victory, players don accessories such as jewelry, gloves, and a feather boa. DeAnda is currently iterating the game, which he designed in 2013, and retitling it to not conflate transgender and drag.

"I created this game to allow players to explore gender identities that do not subscribe to heteronormative confines," says DeAnda. "My vision for this game was to provide genderqueer individuals with a vehicle to discuss their gender identities with people who are close to them in a way that would challenge these people to develop a more fluid conception of gender."

"He's frickin' amazing at creating these queer spaces that open up non-normative ways of understanding the world. And play is always non-normative, so we're going to start turning more and more to queer theory to define the everyday discourse of how we attend to games," says Jennifer deWinter, professor of rhetoric at Worcester Polytechnic Institute.

Through his work designing games, DeAnda says he has felt empowered to express his voice and explore his identities; he says the process has been cathartic. As an instructor, he aims to give students opportunities to do the same.

"[Teaching game design] gives me a way to engage students who might feel like they don't have a voice or that their voice isn't valued," says DeAnda. "I'm inviting people with underrepresented voices to design and express their own lived experiences, their own cultures, their own ways of knowledge formation through games."

"Michael has been an amazing community leader and supporter in game studies," says Wendi Sierra, associate professor of game studies at Texas Christian University. "He is amazingly compassionate, but with wit

and sardonic charm to balance that compassion with a bit of bite when needed."

DeAnda teaches his students that games can act as a microcosm of the real world, and when infused with a deliberate perspective, they can become a forum for exploring real change.

"We come to play games and develop this algorithmic logic. We then leave the game space and start thinking through our day-to-day realities through similar algorithms," says DeAnda. "So in thinking about game design, I like to ask, 'What are ways to intervene in this process or to design systems that are more queer or attended to people and communities on the margins?'"

But it's all about balance.

DeAnda says that when taking on topics like isolation, sexuality, or gender expression that people may find difficult to discuss, he takes particular care to keep his games playful and inviting.

"I see a lot of trying to beat people over the head with a message, and oftentimes what happens is that players who are open to the message understand and realize it, and then players who aren't [open to it] put the game down and walk away," he says. "My approach is thinking through how I can invite the player into these spaces and allow them to be transformed through the play experience." •

More online: alicedgames.itch.io/golden-mart

# The Night Shift at Golden Mart


Golden Mart was designed to use M&Ms—or any tasty snack that comes in a multiple of six—instead of a die, where which color you draw from the bag determines what happens in the game.

DeAnda says, "By turning toward unexpected design tools, I'm interested in arguing for expanding our understanding of what games are. At a more activist level, my thinking is that if we can revisit the logic that we privilege in these items through play, this might be a way to revisit the logic that governs the larger ways that we create worlds, shape communities, and engage in political activism. It's thinking about how we train our thinking, and then how we materialize that into the world."

- **Apply for the Job:** Let Golden Mart know what skills you bring to the table as an employee, such as your customer service skills or general know-how. If you happen to be a telepath, include that, too! This will serve as your character sheet throughout the game.
- **Determine the Catastrophe:** Draw M&Ms to determine if you're about to face a zombie outbreak, flood of ectoplasmic slime, or some other magical inconvenience to your workday.
- **Work Your Shift:** Make decisions and draw M&Ms to determine how your tasks go, including interactions with customers, restocking inventory, and cleaning the bathrooms. A random M&M draw will also determine how the catastrophe progresses.
- **End of Shift:** If the catastrophe destroys the store, it's game over, but hopefully you'll make it to the end of your shift alive!
- **Incident Report:** Before clocking out, record what happened during your shift. It will give you a chance to reflect on the experience, and the day shift will thank you.

# SHIFT to SECURITY

By Casey Moffitt

Designing security into code is a lot like designing security in a house, Marilyn Barrios (ITM, M.A.S. ITM '18) says. Each door, window, and any other point of entry must be secured. But these security measures aren't considered after the house is built. They are embedded in the initial design of the house.

Barrios says a similar philosophy is shifting the way that code is being written for Motorola Solutions' products and networks.

"The shift is thinking of security by design," says Barrios, head of Motorola Solutions' application security team. "It's foundational in the code and not an afterthought."

Barrios ensures that this philosophical shift is at the forefront in the development of the company's networks, devices, and services as she oversees the company's global engineering and implementation of cybersecurity best practices.

Attackers target code in order to find vulnerabilities. As more code is being exponentially exposed through connected smart devices, the urgency to shift cybersecurity philosophy to the foundation of code writing has been amplified. In the past developers had focused on writing code that makes the software operate, and then turning that code over to cybersecurity experts, who would run the code through diagnostic tools to find security holes. The code would have to go back to the programmers for repairs. It was a slow and burdensome process.

Barrios's solution was to give programmers access to the diagnostic tools, so they could run a diagnostic after bits of code are written. These diagnostics detect vulnerabilities earlier in the development process, and fixes can be made more efficiently. It also prevents programmers from making the same mistakes as they get deeper into the code.

"Everyone has a security responsibility now," Barrios says of a development team. "Everyone who touches our products and services has to ask, 'What is my responsibility?' It is my job to make sure that our software developers are deputized in security."

It's an enormous task, as Motorola Solutions serves more than 100,000 customers in 100 countries using 13,000 networks that the company has installed and designed. Motorola Solutions' technology platform includes command center software, video security and access control, and the services needed to support these systems. Many of these systems include networks that 911 call centers rely on, as well as public safety and enterprise security systems.

Barrios says that part of her role is to encourage software developers and engineers to embrace the cybersecurity philosophical shift, which is done by familiarizing them with the concepts.

"A lot of them think cybersecurity is hard," she says. "A lot has to do with demystifying it. I try to give them the easy button."

Barrios began her work at Motorola Solutions in 2018 as a cybersecurity trainer, and she soon developed a training program, which teaches some 6,000 programmers at Motorola Solutions the best cybersecurity practices. Getting to that point, where she was helping to create solutions, was a gamble—on herself, and on leaving a career in information technology sales.

"While I was working with customers, I heard some sobering problems and started to ask, 'How can my solutions help?'" she says. "I saw engineers building solutions to solve those problems and thought, 'That's what I want to do.' I wanted to bring the help that solved the problems.'"

Katrin Reitsma, a security solutions manager at Motorola Solutions, says Barrios's role as an agent of change takes a combination of skills, particularly when the company's programmers, among others, weren't immediately on board. Reitsma also says that there were significant costs to create the trainings, as well as for the licenses to give more people access to the diagnostic tools. Convincing executives wasn't easy, but Barrios helped executives understand that the up-front costs would lead to savings long term; fixing security vulnerabilities after production can cost up to 10 times more than doing so during production.

"To do this, you have to be able to speak a business language and a security nerd language," Reitsma says. "Marilyn can speak both, which is very rare."

Besides entering school at the high point of her career in sales, Barrios was raising a young family with a two-month-old child and her husband working as a police officer.

"It was a tough time, but I'm very glad that I did it," Barrios says.

When she decided to change careers, her intention was to get into coding or engineering. She fell in love with cybersecurity during her courses, though, because it satisfies her desire to be a problem-solver—a task that grows bigger every day as more and more devices log on.

"I discovered that security is a problem," Barrios says. "There is a good guy and there is a bad guy. That fed my initial motivation to help solve problems." •



More online: devops.com/motorola-solutions-driving-a-thriving-security-culture

PHOTO BY DAVID ETTINGER

# Solving the Right Problem

*By* Steve Hendershot

PHOTO BY ADAM B. AUEL

Steven Babitch (DSGN '07) is a practitioner of human-centered design, which means he specializes in cultural translation: He walks into big, complex organizations that are struggling to understand the people they serve—from United Airlines to the Mayo Clinic and the Federal Bureau of Investigation—and works with them until the lightbulb turns on. Then he builds the path forward.

Babitch, 47, honed his craft as a graduate student at Illinois Institute of Technology's Institute of Design. But his interest in building connections across cultures dates back to his days as a childhood tennis star in 1980s Detroit. As he shuttled back and forth between suburban country clubs and city courts, "it baked into me this notion of empathy, and on seeing challenges from different perspectives and contexts," Babitch says.

That has become his defining skill as a designer. Large organizations, despite their best intentions, can lose sight of their customers amidst a tangle of stakeholders, departments, and priorities. Babitch helps them refocus on what's most important.

"It's something all organizations of this size and scale ultimately grapple with, and the challenge is just to cut through the clutter," Babitch says.

On a project to reimagine the online customer experience for health insurer Humana, for example, Babitch's breakthrough was to gather leaders from across the organization and to show them a map of the customer journey. The map included a maze of overlaps and repeated steps, and produced a company-wide "Aha" moment. From there, Babitch says, everyone united around the goal of a streamlined, intuitive customer experience.

Designing a successful user experience often involves translating user feedback into engineer-friendly insight, so part of Babitch's design skill owes to his background: He earned an undergraduate degree in engineering from the University of Michigan in 1997, then worked in engineering sales for several years before transitioning to product strategy and design. He interned at global design agency Doblin while studying at Illinois Tech, and joined the firm full-time upon graduation in 2007.

It was at Doblin, and then another Chicago-based agency, IA Collaborative, where Babitch built a reputation as a product strategist capable of delivering innovative solutions amidst complex circumstances. One standout project was a redesign of the United Airlines website and mobile app; another involved working with the World Bank to launch an incubator supporting Brazilian agriculture technology startups. Babitch also helped the Mayo Clinic in Rochester, Minnesota, develop a Center for Innovation designed to encourage advances in health care delivery.

Babitch showed an "ability to synthesize a lot of information into themes and ideas that people could understand and act on," says Matthew Maleska, a former design manager at the Center for Innovation.

Those successes inspired Babitch to test his skills at perhaps the epicenter of organizational complexity: the United States federal government. In 2015 he became a White House Presidential Innovation Fellow, moving from Chicago to Washington, D.C., to join a nascent program that aimed to inject design thinking and modern product techniques into the intractable world of Beltway bureaucracy. He was assigned to the FBI and tasked with developing a portal through which it could share threat intelligence with American corporations at risk of cyberattacks, economic espionage, or other schemes.

**"There are challenges to working in a highly complex domain, but those are also often the places where you can have a larger impact"**
—Steven Babitch

Before building the portal, however, Babitch took a step back. He looked at what the FBI was hoping to achieve through the project, with an eye toward evaluating whether a portal-style platform was the right solution to address those goals. He also interviewed corporate stakeholders, gaining crucial insight into their contexts and perspectives—learning, for example, that some weren't keen to apply for the government security clearances that would be required to access classified information, while others didn't believe a portal would solve the problem because of the security risks it would pose. Many companies already received similar information based on contracts with private cybersecurity companies, but it remained clear that the FBI had a unique value proposition.

Babitch "was hyper-focused on the idea of delivering a solution that was amenable to both the private sector and the U.S. government," says M. K. Palmore, a retired assistant special agent in charge of the FBI's San Francisco field office. "It was refreshing to have someone take an approach that wasn't the typical government approach bogged down by historical frameworks, which ultimately decreases the government's ability to be responsive and agile."

Babitch convinced the FBI to scrap the portal and began a new project focused on building an alternate threat-intelligence offering that corporations would find more valuable, especially when considered alongside the solutions offered by private security vendors. The process included dozens of interviews with corporate and other stakeholders ranging from executives to line-level security personnel. Applying a lean, agile approach, the resulting product and strategy started small and focused on serving the needs of a small set of technology companies of particular importance to the FBI, and has since expanded. Security concerns prevent Babitch from going into detail regarding that solution, but it seems to be a hit: In 2017 Babitch received a commendation from FBI Director Christopher Wray for Exceptional Service in the Public Interest based on his work.

So while the Presidential Innovation Fellowship is typically a one-year commitment, Babitch stayed four years. He planned at that point to return to private-sector work in 2019, but changed course when asked to become head of artificial intelligence within the General Services Administration's Technology Transformation Services division. In that role, Babitch worked to foster the adoption of AI across the government, establishing a resource-sharing community that now includes 1,500 people.

Babitch finally left the government last fall and is now pursuing a private-sector role, and he says his interest in developing the right product strategies and helping small companies and startups get to product-market fit in complicated contexts hasn't wavered.

"There are challenges to working in a highly complex domain, but those are also often the places where you can have a larger impact," he says. •

More online: presidentialinnovationfellows.gov/fellows/steven-babitch

# Class Notes

## 1950s

**OLIVER SAFFIR** (EE '58) moved to Oregon to be with his children, grandchildren, and great-grandchildren.

## 1960s

**PETE J. POINTNER** (ARCH '61, M.S. CRP '62), Wheaton, Ill., served as an expert witness in his 74th case of land use litigation and in reviewing development plans for Glen Ellyn, Illinois.

**HARLEY FELDMAN** (CHEM '69), Chanhassen, Minn., joined the Illinois Tech Alumni Association Board of Directors.

**JIM GAGNARD** (EE '69), Westmont, Ill., rejoined the Illinois Tech Board of Trustees.

**TOM KORZENECKI** (FPE '69, CHE '70), Pasadena, Calif., was recently elected to the Carnegie Institute for Science Board of Trustees in Washington, D.C. Carnegie is an organization for scientific discovery whose founder's intention was for the institution to be home to exceptional individuals—men and women with imagination and extraordinary dedication capable of working at the cutting edge of their fields. Carnegie scientists are leaders in the life and environmental sciences, Earth and planetary science, and astronomy and astrophysics.

## 1970s

**LARRY PHELPS** (ARCH '70), Bloomington, Ind., had his home, which he designed in 1976, featured by an Indiana Landmarks affiliate, Indiana Modern, on its Back to the Future Mid-Century Modern home tour this year. The virtual event also featured Indiana homes by Frank Lloyd Wright, John Johansen, and Evans Woollen III.

**PETER HANIK** (CHE '72), Houston, published a book, *Type 3 Solutions: Problem Solving for Competitive Advantage*. The book describes a process for innovative problem solving and a number of common business/technology applications.

**STEPHEN B. RUBEN** (LAW '73), San Francisco, joined ADR Services Inc, where he will serve as a family law mediator, arbitrator, and private judge.

**ELAINE COTSIRILOS THOMOPOULOS** (Ph.D. PSYC '74), Burr Ridge, Ill., was the editor of *Modern Greece*, a thematic encyclopedia recently published by ABC-CLIO.

**DAN EPHRAIM** (M.B.A. '76), Wilmette, Ill., joined the Illinois Tech Board of Trustees.

**JAMES FLYNN** (EE '77), Chatsworth, Calif., together with his wife, Sharlene Katz, led a team of 70 students that designed, built, and flew a satellite to test a new low-temperature energy storage system for NASA's Jet Propulsion Laboratory (JPL). The satellite, CSUNSat1, successfully completed its mission, and the system will be used on future JPL missions.

The mid-century modern home of Larry Phelps (ARCH '70) was featured by Indiana Modern.

Left row (front to back): David Madia, Greg Gzeslo, and Chris Urbanczyk. Right row (front to back): Robert Theel, James Stapleton (ARCH '83), and Stan Schachne (ARCH '83)


CSUNSat1 satellite

**JACK J. CARRIGLIO** (LAW '78), Glenview, Ill., was included in the 2022 edition of the *Best Lawyers in America* for commercial litigation and white collar criminal defense.

**STEVEN GLICKMAN** (ARCH '78), Bethlehem, Pa., was elected chairperson of the Lehigh Valley Planning Commission. He also celebrated the 22nd year of his firm, Steven Glickman Architect.

**RAYMOND NELSON** (ME '78), Pearland, Texas, joined the Illinois Tech Alumni Association Board of Directors.

## 1980s

**VICTOR TSAO** (M.S. CS '80), Newport Coast, Calif., joined the Illinois Tech Board of Trustees.

**MATHAI VARGHESE** (MATH '81), was awarded the George Szekeres Medal, which is the Australian Mathematical Society's most prestigious medal, recognizing outstanding research achievement and an outstanding record of promoting and supporting the discipline.

**KENNETH BURNS** (CHE '82), Thornton, Colo., joined the Illinois Tech Alumni Association Board of Directors.

**THEODORE L. KOENIG** (LAW '83), Highland Park, Ill., joined the Illinois Tech Board of Trustees.

**TANYA POWELL** (MGMT '83), Fairfield, Calif., joined the Illinois Tech Alumni Association Board of Directors.

**STAN SCHACHNE** (ARCH '83), Davie, Fla., recently traveled to Chicago to attend a family wedding. A classmate, **JAMES STAPLETON** (ARCH '83), hosted pre-dinner drinks in his apartment at 860-880 Lakeshore Drive, which was designed by Ludwig Mies van der Rohe, and they were joined by four other members of the graduating class of 1983. A wonderful dinner followed with reminiscing about school, work, teachers, and family life.

**MARGHERITA M. ALBARELLO** (LAW '84), Arlington Heights, Ill., was hired as partner at Golan Christie Taglia.

**CHRISTOPHER NEMETH** (M.S. DSGN '87), Evanston, Ill., was recently named a fellow of Applied Research Associates Inc. (ARA), a 1,500 member national science and engineering consulting firm. He

SPOTLIGHT

# Design, Plus the Mind


Chelsea Badiola

Last March the American Rescue Plan Act of 2021 was signed into law, setting into motion a stimulus package that aimed to provide relief to the American public and to jumpstart the United States economy in the ongoing battle against COVID-19.

As a senior user experience designer on the Ad Hoc team supporting the Centers for Medicare and Medicaid Services and HealthCare.gov, Chelsea Badiola (PSYC '16) applied human-centered design principles and techniques to create solutions that helped the American public use some of the resources provided by the bill. She worked cross-functionally to generate product ideas, create designs, and support end-to-end implementation of new solutions—all with three distinct issues in mind: Who is she and her team designing for, and what is the problem they're trying to solve? What are the business implications? What are the technical constraints that they're working within?

Working with the government provides its own unique experience, one that is both similar and not so much to Badiola's work in the private sector and with community-based organizations.

"[Government employees] have collected a lot of knowledge around some of the policies or some of the historical work that's been done in this space, and they also have a great perspective of the problems that we're trying to solve and why," she says. "That's one of the biggest differences, being able to work with a lot of different stakeholders. That can be both challenging and beneficial at the same time as a designer."

That challenge is what intrigued Badiola when, during an Interprofessional Projects (IPRO) Program course on product development as an undergrad, she was first introduced to the idea of human-centered design, which uses processes that are focused on the people that the solution is being designed for, integrating psychology, design, and business.

"Ultimately, [it's] being able to leverage my background in psychology and a desire to help people, and keeping that at the forefront of the work," she says.

At Ad Hoc, a digital services company that aims to help the federal government better serve people, Badiola works with government partners on multidisciplinary teams, including engineers, data scientists, and delivery managers, to improve the experience of interacting with government digital services. This includes conducting user research to better understand how people interact with these platforms, and then turning these insights into design solutions.

"From a design perspective, there are so many hard problems to solve in the digital government space, but I think that's what keeps it interesting. Our systems are complex, and it can be frustrating for many Americans," she says. "How do you design technologies that make the experience of interacting with government simple and easy? How do you help people find what they need, and feel confident in their decisions? These are challenges with real impact, but I think that's what makes the work so rewarding." —*Andrew Wyder*

> **"From a design perspective, there are so many hard problems to solve in the digital government space, but I think that's what keeps it interesting. Our systems are complex, and it can be frustrating for many Americans."**

SPOTLIGHT

# Data-Driven Assistance


Cara Karter

For Cara Karter (Social and Economic Development Policy '16), an interest in human service research and evaluation was sparked during her first year at Illinois Institute of Technology. A subsequent opportunity to travel to San Claudio, Nicaragua, with the university's chapter of Engineers Without Borders, working as the group's community needs assessment lead, further solidified Karter's interest in the specialization.

"I found that I was well suited to research and evaluation projects in community development and continued to pursue any and all opportunities to prepare myself for a career in evaluation after graduation," she says.

Karter's first job out of college was working as a project assistant at Chapin Hall, a University of Chicago-based research and policy center focused on advancing the well-being of children, youth, families, and communities. Karter also worked as a research and evaluation specialist at After School Matters before returning to Chapin Hall, where she served as coordinator of research support and then as a research and development associate. Since then, she has joined mRelief, a Chicago-based tech nonprofit that helps people in all 53 states and territories that participate in the Supplemental Nutrition Assistance Program (SNAP) find out if they are eligible and apply for SNAP.

"I was hired to manage all of the policy research that goes into designing civic technology and to plan and conduct research studies," Karter says. "During my first six months on the job, I ran mRelief's first qualitative study and spent a lot of time getting to know civic technology and the complexities of representing eligibility rules as code. Now I lead data analysis for the organization and am building out new systems for data monitoring."

Karter says she enjoys utilizing her expertise on SNAP eligibility to train mRelief's outreach partners on how to help applicants navigate the food stamps enrollment process.

"Those SNAP 101 training sessions are one of my favorite parts of my job," Karter says. "I get to make all of the dry policy language come alive by sharing examples and working through scenarios, and, in the end, it helps outreach workers be prepared to better assist their clients."

Looking ahead, Karter sees opportunities for growth at mRelief, as well as the possibility of further education for herself with support from an annual tuition assistance stipend from mRelief.

"As mRelief continues to scale its technology, I see a need for more sophisticated data systems," she says. "I'm looking to build skills in database engineering to continue to grow those capacities." —*Linsey Maughan*

> **"I get to make all of the dry policy language come alive by sharing examples and working through scenarios."**

leads ARA's Cognitive Solutions Group, where he performs research and development to support individual and team cognitive work in high-hazard sectors. He was also inducted into the Illinois Tech chapter of Eta Kappa Nu, the national honor society of the Institute of Electrical and Electronic Engineers.

**LLEWELLYN D. MEANS** (EE '89), Rochester, Minn., is the National Leadership Command Capabilities executive for the Defense Information Systems Agency. He oversees the Joint System Engineering and Integration Office, the Compartmented Enterprise Services Office, and the NLCC Services and Infrastructure Office in order to provide unified services and technical authority for presidential and senior leader communications; for Nuclear Command, Control, and Communications; for Continuity of Operations/ Continuity of Government communications; and for Special Access Program stakeholders.

## 1990s

**NICHOLAS DALMASO** (LAW '91), Wheaton, Ill., is the founder and managing director of Sound Capital Solutions LLC.

**MARK A. NIEDS** (LAW '94), Chicago, was honored in the September 2021 issue of *Naples Illustrated* magazine as a "Top Lawyer for Intellectual Property Law."

**CONNIE CHEN-SIMONE** (DSGN '96), Stow, Mass., and her husband, Christopher, welcomed the arrival of a baby girl, Cataleya, on April 15, 2021. She has one big brother: Cordell, who is four years old.

**KRISTA S. SCHWARTZ** (LAW '96), Lafayette, Calif., joined Wilkie Farr & Gallagher LLP as a partner in the intellectual property department.

**MARK T. CUMBA** (LAW '98), San Diego, was appointed to the San Diego Superior Court bench. Cumba was previously a supervising deputy attorney general with the California Department of Justice.

**BRYAN J. FIELD** (PHYS '98), Yonkers, N.Y., was commissioned by MIT Press to write a book for its Essential Knowledge series. It will be called *A Theory of Everything*, and is expected to be published in spring 2023.

**HOWARD L. HUNTINGTON** (LAW '98), Naperville, Ill., joined Franco Moroney Buenik LLC as a partner in Chicago.

## 2000s

**PETER M. KELLY III** (ME '01, M.Eng. ECE '04), Evanston, Ill., joined the Illinois Tech Board of Trustees.

**YVETTE C. LOIZON** (LAW '01), Chicago, joined Clifford Law Offices as a partner.

**PRIYA A. ABRAHAM** (M.S. CS '03), Long Grove, Ill., works as an internal consultant on an enterprise architecture and strategy team, with a primary focus on mergers and acquisitions, standards, app portfolio, and app rationalization.

**CARSON BLOCK** (LAW '05), Austin, Texas, joined the Illinois Tech Board of Trustees.

**JORGE T. MIHALOPOULOS** (LAW '04, M.S. EM '06), Glencoe, Ill., was appointed to serve as chair of the Chicago Bar Association's Environmental Law Committee after a year of serving as the chair of the Illinois Bar Association's Environmental Section Council.

**RAHUL SINHA** (Ph.D EE '07), India, was nominated to take the role of the chief technology officer for a commercial digital platform offered by Tata Consultancy Services.

**MICHAEL E. HOLDEN** (LAW '08), Park Ridge, Ill., has been named a partner with Romanucci & Blandin LLC.

**ROBERT H. PATILLO** (LAW '09), Atlanta, was sworn in to serve on the Board of Directors of the National Association of Criminal Defense Lawyers at the association's annual meeting.

# Immerse Yourself in Illinois Tech

**Stay in touch with Illinois Institute of Technology through the Illinois Tech Alumni Association or by volunteering your time, making a contribution, or networking in the following ways:**

### Host a Virtual Event

You can help Illinois Tech lead the way by hosting a virtual event for donors, potential students, or alumni. Support the admissions staff by leading a workshop or panel, or support the Office of Advancement by organizing special networking opportunities.

### Serve on a Board or Committee

The Alumni Board is actively seeking new members who are committed to advancing Illinois Tech's mission and vision. You can become involved by serving on committees in several areas of interest from admission and career opportunities to nominations.

### Volunteer with Admission or Career Services

Greet students and alumni, offer your expertise, or volunteer at events ranging from advice panels to career fairs through the admission or career services offices.

To sign up, visit

**alumni.iit.edu/volunteer-signup**

SPOTLIGHT

## Human-Centered Construction

Krystal McDoom (Architectural Engineering '14) serves as a translator of sorts in her role as a project manager at the University of Chicago, helping engineers and architects understand the needs of the university's stakeholders and helping the stakeholders understand the possibilities and constraints based on the City of Chicago's building code requirements, feasibility, budget, and schedule.

"Construction management is not as grimy and dirty as some people may think it is," says McDoom. "There's an art and a science to it that people who don't work in this industry don't typically realize."

McDoom grew up in Saint Lucia, an island in the Caribbean. With an early knack for the technical, McDoom took her high school's technical education track, through which she learned about topics such as technical drawing, building technology, electrical technology, and physics. With little access to tertiary education on her home island, McDoom earned an associate's degree at a local community college and found a job as a civil engineering technician, helping engineers draw up plans and performing onsite supervision for quality control purposes.

Then a unique partnership with the National Society of Black Engineers and Illinois Institute of Technology created a new opportunity: Several St. Lucians, including McDoom, were able to apply for Illinois Tech's Presidential Scholarship, and McDoom was among those selected. She ventured to Chicago in 2010 in search of a brighter future, one she is now living out.

McDoom recently completed managing the design and construction of a project called Mindworks for the University of Chicago. It's a combination of a behavioral science laboratory and museum exhibit space that teaches people about how the mind interprets the world and empowers people with knowledge of unconscious biases.

The project inspired her to consider how she might carry these ideas of behavioral science into a profession that she would like to help grow.

"I would really like to find a way to integrate several of these ideas and concepts about emotional intelligence, social intelligence, and behavioral science, and apply it to the construction industry," McDoom says, adding: "Being a woman of color in an industry that's still predominantly male sometimes still poses some challenges. I would love to be part of helping increase people's awareness to be part of that change." —*Simon Morrow*

## 2010s

**DAVID R. DOYLE** (LAW '10), La Grange, Ill., was recognized in the 2022 edition of the *Best Lawyers in America* in the "Ones to Watch" category.

**CHRISTOPHER LEE** (CE '10), Boston, started his M.B.A., with a focus on social impact, at Boston University's Questrom School of Business.

**SI "CINDY" MIAO** (M.S. PHRD '11), Mount Prospect, Ill., joined the Illinois Tech Alumni Association Board of Directors.

**COURTNEY L. NICHOLS** (LAW '11), Clarkston, Mich., was recognized in *Super Lawyers* as a Michigan Rising Star in 2021.

**ROBERT IRONS** (Ph.D. FIN '12), Bloomington, Ill., has had two books published within the past two years: *The Fundamental Principles of Finance* (Routledge 2020), an undergraduate textbook, and *The Preamble as Policy: A Guidebook to Governance and Civic Duty* (Peter Lang 2021), a critical analysis of the preamble to the Constitution that debates the role of government in the United States.

**BRUNO R. MARASSO** (LAW '12), Chicago, has been named a partner at Romanucci & Blandin LLC.

**ANGELINE R. BABEL** (LAW '13), Middleton, Wis., was promoted to partner at the national law firm of Quarles & Brady LLP.

**RODRIGO ISASI** (M.S. DSGN '13), Lima, Peru, is now the CEO at Delosi SA, Peru's fastest-growing franchise restaurant chain.

**BRIGID M. FOX** (LAW '14), Chicago, was included in the 2022 edition of the *Best Lawyers in America* in the "Ones to Watch—Trusts and Estates" category.

**MARTIN D. GOULD** (LAW '14), Chicago, was named a partner at Romanucci & Blandin LLC.

**DANIELLE N. HARRIS** (LAW '16), Chicago, was recognized in the 2022 edition of the *Best Lawyers in America* in the "Ones to Watch" category.

**NICOLETTE A. WARD** (LAW '16), Chicago, has been named a senior attorney at Romanucci & Blandin LLC.

**BRYCE T. HENSLEY** (LAW '17), Chicago, has been named a senior attorney at Romanucci & Blandin LLC.

## 2020s

**DARSH PATEL** (ITM '20), Elgin, Ill., recently started a new job at Tata Consultancy Services, and he can see a lot of similarities in the work he does on a day-to-day basis compared to what he learned in courses at Illinois Tech. It has been a great experience thus far to work at this company, Patel says.

**JACLYN CARMICHAEL** (M.P.A. '21), Chicago, recently started a job with the world-renowned Museum of Science and Industry in Chicago as the director of youth programs and pathways.

**MEREDITH LUDLAM** (ARCH '21), Omaha, Neb., joined CPL as an architectural designer. She will be responsible for all aspects of design, including drafting schematic drawings and preparing client presentations, for a variety of projects. With exceptional digital design skills in platforms such as AutoCAD, Revit, Rhino, V-Ray, and the full Adobe Suite, she is well equipped to create and maintain architectural models for assignments ranging in scope and size.

Meredith Ludlam (ARCH '21)

**MICHAEL WOJCICKA** (CS '21), Schaumburg, Ill., accepted a job as a software engineer at Google.

**Share Your News**
We want to hear from you. Send us your class note by visiting **alumni.iit.edu/class-notes**. *Submissions may be edited for style and brevity.*

# An Update from the Alumni Board Chair **Sherrie Littlejohn**

As my term as chair of your Illinois Tech Alumni Association comes to an end, our university looks very different than when I began. We have a new president, and will soon have a new provost. We have new colleges, refreshed student residence halls, new scholarships, and new programs to help engage students from local, national, and global communities.

For all that change, the most remarkable thing to me is how much has stayed the same. Illinois Tech is making waves and breaking fundraising records simply by doubling down on our commitment to our founding purpose: to harness the collective power of difference to drive innovation for all. This purpose has been our institution's North Star for more than a century. In fact, we've been engaged in this work for so long that it can be easy to forget just how revolutionary our purpose really is.

I have immense respect for our community, and I'm not the only one. Celebrating our differences is smart business. It's a time-tested strategy for yielding the best results from the greatest number of individuals. It is a proven way to lift all of us, together, with sustainable impact.

As the chair of your Alumni Association, it has been my privilege to see how this purpose plays out in the lives of our alumni every single day. In my conversations and work with our community, it is evident that pursuing this purpose has changed countless lives: from first-generation students who are able to lift their families out of poverty because of their education, to those who have leveraged their skills to innovate the various ways that we communicate, live, and work.

Indeed, the world needs more engineers, designers, architects, lawyers, business leaders, and thought leaders. However, what the world needs more than anything is *you—your unique voice.* Your skill set is only part of your power. The truth is that we change the world when we engage our skills with our whole selves. We create the most value for ourselves and each other when our skills are augmented by our backgrounds, perspectives, and experiences. Our ability to bring our authentic, respectful, and thoughtful selves to any situation sets the table for greatness to emerge.

I know that your new board chair, Robert Hoel (BE '70), knows this, and I know that our community will continue to thrive under his leadership. He is the definition of Illinois Tech spirit. Though I will no longer be your alumni chair, I'm not going far. I will continue to serve Illinois Tech's alumni community by believing in and promoting its mission. Thank you for your support, as I am grateful to all of you for reminding me every day why I am so proud to call myself a Scarlet Hawk.

Sincerely,

**Sherrie B. Littlejohn** (M.S. CS '82)

# ALUMNI AWARDS 2022

Since 1946 the Alumni Awards have been presented to Illinois Tech's most accomplished, innovative, and influential alumni. Alumni Award winners add to the university's rich history of visionaries who make the Illinois Tech community proud. Join us during the Homecoming & Reunion Weekend 2022 (September 16–17) to celebrate these outstanding award recipients.

## Alumni Medal

**Jeffrey Denenberg** (M.S. EE '68, Ph.D. '71) was instrumental in developing electronic technology that forever changed our access to radio, ensuring that FM radio could be enjoyed by all. With more than 20 patents, he went on to make important contributions to a variety of technologies that enhanced acoustics and communications. He recently retired as president of DTS, a technology consulting firm that specializes in resolving system and product design issues. A life senior member of the Institute of Electrical and Electronics Engineers, Jeffrey is currently teaching electrical engineering and software at Fairfield University in Fairfield, Connecticut.

**Charlotte Denenberg** (M.S. MATH '70, Ph.D. '73) was a pioneering female in technology leadership at ITT, Southern New England Telecommunications Corporation (SNET), and Metromedia Fiber Network. An early champion of fiber in the network, Charlotte leveraged her roles as chief technology officer and vice president of network technology at SNET to bring the internet to Connecticut by positioning SNET as the first telephone company to be an internet service provider. A member of the Connecticut Academy of Science and Engineering, Charlotte has her own consulting practice that focuses on technology leadership in the telecommunications sector.

Together, the Denenbergs have left a significant bequest to the university to establish undergraduate scholarships; their accomplishments have an enduring impact on current and future Illinois Tech students.

## Alumni Service Award

A dedicated and long-term volunteer, **Bob Hoel** (BE '70) is the incoming chair of the Illinois Tech Alumni Association Board of Directors. After spending 34 years in various capacities at RR Donnelley, he retired in 2004 to become a full-time volunteer. He serves on the Career and Professional Development Committee, Admissions Committee, and Executive Committee as vice chair of the Alumni Board of Directors. Hoel was elected a trustee of the university in October 2018.

## Collens Merit Award

A former chemist for the United States Air Force, **Bob Frey** (CHEM '65) established the chemistry department's first endowed chair through his philanthropic gifts, and has been instrumental in elevating the prestige of Illinois Tech's chemistry department. An avid art collector, Frey has donated several pieces from his private collection to the university, including Entropic Reaction by artist Philip Levine, which is currently on display on the first floor of the Robert A. Pritzker Science Center.

## Galvin Award

**The Grainger Foundation,** which is represented by W.W. Grainger Inc. Vice President and Chief Product Officer Brian Walker, helped to establish the Grainger Computing Innovation Prize at Illinois Tech in 2020. Walker was instrumental in securing funding from The Grainger Foundation to establish the prize, which has become an avenue for Illinois Tech students to distinguish themselves in the field of computing.

## International Award of Merit

A dedicated immigration attorney and community organizer, **Ruth Lopez-McCarthy** (LAW '09) was appointed a senior immigration fellow at the Illinois Department of Human Services in 2021. Lopez-McCarthy was the recipient of the 2019 Honorable Abraham Lincoln Marovitz Public Interest Law Award, the 2020 Hispanic Lawyers Association of Illinois's Latina Lawyer of the Year, and the 2020 Angel Harvey Family Health Center of the Infant Welfare Society of Chicago's Champion for Children Award.

## John J. Schommer Honor I Award

A standout volleyball player at Illinois Tech, **Jackie Sokolowski** (PSYC '05, M.B.A. '14) is currently the chair of the Illinois Tech Athletics Advisory Board, and she has been instrumental in developing the forthcoming Athletics Hall of Fame. Professionally, Sokolowski spent the first decade of her career at Illinois Tech, and currently works at Huron Consulting as a manager in its higher education practice, where she mentors and leads a team of consultants.

## Lifetime Achievement Award

**Roy Sahlstrom** (ME '45) had a successful and illustrious career in mechanical engineering, retiring as president of Belltech in 1990. Sahlstrom has been honored by the American Society of Mechanical Engineers with a distinguished service award, which also made him a fellow in recognition of his excellence in the field. He was formerly a member of the Illinois Tech Alumni Board of Directors, and he served on several alumni reunion committees throughout his life. He died in 2020 at the age of 96.

**Virgil A. Abloh** (M.S. ARCH '06) was an exceptional fashion designer and entrepreneur who was the first person of African descent to lead Louis Vuitton's menswear line. In 2012 he established his own fashion line, Off-White, which is now world renowned. He went on to forge partnerships with brands such as IKEA, Nike, Rimowa, and Planned Parenthood. He was named one of *Time Magazine*'s most influential people in the world in 2018, and often lent his talent to nonprofit causes, including the Little Sun Foundation and War Child. He died in 2021 at the age of 41.

## Outstanding Young Alumnus/ Alumna Award

**Gareth Meirion-Griffith** (Ph.D. MAE '12), 36, is currently the lead for the Lunar Surface Technology Research program element at NASA's Space Technology Mission Directorate. He is responsible for the formulation and execution of an effort to engage United States universities in the development of near-term lunar technologies for the Artemis program. Meirion-Griffith also serves as a fellow in the NASA Innovative Advanced Concepts program.

**Ameena Payne** (BA '15), 32, has won numerous teaching awards and is a fellow of the Australian Higher Education Academy. She is a member of the College of Reviewers and is a peer reviewer for the *Journal of the Higher Education Research and Development Society of Australasia*.

**Dawveed Scully** (ARCH '10), 37, is an associate director and senior urban designer at Skidmore, Owings & Merrill, where he leads complex urban planning projects nationwide. He received the Urban Land Institute Chicago's Young Visionary Award in 2018 and was named to *Crain's Chicago Business*'s 40 Under Forty list in 2020.

## Professional Achievement Award

**Said Al-Hallaj** (Ph.D. CHE '00) was the chief executive officer and co-founder of All Cell Technologies, and he recently founded NETEnergy, LLC, a Chicago-based thermal energy storage company. During his studies at Illinois Tech, Al-Hallaj co-invented a new solution for passive management of heated phase change composite material. He has several issued and pending patent applications in the areas of renewable energy, energy storage, and water desalination. He is also an adjunct professor at Northwestern University and a visiting research professor at the University of Illinois Chicago.

**Jiang Hsieh** (Ph.D. ECE '89) recently retired from GE Healthcare in 2021, where he worked as chief scientist. His work was focused on the development of image reconstruction algorithms that improve the diagnostic accuracy of modern CT imaging systems. He holds more than 250 patents related to CT imaging technologies, and has published more than 300 journal and conference papers.

**Francis Kulacki** (ME '63, M.S. GE '66) is a professor of mechanical engineering at the University of Minnesota. His scholarship has had significant impact in the nuclear reactor heat transfer field; correlations developed by Kulacki and his group have become standard practice at the Nuclear Regulatory Commission. He is a fellow of the American Society of Mechanical Engineers, the American Association for the Advancement of Science, and the American Society of Thermal and Fluids Engineers.

**Mathai Varghese** (MATH '81) is a mathematician and educator at the University of Adelaide in Australia. One of his most influential contributions was to the Mathai-Quillen formalism, which has since found applications in index theory and topological quantum field theory. Since 2009 Varghese has been director of the Institute of Geometry and Its Applications at the University of Adelaide. In 2021 he was awarded the Hannan Medal and Lecture from the Australian Academy of Science and the George Szekeres Medal from the Australian Mathematical Society.

John Olin

PHOTO: NICOLE CALDWELL

# ‘Sparking’ Success at Illinois Tech

## John G. Olin (ME ’61) Wants to Provide a Chance for Everyone to Live the American Dream

At a time when talking about the American dream can seem old-fashioned, John Olin’s life and point of view make a compelling case that the dream is alive and well. Even better, Olin (ME ’61) is committed to making the dream available to everyone, starting with the students at Illinois Institute of Technology.

Because for Olin, Illinois Tech is where it all started. As forward for the Scarlet Hawks men’s basketball team, Olin was only the second Scarlet Hawk to ever score more than 1,000 points over four years, with 1,290 points scored in 66 games from 1957–1961. In that time, Olin also set a new single-game scoring record of 41 points for Illinois Tech. He served as team captain during his second year and earned the nickname “Spark Plug” for his ability to ignite the enthusiasm of his teammates and get the crowd on its feet.

Even more than his physical ability, skillful playing, and talent for leadership, it is this quality—the ability to siphon off his own excess energy to empower the people he cares about—that has defined Olin’s life, career, and philanthropy.

Olin founded Sierra Instruments in 1973 with the pioneering purpose of offering industrial-grade thermal dispersion mass flowmeters to solve the industry’s need for rugged, reliable flowmeters based on the thermal principle. Sierra Instruments was such a success that several of its employees left to start their own companies, competing directly with Sierra and Olin. But Olin wished his former colleagues well and welcomed a little friendly competition.

During this time, he also met and married his wife, Jane, with whom he raised two children, Matt and Erica. Family is more important to Olin than anything else. Sierra was a true family business, where Olin worked side by side with both of his children as co-owners until his retirement in 2019, when Sierra was acquired by TASI Group.

Another place where Olin has lent his considerable talent and energy is Illinois Tech, where Olin is a trustee, a member of the Armour College of Engineering Board of Advisors, and a boisterous booster of the Scarlet Hawks. He received the Alumni Association Professional Achievement Award in 1981 and the Honor I Alumni Award in 1987, and he served as the elected director of the Illinois Tech Alumni Association from 1988–1991.

Olin continues to reinforce his reputation as a “Spark Plug,” energizing others and sharing the spotlight. It was his idea (and his philanthropy) to rename Joe Hakes Court in Keating Sports Center. He has also established the Joe Hakes Student Leadership Endowed Scholarship, the John & Jane Olin Scholarship, and the John G. and Jane E. Olin Endowed Department Chair in Mechanical, Materials, and Aerospace Engineering. In other words, Olin did what he has always done for Illinois Tech, giving everything he can for the good of the team.

In many ways, Olin’s approach to his career, family, and the alma mater that he considers family represents the best that Armour College has to offer. His entrepreneurial mindset and inclusivity echo the founding principles of Illinois Tech. It is because of benefactors like Olin that Illinois Tech is able to double down on its founding mission, driving inclusive innovation for the next generation of Armour College and Illinois Tech students and alumni. —*Joe Giovannetti*

# Gunsaulus | SOCIETY

The Gunsaulus Society is named after Frank Gunsaulus, the first president of Armour Institute of Technology and orator of the famed "Million Dollar Sermon," which led to Armour's founding and eventually, the establishment of Illinois Institute of Technology. The guiding principles set forth by Frank Gunsaulus continue to resonate: belief in the advancement of knowledge, the cultivation of invention, and the importance of preparing students for a life of achievement, service, and fulfillment.

An estate gift to Illinois Tech demonstrates your commitment to the values that were instilled at our founding, which is why we recognize your gift with induction into the Gunsaulus Society, a highly respected group of individuals who, like Frank Gunsaulus, put their beliefs into action for a better future.

## Joining the Gunsaulus Society is easy

Let us know of your intentions to leave Illinois Institute of Technology in your will or if you have named the university as a beneficiary of an asset including your IRA. Did you know that the IRS regards any remaining balance left in your IRA to be untaxed income? There are significant tax advantages to making charitable gifts with your IRA.

If you intend to name Illinois Institute of Technology as a beneficiary of your IRA, notify us, and we will share wire transfer or mail instructions for your plan administrator.


**The SECURE Act changes the required age that you begin to take your required minimum distribution to 72. If you leave your IRA to most non-spousal heirs, they are required to receive the funds over 10 years and to pay income tax.**

**If you are age 70½ or older, you may transfer up to $100,000 annually from your IRAs directly to Illinois Institute of Technology without being subject to income taxes on the distribution. When you reach age 72, it will count toward your required minimum distributions.**

For this and other planned giving questions, please contact us at **312.567.5065** or **giftplanning@iit.edu**.

**Gerald "Jerry" L. Maatman Sr. (FPE '51)**
Gerald "Jerry" L. Maatman Sr., who taught and served as chairman in the fire protection and safety engineering department at Illinois Tech before continuing his career at Kemper National Insurance Company, passed away on December 1, 2021. Maatman, a standout student-athlete who played baseball and basketball at Illinois Tech, worked at the Illinois Inspection and Rating Bureau before returning to his alma mater in 1958, during which time he also served as a fire safety and building codes consultant to the City of Chicago. In 1966 he left the university to take a position at Kemper that focused on loss control through workplace safety, ultimately retiring as chairman and chief executive officer in 1995. Maatman once said his proudest achievement, however, came in 1989 when he helped to create and co-chaired Advocates for Highway and Auto Safety, a coalition of 10 major insurance companies, consumer groups, and auto safety advocates that has lobbied for strict DUI laws and safety features, including mandatory airbags and rollover cages in automobiles and mandatory motorcycle helmets, among other successes.

**Lajos Schmidt (LAW '54)**
Lajos Schmidt, an international law expert and longtime leader at the Baker McKenzie law firm, passed away on November 8, 2021. A Hungary native, Schmidt received a law degree in his birth country and a doctorate in Germany before coming to the United States, where he began working at Baker McKenzie, performing office tasks while pursuing his U.S. law degree at Chicago-Kent College of Law. He spent his career in law at Baker McKenzie, where he served as chairman of the firm's Executive and Policy committees, established offices in Frankfurt and Milan, and opened its Budapest office in 1987, the first Western law firm to establish an office in Central and Eastern Europe. He served as an Illinois Tech trustee, and, from 1980–86, served as chairman of the Chicago-Kent Board of Advisors. Among the many honors that Schmidt received during his lifetime included the Professional Achievement Award from Illinois Tech and the Distinguished Service Award from Chicago-Kent, which also named him among the college's 125 Alumni of Distinction in 2013.

**James Hill Jr.**
James Hill Jr., a highly accomplished certified public accountant and expert financial professional who was a life trustee of Illinois Tech, passed away on December 23, 2021. The first African-American auditor at Alexander Grant & Company, Hill opened his own firm, Hill, Taylor LLC, in Chicago in 1972. His firm eventually merged with Mitchell & Titus, LLP, where he retired as a partner. An engaged philanthropist and community supporter, Hill served a multitude of organizations in and around Chicago, including Illinois Tech, the Chicagoland Chamber of Commerce, the Better Government Association, Citizen Information Service, the Chicago Commons Association, the Economic Club of Chicago, and the Chicago Economic Advisory Committee, and as an adviser to the Rev. Jesse L. Jackson and the Rainbow/PUSH Coalition. For his service to Illinois Tech, Hill received the Galvin Award in 2021, the highest honor the university gives to non-alumni.

**Virgil A. Abloh (M.S. ARCH. '06)**
Virgil A. Abloh, a multi-hyphenate designer who studied architecture at Illinois Tech, passed away on November 28, 2021, at the age of 41 after a two-year battle with cardiac angiosarcoma. Abloh—whose work spanned fashion, furniture, music, and art, among other creative disciplines—was one of the most notable designers of his generation. He founded his design label, Off-White, in 2012, and was named men's artistic director at Louis Vuitton in 2018, becoming the first African American to take on the role. He is often credited with bringing streetwear to high fashion, while simultaneously paving the way for a more diverse and inclusive fashion industry. Abloh regularly cited how influential studying in S. R. Crown Hall was to him, returning to the famed campus building to direct photoshoots for Off-White and Louis Vuitton, and, in 2019, he installed a Ludwig Mies van der Rohe-inspired lightbox adjacent to the building's south stairway to promote his collaboration with Nike.

## In Memoriam

**Alumni**
Raymond O. Nerhus ME '43
Thomas F. Heneghan ME '44
Sumner M. Fineberg DSGN '48
Robert M. Kelliher ARCH '48
Byron L. Garoufalis PHYS '50, MATH '51
Stanley J. Goslovich EE '50
D. James Fitzhugh CE '51
Leslie J. Laskey DSGN '51
Gerald "Jerry" L. Maatman Sr. FPE '51
Moses Richard Schultz DSGN '51
Ted A. Erikson CHE '52, M.S. CHEM '59
Harris Walter Fawell LAW '52
Thomas Houser CHEM '52
Richard K. Johnson CE '52
Donald V. Vesely ME '52
Nancy E. Waterman HE '52
Richard K. Hoffman LAW '53
Herbert Bruce Keil LAW '53
James H. Downing Ph. D. CHEM '54
Harvey Heinz Happ EE '54
Joseph L. Jenista CHEM '54, M.S. ENVE '84
Frank E. Kalivoda ME '54, M.S. MAE '58
Vito Re EE '54
Lajos Schmidt LAW '54
Ronald B. Diamond MET '55
Albert M. Sciaky EE '55
John R. Munson ARCH '57
Robert T. Ruff LAW '57
Hubert J. Tremblay EE '57
Frank A. Berczynski ME '58
John S. Ford DSGN '59
Jovo Martich ME '59
Robert John Thomalla BE '59
David J.A. Hayes LAW '60
Frank R. Fitzgerald IE '61, M.S. MGT '76
Thomas F. Harrington EE '61
John E. Heilman FPE '61
Alan R. Hirsig CHE '61
Richard W. Piecuch ME '61
Laird A. Scott DSGN '62
Jerome I. Sharff BE '62
Lawrence H. Siebers Ph.D. PSYC '62
Kenneth R. Anderson PS '63
Robert Denes M.S. ME '63
Edmund G. Linkenheld ME '63
Mark A. Mass ME '63
John E. Moorshead CHE '63, M.S. BA '70
James J. Poremba EE '63
Richard Charles Medley ME '64
Arthur E. Molzan IE '64
Richard R. Becker EE '65, M.S '68
John K. Cook MATH '65
Mitchel W. Panek ME '65
F. Bruce Westgate ARCH '65
Fernando B. Beltran M.S. EE '66
Neil B. Johnson EE '66
William McGee MATH '66
S. Jeffery Garfield Ph.D. PSYC '67
Steven J. Buroff EE '68, M.S. '69, Ph.D. CS '77
Clarence E. Chleboun MAE '68
Avelino P. Rochino M.S. MAE '68, Ph.D. '71
Reza Ahmari M.S. EE '69, Ph.D. '72
Frank John Doti LAW '69
Richard R. Wacherlein M.S. REHC '69
Evans Kostas MAE '70
Michael T. McMurray BE '70, M.S. BA '78
Utkan Salman ARCH '70
Edith S. Taber Ph.D. PSYC '70
Frank G. Cavazos M.S. IE '71
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# Take Five

**Nancy Kim** is a professor of law at Chicago-Kent College of Law and the Michael Paul Galvin Chair in Entrepreneurship and Applied Legal Technology. Her research focuses on consent, contracts, privacy, and the effect of technology on society.

**Q: What was the inflection point where it became apparent that our online world would be a sort of "wild west" in terms of regulation?**

**A:** It started off [as] the wild west, and there was a lot of idealism that surrounded the idea of an unregulated internet. In that environment, Congress passed Section 230 [part of the Communications Decency Act], which attempted to balance the ideals of the free internet—the free flow of information, greater communication—with the realities of what was being posted online, which even then wasn't always truthful and was often harmful and cruel. Unfortunately, I think the courts interpreted Section 230 too broadly so that it became a way for companies to avoid liability for any content posted by third parties.

**Q: What, in your opinion, has been the most troubling issue that's popped up as technology continues to take a bigger and more substantive role in our lives and society?**

**A:** I like to make a distinction between technology and "big tech," or social media and the internet, because technology is wonderful. The general term "technology" means more than social media; it also captures advances in medicine, in energy, and so much more, and so technology in general is positive, progressive, and benefits society. As far as social media companies, however, it's a different story. Social media companies are essentially marketing and advertising companies, and this has affected both the type of content available and the audiences for that content.

**Q: As a consumer, you no doubt see many "I agree" consent buttons online. But as an attorney, what goes through your mind when you see those buttons?**

**A:** It's hard to separate the two. I'm a consumer, but I'm also an attorney and a scholar looking particularly at the issue of how terms of service affect society. It does register with me. That's different from the way I might think if I hadn't been studying online terms of service, in which case I'd probably ignore them. Often, I do quickly click on the link to check to see if there's anything odd about the terms.

**Q: What are a couple of steps that someone can take to better educate themselves when engaging online?**

**A:** Assume the worst. That sounds awful but seriously, the terms probably are the worst possible for you. They're not there to protect you, they're there to protect the company. Most of the time, the law, by default, protects consumers, but the company imposes terms of service, which take those protections away.

**Q: Technology can provide great benefit to us, but there are loopholes that can be taken advantage of. What are the steps we can take to create more good stewards of technology?**

**A:** The #1 thing that we should remember that we too often forget is that technology serves us, or should anyway. It's a tool for us human beings to use. Technology should benefit humanity—and often it does, like with the mRNA technology that saved a lot of lives. Unfortunately, the subset of companies that the media refers to as "tech" companies doesn't always serve us or society, and that's because their business model is one where humans are merely "data" that they monetize and commodify.

Nancy Kim

PHOTO: DAVID ETTINGER

# Before You Go

Despite temperatures hovering below freezing outside, the competition heated up inside Keating Sports Center on March 12 for the semifinal and final games of Illinois Tech Recreation Sports and Fitness's Cricket League. Restarted four years ago along with the IIT Cricket Club by Rishi Shukla (CS 4th Year) and Rishi Shah (ARCH 4th Year), the Cricket League provides Illinois Tech students from around the world with the opportunity to gather and compete in a sport many grew up playing. "The first ball I remember picking up was a cricket ball," Shukla says. "[Cricket] has been with us since we grew up. People in the U.S. maybe have a basketball [hoop] in their backyards. We all had this bat and ball."

Photo by David Ettinger

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For more information and schedule updates, visit **iit.edu/homecoming.**