RIT

University Magazine

Spring 2021

Rochester Rising

RIT is helping make Rochester a next-generation technology hub

Welcome to Rochester: A renaissance with RIT
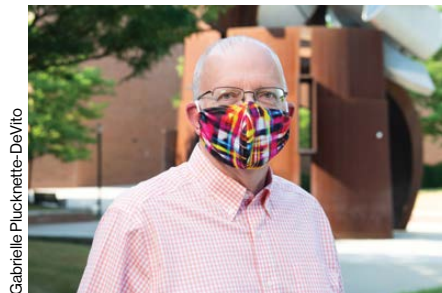
Gabrielle Plucknette-DeVito

If Chester Carlson, George Eastman, Kate Gleason, and Henry Lomb could see Rochester today, these inventors and pioneers would want to invest in our resurging region.

More than 70 percent of our 136,000 alumni live away from greater Rochester. Yet they often ask about the economic health of the region. Whether our alumni live in tech hubs like Silicon Valley or Boston, or overseas in Croatia or India, they still have a fondness for the Finger Lakes region.

My elevator speech is that Rochester has a new economy and RIT is helping to drive it to new heights. Today, there are more people employed here than were employed by the "Big Three"—Kodak, Xerox, Bausch & Lomb—combined in their heyday, up 30,000 to a workforce of 537,000. And the local economy is more diversified, with 97 percent of the Rochester region workforce employed in companies of 100 employees or less.

When we look back at the past, it should be with excitement rather than wistfulness, for we have been given an amazing legacy that includes everything necessary for major success in a new era that now is in full swing.

The region has an extraordinary abundance of assets that position us to be an entrepreneurial powerhouse. We not only have the intellectual talent and major university partners that forward-looking companies require, but we also have inherited an exceptional quality of life thanks to an impressive cluster of cultural organizations, unparalleled natural resources, and a resilient and welcoming spirit of community.

Higher education is a major driver in our regional economy and quality of life, where the sector is a source of new knowledge, technology transfer, workforce development, and service to the community. We have an impressive cluster of 19 public and private colleges throughout the greater Rochester region. Collectively, we enroll 83,000 students and award 19,000 degrees each year. We are one of the most academically productive regions in the country, ranking third in college degrees per capita and No. 1 for degrees in STEM fields, according to the U.S. Department of Education.

Did the COVID-19 pandemic slow Rochester down? Quite the opposite. Greater Rochester Enterprise, the organization responsible for recruiting companies to the area, had a banner year benefitting from record capital investments and adding thousands of new jobs across various business sectors. This includes optics, photonics and imaging, food and beverage, advanced manufacturing, energy innovation, and e-commerce.

We also are harnessing this vibrancy for our students. There is a new vision for Rochester's 30-story former Xerox Tower that will transform the office complex into student housing and a business innovation hub. Innovation Square, a project recently announced by Gallina Development, will draw upper-level and graduate students from area colleges and universities. Several renovated floors are expected to open this summer.

RIT's talent is a key ingredient in this resurgence. Rochester has the capacity and resources to surpass its former glory, just in a different way. Watch us grow!

Yours in Tiger and Rochester pride,

Dave

David C. Munson Jr., President
munson@rit.edu
Twitter: @RITPresident

P.S.: The Imagine RIT: Creativity and Innovation Festival is being held virtually on Saturday, May 1. View the exhibits the day of or any time after at rit.edu/imagine.

RIT

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Jim Montanus

Cover
Move over, Silicon Valley. Rochester can be the next American technology hub, and RIT is helping drive the innovation.

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Protecting the Future See what's inside the new global cybersecurity complex on campus.

Elizabeth Lamark

Dean Yong "Tai" Wang looks to grow the College of Health Sciences and Technology in all directions.

A. Sue Weisler

Meet the new health sciences dean

RIT's College of Health Sciences and Technology began the year under new leadership with Dean Yong "Tai" Wang.

Wang joined RIT in January from the University of Texas at Tyler, where he was dean and endowed chair professor of the Drs. Lee Roy and Lucy Mathis College of Nursing and Health Sciences.

His research focuses on rehabilitative biomechanics related to wheelchair locomotion and Tai Chi exercise. Now at RIT, Wang looks forward to connecting the health sciences and technology to create new health care solutions, and new degree programs. Here, Wang shares his ideas.

What excites you about RIT?
The reputation of RIT and the uniqueness of the college. There are not many colleges like this in the United States that combine health sciences and technology. I think the college has great potential to grow.

The College of Health Sciences and Technology grew from the RIT and Rochester Regional Health Alliance. What opportunities do you see through this strategic partnership?
RIT is interested in developing a Doctor of Physical Therapy program and Rochester Regional Health would like to provide the clinical site. It is one of the hot programs in health professions. The American Association of Physical Therapy required every Master of Physical Therapy program to convert to Doctor of Physical Therapy by 2020.

I was a professor of physical therapy for 16 years. I have experience through the whole process of converting the program from BS to Master of Physical Therapy, then to Doctor of Physical Therapy. I hope to develop a similar program at RIT in the future. The Doctor of Physical Therapy will be my first project.

I understand you are a Tai Chi master. How does Tai Chi inform your research?
Tai Chi is my passion. It is a mind-body exercise and a combination of breathing and graceful movement. In Tai Chi, both hands are moving in opposite directions. It's called the yin and yang balance.

Tai Chi is one area of my research in the past 20 years. I taught Tai Chi as a therapeutic exercise for Doctor of Physical Therapy students at Georgia State University.

I measured students' physical and mental health at the beginning and end of the semester and published a paper in the *American Journal of Chinese Medicine*. It is one of the most cited Tai Chi studies.

Then I started to develop wheelchair Tai Chi with funding from Paralyzed Veterans of America and from the National Institute of Disability and Rehabilitative Research. I think I am one of the leading persons doing wheelchair Tai Chi in the United States. Then I started to look at Tai Chi for cognitive issues, such as cognitive impairment or Alzheimer's disease.

What would you like students and alumni to know about you?
I am a dean and also a professor. When I was dean at the University of Texas at Tyler, I met with students several times a semester to hear what they needed to be supported.

The ultimate goal is student success. We talk about student success in terms of recruitment, retention, and graduation. I think we should add another one, as we did at UT Tyler, called job placement.

We had a person in the college called a career success coach to help students prepare their résumés, prepare for interviews, and find jobs. I would like to do some similar things to help students.

Susan Gawlowicz '95

Retired VP leaves indelible mark on university, Greater Rochester region after 41 years

Debbie Stendardi, who retired as vice president of Government and Community Relations at the end of 2020, leaves an indelible mark on RIT and the Greater Rochester region.

Stendardi, who began working at RIT in 1979, stepped down from a university that has ascended to a world-class research institution and a major economic development force during her tenure.

During that time, she built strong, long-term relationships with top political and business leaders, who praised Stendardi for her unstinting efforts on behalf of the university, RIT students, and beyond.

Among her many accomplishments, Stendardi advocated for financial aid programs to enable more students to benefit from an RIT education.

She helped secure funding for groundbreaking initiatives, including Golisano Institute for Sustainability, MAGIC Spell Studios, the AMPrint Center for Advanced Technology, and most recently, the Global Cybersecurity Institute.

Donald J. Truesdale, chairman of RIT's Board of Trustees, called Stendardi "an ever-present force of nature in support of RIT."

"She has established and led countless campus activities that are now signature functions of the university, including creation of the *RIT University Magazine* and Brick City Homecoming and Family Weekend. It is hard to imagine an RIT without Debbie."

Stendardi also was a vital contributor to countless Finger Lakes Regional Economic Development Council's activities, Greater Rochester Enterprise, and other economic development entities in the region.

"I would like to be remembered as a collaborator who worked well with others across the university and the community, and who looked to bring people together to achieve mutual goals," Stendardi said. "The role that RIT plays as an economic driver in the region and the respect and esteem it engenders makes me feel truly privileged to have had the opportunity to serve the university for these 41 years."

Vanessa J. Herman, a higher education veteran who was serving as assistant vice president for government and community relations at Pace University, was chosen to succeed Stendardi after a national search.

Read more about Stendardi, as well

Debbie Stendardi retired as vice president of Government and Community Relations at the end of 2020.

as what political leaders had to say about her career, at bit.ly/RITStendardi.

Rich Kiley

NTID program addresses need for interpreters of color

Addressing the need for diverse representation in the sign language interpreting profession is the goal of a highly successful program at RIT's National Technical Institute for the Deaf.

The Randleman Program, a two-year preceptorship that focuses on intersectionality and inclusion of interpreters from underrepresented minorities, aims to equip interpreters of color who are newer to the field for the demands of interpreting in a postsecondary environment, while simultaneously increasing diversity representation.

The program accepted its inaugural cohort of protégés in January 2019 and continues to expand each year.

Named for Valarie Randleman, the first Black interpreter in RIT/NTID's Department of Access Services, the program strives to reflect Randleman's qualities of humility, service, dedication, and support for others.

"The interpreting field is white-dominated at nearly 90 percent, which makes experiences like those offered with the Randleman Program unique," said Kristi Love, program coordinator. "It is rewarding and inspiring to see firsthand the personal and professional strides participants make, while at the same time contributing to advancing the field of interpreting."

Vienna McGrain '12 MS

Valarie Randleman was the first Black interpreter in RIT/NTID's Department of Access Services.

Students learn supply chain management by solving

The impact of COVID-19 on national and global supply chains has dominated discussions in boardrooms and at dinner tables since the beginning of the pandemic. From meat and toilet paper shortages in grocery stores, to significant lapses in life-saving personal protective equipment in hospitals and clinics, the world has witnessed how supply-chain disruptions halt progress.

But while this unprecedented global health crisis has created many challenges, it has also presented RIT faculty, and students like Brendan Green, with opportunities to apply theoretical supply-chain scenarios to solve real-world problems.

For several months, Green, a graduate student in RIT's global supply chain management program, has been a supply chain specialist for University of Rochester Medical Center (URMC), managing order placement, shipping, and receiving. He is also part of the effort to streamline PPE ordering from URMC's affiliates, including hospitals and urgent care facilities, with a new web application.

As part of his work, Green keeps current with ever-changing guidelines, regulations, and supply-chain constraints, and ensures that URMC clinics and hospital locations have PPE in the right place, at the right time, and for the right price.

"Through my combined classroom and work experiences, I've learned that hospitals have been under pressure to manage purchasing, inventory, and distribution of big commodity items like gloves, masks, and gowns," said Green, who is from Penfield, N.Y. "This project is developing the platform that will deal with the outside pressures in this market."

Assistant Professor Steven Carnovale leads RIT's graduate supply chain degree offerings and teaches the undergraduate supply chain management capstone course, which is part of the undergraduate supply chain degree program, a future-focused new economy major.

Together with his colleagues, Carnovale has tweaked the curriculum to reflect how to coordinate the balance of inbound and outbound materials, how manufacturers have had to move facility operations to domestically based operations, and how companies are reconsidering sourcing decisions in the midst of COVID-19.

In fact, RIT's supply chain graduate program was recently revised as STEM-designated degrees using 21st-century data-driven techniques and decision making to

real-world problems

A. Sue Weisler

generate practical, managerial results.

"At the point when COVID-19 became a global phenomenon, I was able to relay to our classes how supply chain is the epicenter when it comes to sourcing, manufacturing, and distribution. Everything is interrelated," said Carnovale, who teaches Green's Supply Chain Analytics course. "COVID-19 has induced a bull-whip effect where manufacturing decisions, the demand for supply, and disorganization have resulted in one of the most common problems in supply chain management—a failure to fulfill orders on time, and in full."

Carnovale also said that although Green's real-world example uses PPE as the "goods," mathematical modeling and analytical techniques allow students to substitute PPE for books, shirts, eggs, milk, or any product that a supply chain is tasked with fulfilling.

"We don't teach sophisticated random guessing. When our students and graduates speak with their managers, they won't say, 'I think we can probably save the company $10,000. Instead, they will be able to say, 'If we do this, this, and this, we will save this much. And here's the proof.'"

Green is also learning to roll with the supply-chain punches and respond in ways that will create solutions. "You think you're shored up with a supplier, but they call with a logistics issue. You have to go back to the drawing board. Then the government comes up with new guidelines. I'm learning how to handle a constantly shifting environment."

Prior to URMC, Green had worked for a local small business and always enjoyed the operational side of the business. His fascination with how goods flow from company to company and move throughout the

world fueled his passion for supply chain.

"This has been a very challenging time for everyone, including URMC, but it has also been a great learning experience at work and in the classroom," said Green. "I just love seeing this process go from zero to where we need it to be. From inventory to logistics to distribution, I love being in touch with so many areas of supply chain management. It's a wonder to me."

As for Carnovale, he believes in the power of real-world corporate learning.

"This is a program where the rubber meets the road. We are giving our students a toolbox equipped with multiple ways to solve the problems that they will inevitably face. We teach them how to be the 'Ace Hardware' of supply chain."

Vienna McGrain '12 MS

Pancy Lwin, a mathematical modeling Ph.D. student from Myanmar, received an NSF INTERN award to work at IBM Research Almaden developing models that study the interplay of structure, statistical mechanics, and mechanics in biological systems.

A. Sue Weisler

Ph.D. students complement academic

Pancy Lwin sits about 2,700 miles from IBM Research Almaden, but she is helping scientists there develop methods to model how antiviral treatments impact the spread of flu-like viruses, including COVID-19.

Lwin, a mathematical modeling Ph.D. student from Myanmar, received an NSF INTERN award to work at IBM Research Almaden, based in San José, Calif., developing models that study the interplay of structure, statistical mechanics, and mechanics in biological systems.

Although the pandemic prevented her from doing the internship in person, she has been working remotely under the guidance of Barbara Jones, an expert in the area of theo-

retical condensed matter and statistical physics who leads theoretical and computational physics work at IBM Research Almaden. Lwin's graduate advisor, Associate Professor Moumita Das, has collaborated with Jones on previous projects and made the connection, so Lwin seized the opportunity to complement her academics.

"Being a part of this project is awesome, honestly," said Lwin. "It's a very hot topic and we're taking a theoretical approach to solving it. Biophysics is very complicated because you have interconnected processes in a biological system happening at micro and macro levels, but I'm hoping to help make some important findings."

Undergraduates aren't the

only students taking advantage of RIT's co-op and internship program. Across the university, Ph.D. students are securing prestigious work experiences like Lwin's to provide important gateways to careers in industry, foundations, and government.

Interdisciplinary internships outside of RIT are a required component of Lwin's Ph.D. program. She began her internship in February and will continue through August. Upon completion, she's hoping to have a new set of skills to supplement those she is developing while working on her dissertation, as well as a better sense of opportunities that exist in industry.

Establishing those professional connections is important because more than 80 percent

of RIT's Ph.D. alumni go on to work in such settings rather than academia, estimates Twyla Cummings, RIT's associate provost and dean of Graduate Education.

"I think our students bring a fresh and interesting perspective to these entities and there's a clear benefit for both parties," said Cummings. "It helps our students answer the question, 'Is this really what I want to do?' Or they gain some additional insight and experience that helps them shape not only their research for their dissertation, but also for their future."

Data from the Office of Career Services and Cooperative Education shows that over the past five years, 84 Ph.D. students have formally reported com-

Olivia Kuzio completed a yearlong co-op at the Getty Institute for Conservation and two summer co-ops at the Smithsonian Museum Conservation Institute while pursuing her Ph.D. in color science.
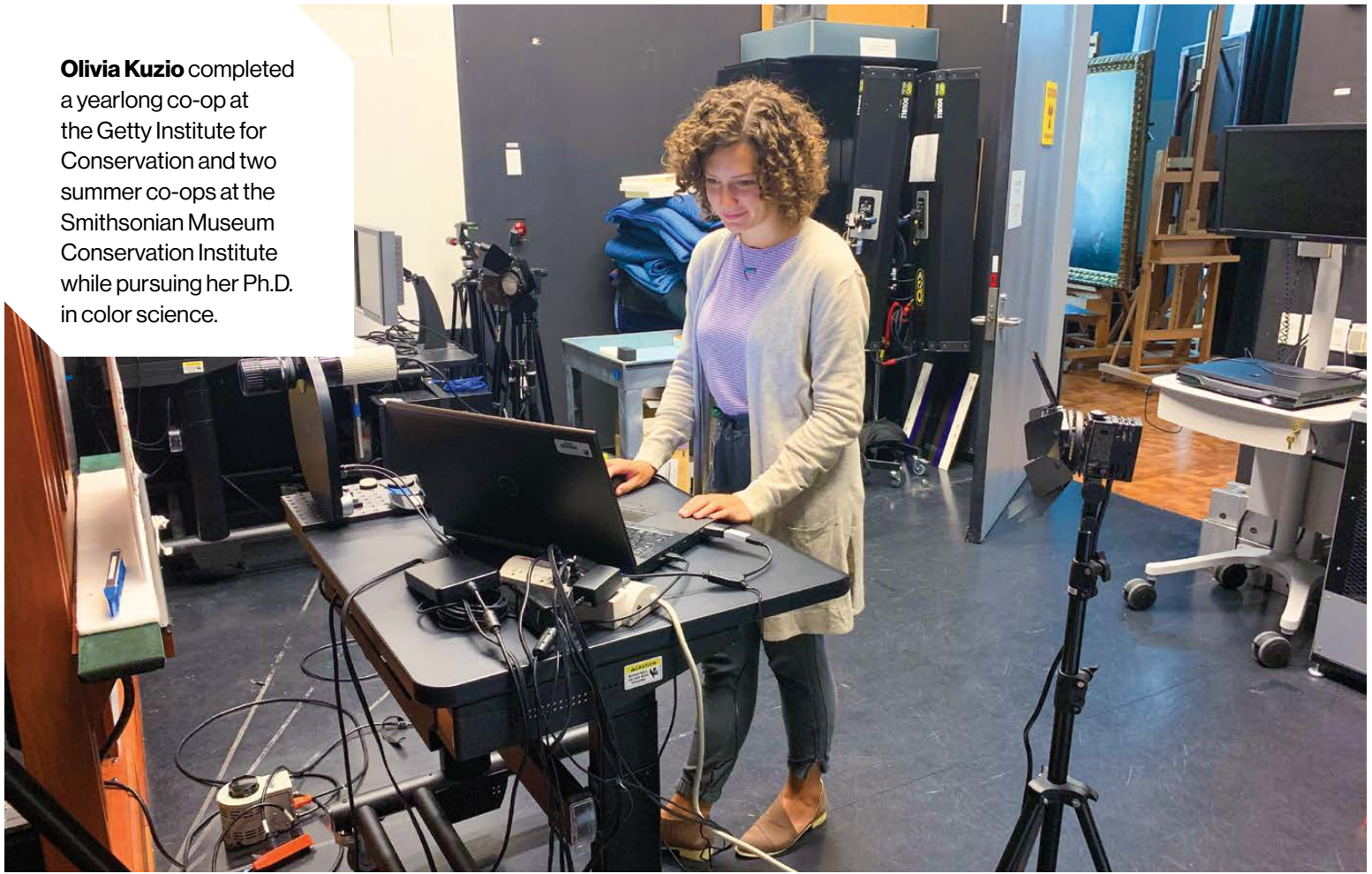
Douglass MacLennan

research with internships and co-ops

Gabrielle Plucknette-DeVito

Twyla Cummings, RIT's associate provost and dean of Graduate Education.

pleting 161 co-op placements at 90 employers. But that count is likely lower than reality because co-ops and internships are optional for most Ph.D. programs.

Olivia Kuzio recently completed her third co-op while pursuing her Ph.D. in color science, a program where co-ops are optional. She previously spent two summers on co-op with the Smithsonian Museum Conservation Institute in Washington, D.C., and in the fall she finished a yearlong co-op at the Getty Conservation Institute in Los Angeles.

In her co-op at the Getty Conservation Institute, Kuzio used analytical techniques to answer technical questions about artworks that conservators were working on restoring or stabilizing and that curators were thinking about putting in shows.

She said one of her favorite projects she worked on was a group of color studies from the Bauhaus in the early 20th century because of its focus on the art and science of paint mixing, and how the human visual system interprets color mixtures.

Another highlight was using imaging techniques on a 16th-century painting by Hans Holbein the Younger to reveal hidden features in the paint layers beneath the painting's surface, which provided never-before-seen details about the artist's creative process.

Kuzio credited her department's faculty with providing Ph.D. students support to explore opportunities like these.

One of her advisors, Professor Roy Berns, had previously gone on sabbatical and worked with the technical studies research team, saw the opening, and encouraged her to apply.

Kuzio said her co-op experiences have helped shape her career aspirations. She hopes to continue to work in the field of conservation science with the goal of working in a lab or studio affiliated with a museum.

"I've been so fortunate, I've learned a lot, and I feel like my knowledge speaks for itself," said Kuzio. "I learn so much here on campus in my research, but it's so enriched by the experiences I've had at the museums I've worked at."

Luke Auburn '09, '15 MS

Recharging and doing good

Students within RIT's two hospitality clubs and the Eta Sigma Delta honor society used one of three Recharge Days to bake and deliver cookies to first responders in Rochester. The spring semester featured three recharge days for students to take a break from classes and studying. Other activities included a trip to a maple syrup farm, an e-sports tournament, rock painting, and hikes. Ndidi Chimah, a second-year hospitality and tourism management major from Baltimore, Md., who is pictured here, hopes the initiative will encourage others to give back to their communities.

Improving health
The smart toilet seat , developed by Casana, strives to make it easier for clinicians to monitor patients with congestive heart failure in the comfort of their own homes.

Toilet seat technology
Equipped to measure the electrical and mechanical activity of the heart, the smart toilet seat can also monitor heart rate, blood pressure, and blood oxygenation levels.

Alumni join forces to market smart

Alumnus Nick Conn's vision for a one-of-a-kind smart toilet seat that will improve the health of people around the world has made giant leaps toward becoming a reality with the help of one of RIT's most generous patrons.

Gene Avallone

RIT alumnus Nick Conn '11, '13, '16 developed the smart toilet seat when he was a student, along with Professor David Borkholder.

Casana, the company formerly known as Heart Health Intelligence created by Conn, received $14 million in funding to further the development of a toilet seat-based cardiovascular monitoring system. Joining the Casana leadership team as CEO is Austin McChord '09, founder of Datto Inc., who in 2017 donated $50 million to RIT, the largest gift in the university's history.

With 1 million new cases of congestive heart failure diagnosed each year, the revo-

Oliver Thorn

Joining the Casana leadership team as CEO is Austin McChord '09, founder of Datto Inc.

lutionary product hopes to make it easier for clinicians to monitor patients with the condition in the comfort of their own homes, as well as lower hospital readmission rates. The toilet seats are equipped to measure the electrical and mechanical activity of the heart and can monitor heart rate, blood pressure, blood oxygenation levels, and stroke volume.

Algorithms analyze the data and will notify advanced practice providers of health parameters outside of the set range. A report, passed along to cardiologists, will help determine if intervention is necessary.

According to Conn, who earned three degrees from RIT—a bachelor's degree and a master's degree in electrical engineering in 2011 and 2013, respectively, and a doctoral degree in microsystems engineering in 2016—the toilet seat will be soon entering the clinical trial phase as part of the FDA clearance process. The first human subject testing will be conducted internally at the company's headquarters in Rochester, at the University of Rochester Medical Center, and

at The Villages active adult community in Florida.

"Right now we are polishing the product," Conn said. "I am able to focus on where I can provide the most value, which is enhancing the design and capabilities of the product and tweaking the technology. With Austin at the helm of our leadership team, we are able to produce a fantastic product that will work as intended every single time, and Austin can focus on continuing to raise capital, building partnerships and connections, and marketing the toilet seat. We all complement each other so well."

McChord first met Conn in 2018 during an RIT visit and was impressed with the toilet seat technology that he developed. McChord kept up with Conn's progress, and in 2020, when the world changed due to the pandemic, he realized that it was the right time to express his intentions to help bring the toilet seat to market.

"Nick is a brilliant scientist and the toilet seat is his life's work. You cannot find anyone in the world more passionate about toilet seats than Nick," said McChord. "But the process of turning an idea into an actual industry, into a company that is going to be impactful, is really hard. I've been down that road. I knew that I could help him, and Nick was down for that. We are growing fast and are moving fast to make this a reality."

Following the $14 million investment, McChord brought on a team of "excellent operators" from his time at General Catalyst and Datto. In a matter of a few months, the company grew from four to 25 employees, including the addition of RIT Professor David Borkholder, a full-time member of the Casana leadership team. Borkholder was instrumental in helping Conn develop the

toilet seat

project at RIT.

McChord said the FDA clearance, once reached, will be the first of its kind since there are no other smart health monitoring toilet seats in production in the world.

"We have to prove to the world that our product does what we say it does," he said. "Proving that is very expensive, which is why we made such a major investment. But we will have a truly unique position in the market and we are already several years ahead of any potential competition."

McChord said he is drawn to ideas in "unsexy spaces that no one is paying attention to." He was interested in this idea because not many people in the world are paying attention to toilet seats and data backup.

"These areas that are overlooked are actually really fascinating spaces," he added. "Outsiders who bring a fresh look at an existing space have a good chance at disrupting it—and those are the things that I get most excited about."

Conn, who has wanted to be an electrical engineer and entrepreneur since he was 11 years old, believes that everything in his life has led to this particular adventure.

"The combination of an invention that offers huge impact, cool technology, and a 'wow factor' is everything that I've ever dreamt of," said Conn. "I just thought it would take a lot longer to get to this point. I'm so excited that every day I get to work with a phenomenal team that is here to support me, which is the wildest part of it all. I am possibly the most blessed person in Rochester. My dream is happening and it's happening at the highest level possible."

Vienna McGrain '12 MS

casana

About the name
The name Casana, according to founder Nick Conn, means "healthy home" in Italian. Casana was formerly called Heart Health Intelligence.
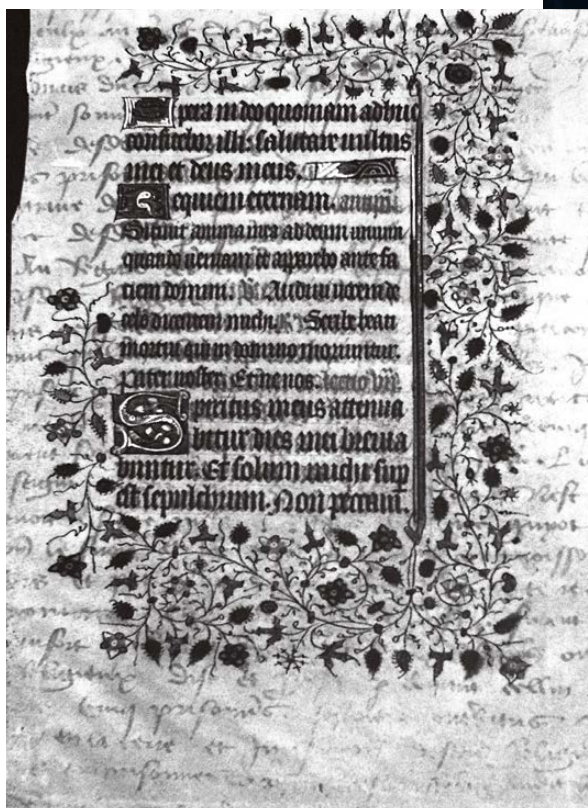
By using ultraviolet-fluorescence imaging, RIT students revealed that a 15th-century manuscript leaf held in RIT's Cary Graphic Arts Collection was actually a palimpsest, a manuscript on parchment with multiple layers of writing. The image on the left shows the document as it appears in visible light, while the image on the right was produced by the student-built imaging system.

Students discover hidden 15th-century

RIT students discovered lost text on 15th-century manuscript leaves using an imaging system they developed as freshmen.

By using ultraviolet-fluorescence imaging, the students revealed that a manuscript leaf held in RIT's Cary Graphic Arts Collection was actually a palimpsest, a manuscript on parchment with multiple layers of writing.

At the time the manuscript was written, making parchment was expensive, so leaves were regularly scraped or erased and re-used. While the erased text is invisible to the naked eye, the chemical signature of the initial writing can sometimes be detected using other areas of the light spectrum.

"Using our system, we borrowed several parchments from the Cary Collection here at RIT and when we put one of them under the UV light, it showed this amazing dark French cursive underneath," said Zoë LaLena, a second-year imaging science student from Fairport, N.Y., who worked on the project. "This was amazing because this document has been in the Cary Collection for about a decade now and no one noticed. And because it's also from the Ege Collection, in which there's 30 other known pages from this book, it's really fascinating that the 29 other pages we know the location of have the potential to also be palimpsests."

The imaging system was originally built by 19 students enrolled in the Chester F. Carlson Center for Imaging Science's Innovative Freshman Experience, a year-long, project-based course that has the imaging science, motion picture science, and photographic sciences programs combine their talents to solve a problem.

When RIT switched to remote instruction in March 2020 due to the coronavirus outbreak, the students were unable to finish building it, but thanks to a donation from Jeffrey Harris '75 (photographic science and instrumentation) and Joyce Pratt, three students received funding to continue to work on the project over the summer.

Those three students—LaLena; Lisa Enochs, a second-year student double majoring in motion picture science and imaging science from Mississauga, Ontario; and Malcom
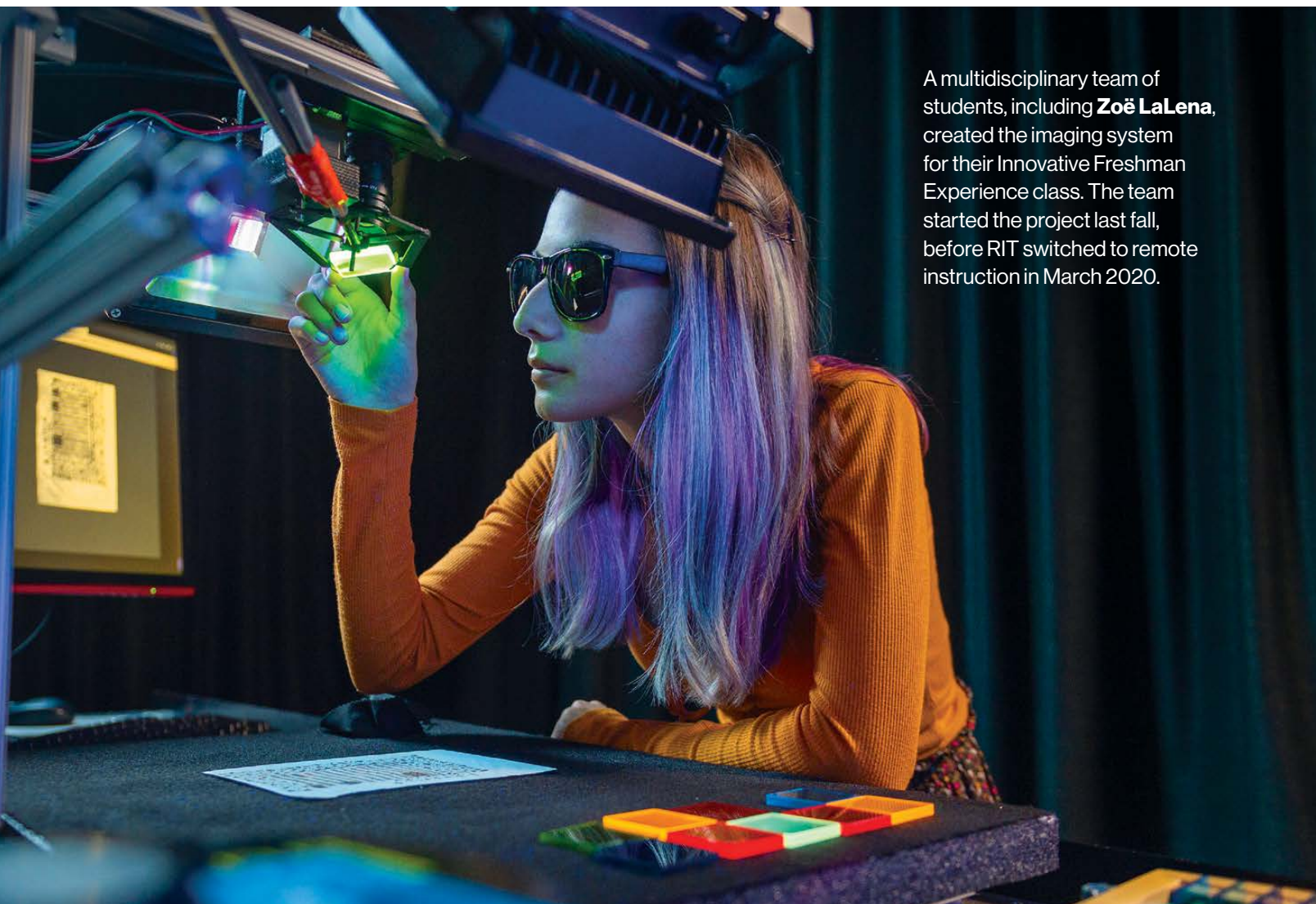
A multidisciplinary team of students, including **Zoë LaLena**, created the imaging system for their Innovative Freshman Experience class. The team started the project last fall, before RIT switched to remote instruction in March 2020.

text on medieval manuscripts

Zale, a second-year motion picture science student from Milford, Mass.—finished assembling the system in the fall when classes resumed and began analyzing documents from the Cary Collection.

Steven Galbraith, curator of the Cary Graphic Arts Collection, said he was excited they discovered the manuscript leaf was a palimpsest because similar leaves have been studied extensively by scholars across the country, but never tested with UV light or fully imaged.

Collector, educator, and historian Otto Ege made leaf collections out of medieval manuscripts that were damaged or incomplete and sold them or distributed them to libraries and special collections across

North America, including to the Cary Collection. Galbraith said he's excited because it means that other institutions with Ege Collection leaves now may have palimpsests in their collection to study.

"The students have supplied incredibly important information about at least two of our manuscript leaves here in the collection and in a sense have discovered two texts that we didn't know were in the collection," said Galbraith. "Now we have to figure out what those texts are, and that's the power of spectral imaging in cultural institutions. To fully understand our own collections, we need to know the depth of our collections, and imaging science helps reveal that to us."

The students are interested to see if more

manuscript leaves from Ege collections across the country are palimpsests. They imaged another Ege Collection leaf at the Buffalo and Erie County Public Library that turned out to be a palimpsest and are reaching out to other curators across the country. As they begin stitching the lost text back together, paleographers can examine the information they contain.

The students have been selected to share their results at the 2021 International Congress on Medieval Studies. The project also was featured in stories by the *Daily Mail, Ars Technica, Smithsonian Magazine,* Mashable, and more.

Luke Auburn '09, '15 MS

Students work on the design process for the Dreadnoughtus tail with help from James Whritenor, the project team's faculty guide.

Students Joseph Samuelson, left, and Ryan Kent adjust the model tail and the electronic sensor pad to assess the impact of the tail as it moves.

Senior design program
results in more

Students in RIT's Multidisciplinary Senior Design program are building a robotic model of a dinosaur tail and sustainable water systems for developing countries.

They are developing a training system for lacrosse goalkeepers and collaborating with space engineers on rocket launches.

"These are more than 'I've got an idea for nifty-widget projects,'" said Beth DeBartolo, director of Multidisciplinary Senior Design. "These projects are creating value, whether for a company, an individual in the community, or RIT. Some teams are even considering filing patent applications."

Multidisciplinary Senior Design is a required, two semester, design-based course for engineering students. Currently, more than 400 students are working on 80-plus projects.

The course, which started in 2002 as a pilot program in engineering, today features innovative tracks such as sustainable designs, assistive technologies, and aerospace systems, and includes students from other RIT colleges.

Ideas for projects come from companies, community agencies, faculty-researchers, alumni, and the students themselves. Students returning from co-ops have initiated projects specific to work they did while at companies, and companies in turn sponsor the work.

A team can spend as many as 1,200 person-hours over two semesters developing working prototypes, ready-to-implement devices, process improvements, or system software.

"As a Kern Entrepreneurial Engineering Network (KEEN) partner school, we are committed to instilling an entrepreneurial mindset within our students," said DeBartolo. RIT has been a part of KEEN, a national initiative to advance undergraduate engineering education, since 2019.

"This capstone experience gives our seniors a chance to showcase their curiosity and ability to make interesting connections in their work, while creating value for clients."

Following are a few of their innovations.

Photos by Gabrielle Plucknette-DeVito

Joseph Samuelson, forefront, checks connections for teammates Ryan Kent and Kaiya Li, who make sure the data collection system is working to record tail locomotion.

Kaiya Li adjusts the Dreadnoughtus model tail. Its 3 feet in length is scaled to align with the actual 30-foot-long tail of the dinosaur.

than prototypes

Robotics zoo expands to dinosaurs

When Kathleen Lamkin-Kennard, associate professor of mechanical engineering, began research work on soft muscles and actuators, she used nature as her model to produce moving robots.

Over the past few years, she and her student teams have developed otters, fish, and other animal shapes to show that McKibben muscle systems can be successfully integrated into prosthetics and other biomedical devices.

This past year, she connected with a researcher at Rowan University, who is interested in applications of high-tech tools for paleontology.

Although there is much evidence about dinosaur movement based on fossils, there are no real dinosaurs to test theories. But being able to assess tail movement contributes to understanding animal biomechanics.

About the tail

The system simulates the swinging motion of the Dreadnoughtus tail. Sensors are embedded to detect bending and acceleration.

Elizabeth Lamark
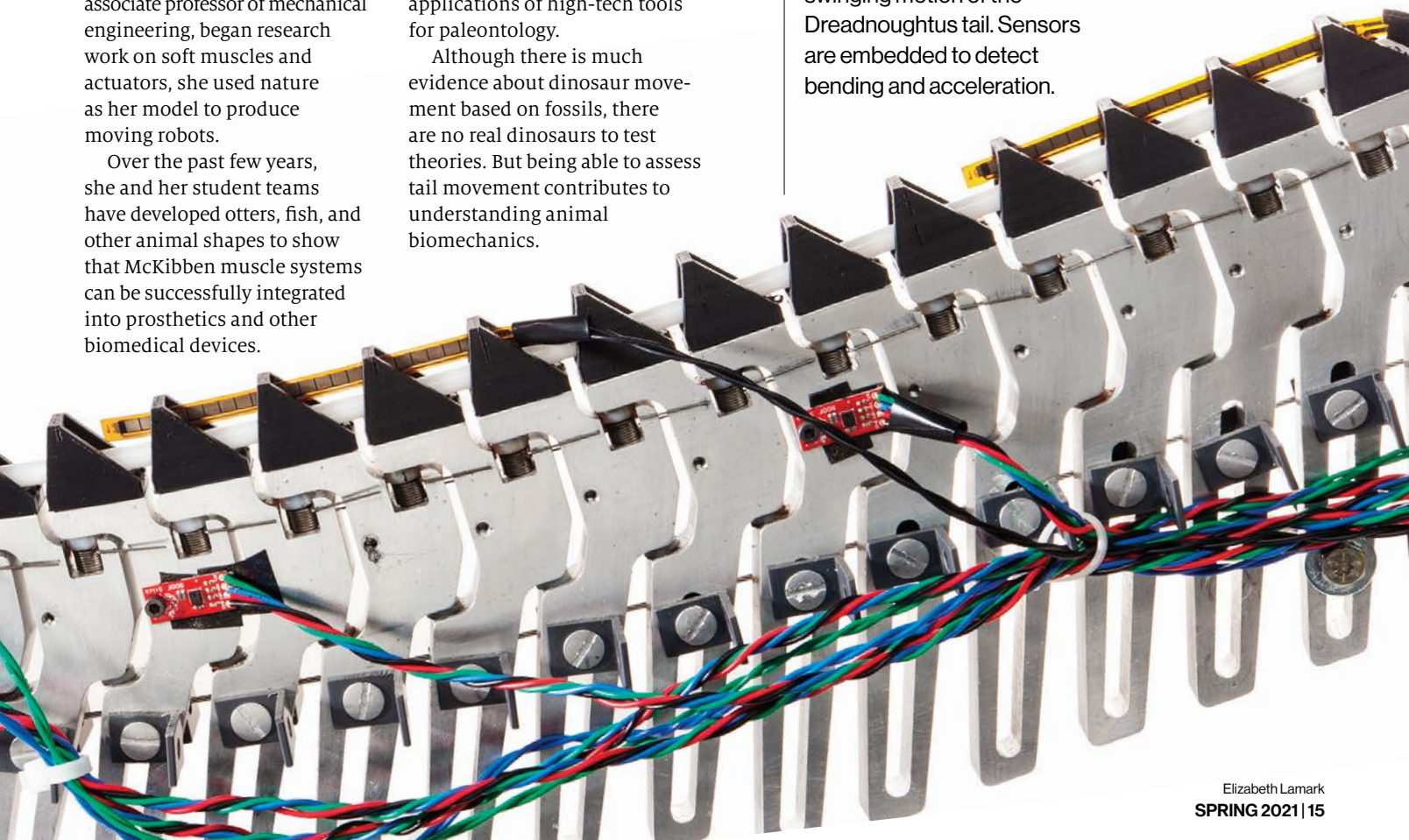
Co-op connection
Students like Joseph Even introduce new projects for their senior design capstone based on work they did while on co-op. His team's data acquisition system may one day be on a Relativity Space mission.

Relativity Space

Joseph Even   **Bryce Salmi '13**

Water treatment for the developing world

Clean water is taken for granted in some parts of the world, but for other areas, the need for this valuable resource is immeasurable.

Luke Murphy and his teammates developed a prototype UV LED water disinfection system to meet this crisis. The affordable system, which they estimate at just under $50, is an easy-to-use, self-contained system expected to produce nearly 15 liters of water a day.

"Our product takes advantage of advancing UV technologies, specifically UV LEDs," said the fifth-year industrial engineering student from Avon, Ind. "By using this technology, we are able to sanitize water with far less power

Lamkin-Kennard's team built a 3-foot swinging dinosaur tail, modeled on the Dreadnoughtus, to help researchers study the way it moves through actuation models and biomechanics.

Their work supports faculty research, provides a collaboration with another university, and includes a corporate partnership with Lockheed Martin. Several of the company's engineers are mentoring the team.

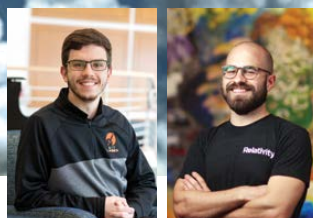### Co-op inspires rocket project

When Joseph Even came to RIT four years ago, one of the clubs he joined was the RIT Launch Initiative, and he has been involved in rocket builds and competitions ever since.

Completing a co-op with Relativity Space as an avionics intern last summer, he was

part of the team that designed mixed-signal data acquisition hardware to simulate various sensors as part of Hardware-In-The-Loop for the Terran 1 rocket. The Terran 1 is one of the company's low Earth orbit rockets that integrates 3D printing, artificial intelligence, and robotics.

Even, a fourth-year electrical engineering student from Orchard Park, N.Y., worked with Bryce Salmi '13 (electrical engineering), someone with a similar, enthusiastic interest in space technology and travel who works for the company. Salmi's own senior design project on a Cube Sat device eventually made it into space and is integrated onto current satellites to optimize power from spacecraft solar panels.

The deliverable for Even's project is a high-speed data acquisition system, specifi-

cally designed for testing and characterizing rocket engines. Project technology developed will benefit both Relativity Space and the RIT Launch Initiative.

Even and his teammates, Jared Bandru, an electrical engineering major; Ben Hebert, a mechanical engineering major; and Anthony Bacchetta and Jay Mantini, both computer engineering majors, are creating two data acquisition systems—one for Relativity Space and one for the RIT Launch Initiative.

"I always wanted to work on the most challenging thing I could find," said Even. "Relativity Space is doing something particularly special—3D printing rockets in their entirety. This aspect of the company adds a slew of challenges making the work that much more exciting."
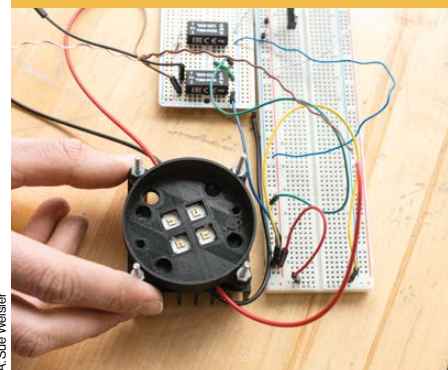

A. Sue Weisler

Ultraviolet LED lights are an energy efficient disinfection method in areas with limited electrical power.

A. Sue Weisler

Helping others

Michael Smith, left, and Luke Murphy discuss the technology integrated into a home-based water filtration system.

required than before. This allows us to disinfect water remotely, with the use of a solar panel instead of traditional power."

RIT's engineering faculty members have connections with international organizations. Students also can work on projects through the college's Engineering Grand Challenges Program and Engineers for the Developing World.

International projects have become a regular part of senior design and give students the chance to build technology for good.

The challenge for the team was not only understanding the limited resources in the developing world, but their need to understand the intricacies of UV LEDs.

"Being a new technology, there is not a significant amount of prior experience to go by when designing components to work with it. We also had to formulate our own equations to measure the disinfection rate of the system, which is important to get correct in order to prevent people from drinking unclean water."

Solving problems

Students develop projects that solve a problem, in this case training lacrosse goaltenders.
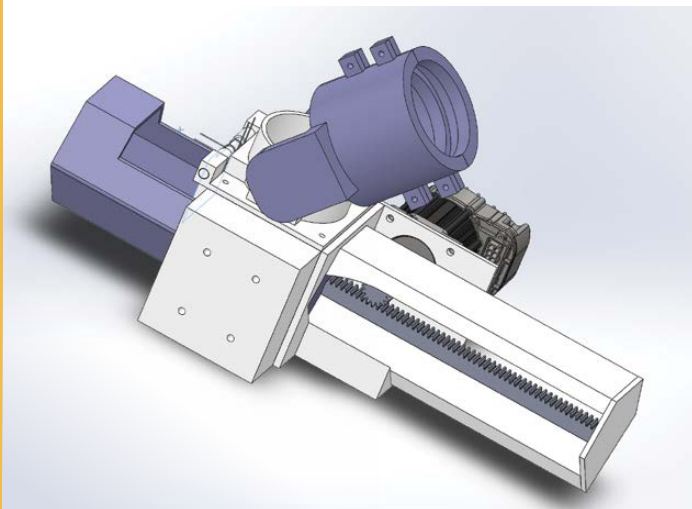
Senior design prototypes start with CAD designs that detail device dimensions and electronics integration.

LAX training system for goaltenders

Defending against a ball thrown upwards of 70 miles per hour in a lacrosse game takes agility and guts. Practicing the agility part is being made easier with a training system developed to improve a goaltender's technique when facing players in the fast-paced sport.

"Our goal is to develop a new, automated way of training lacrosse goalies spanning across different levels—from youth to collegiate players," said Andrei Biswas, a fifth-year computer engineering major from New Delhi, India.

He and his project team are building a standing device with a shooting mechanism, similar to pitching machines used by baseball players in a batting cage.

The machine would pitch balls at varying speeds and directions to a goaltender to test reflexes and techniques.

Anticipating a shot during a game means understanding range, velocity, speed—and the project team had to reverse engineer this information when building the new device.

"We had to acquire motors to move and adjust components," Biswas said. "The positioning and shooting mechanism requires six powerful motors."

Teknic Inc., a local engineering firm specializing in servo motors, drives, and control systems, supplied the equipment, and company engineers mentored the team in how to install and calibrate the motors.

Michelle Cometa '00

Other projects

NASA connections

RIT is fielding two teams this year for the PSYCHE Mission, a collaboration with Arizona State University, which is leading collegiate design work for the NASA initiative. The mission is an up-and-coming exploration of a unique metal asteroid that may help scientists understand planet formation.

RIT's teams are working to develop a landing system that could orbit the asteroid, send sampling equipment to the surface, and return samples for eventual analysis.

"NASA believes the mission overall might give insight into how the Earth was formed," said Beth DeBartolo, director of Multidisciplinary Senior Design. "The project provides networking opportunities for students that they might not otherwise have because part of the program includes connections to all the collegiate working teams, plus NASA personnel."

Robo-Drum

Students have developed a tech device to help teenagers with physical disabilities play instruments. The Robo-Drum team worked with teachers and students from Niagara/Orleans Boards of Cooperative Educational Services this past year, visiting the classroom several times to meet the teens, assess physical capabilities, and develop user-friendly designs to keep the music flowing.

Dematic Retrotech

Students are assisting Dematic Retrotech in designing a model of a smart warehouse system. The group is looking to develop automated storage and retrieval systems and using student expertise to build a model prototype for use in trade shows and recruiting.

Three floors
The three-story institute is devoted to cybersecurity training, education, and research.

Cybersecurity
RIT's new 52,000-square-foot Global Cybersecurity Institute (GCI) has opened on campus.

Cybersecurity complex
open for business

More than one wave of infections swept across the globe in 2020. Cybercriminals used the COVID-19 pandemic to up their attacks and create a pandemic of their own. According to the FBI's Cyber Division, the number of complaints increased 400 percent from what they were

seeing pre-coronavirus.

This cyber pandemic is just one of many cybersecurity issues that RIT experts are working to address in the new Global Cybersecurity Institute (GCI).

Late last fall, the GCI opened the doors to its 52,000-square-foot state-of-the-art facility on campus. With the institute, RIT is on its way to becoming one of the best places in the world for cybersecurity education, training, and research.

"Being able to work remotely and use digital technology in every aspect of our lives has tremendous potential to improve the world, but it also really opens up the attack surface," said Steve Hoover, the Katherine Johnson Executive Director of the GCI. "At the GCI, we understand that and are aiming to make you and your digital-self safer."

At the core of the cybersecurity problem is the fact that employers can't find enough qualified professionals to hire for the more than 1 million unfilled cybersecurity jobs worldwide. RIT is working to change that.

In the three-story cybersecurity institute, experts are coming together to train new professionals and students, as well as push the frontiers of research.

Justin Pelletier, director of the GCI Cyber Range and Training Center, is helping prepare businesses for their next cybersecurity incident. The range will allow RIT to offer immersive simulations of real-world cyberattacks.

Elizabeth Lamark

1 First floor
Cyber training center

At the heart of the GCI is the Cyber Range and Training Center, a virtual and physical lab for simulating network cyberattacks and problem-solving scenarios.

"When you walk into this room, you can experience what a cyberattack is really like," said Justin Pelletier, director of the Cyber Range. "For cybersecurity experts and any-one involved in real-life cyberattacks, this is a giant sandbox where you can prepare and train without getting hurt."

GCI organizers are currently constructing immersive incident response experiences for organizations to come in and face off against advanced persistent threats seeking to steal valuable information and wreak havoc.

"These experiences will be varied and customized, so participants will never know exactly what to expect—just like real life," said Pelletier.

For example, participants might have to defend the network of a medical center during a natural disaster or discover a malware attack that could impact millions of retail customers.

The range has 30 computer stations and is capable of hosting more than 5,000 virtual machines simultaneously. It features a video wall with 1080p and 4K screens, a control room, a conference room, and electrostatic privacy glass walls.

LED lights that surround the room can bring the mood of a training scenario from a welcoming blue to a stress-inducing flashing red. Rumbling speakers can be

used to mimic disaster scenarios, while temperature controls can literally turn up the heat of the situation.

Thanks to a more than $3.3 million contribution from IBM, the cyber range has also been equipped with some of the best Security Information and Event Management (SIEM) products on the market.

Across from the Cyber Range sits a large atrium and expansive configurable mini-conference space, where the GCI can host competitions, talks, workshops, and hackathons.

The first floor also features a section for teaching the general public about cybersecurity. The Cyber Experience Center has exhibits on cybersecurity history, cyber hygiene, student and faculty research projects, and hands-on demonstrations.

Future defenders

More students are studying computing security than ever before. That's a good thing, because industry experts say they need more qualified professionals.

2 Second floor
Next generation of cyber defenders

This year, RIT's undergraduate computing security program saw its largest incoming class ever. On the second floor of the GCI, several new lab spaces have been created to help train this next generation of cyber-security defenders.

Hanif Rahbari, assistant professor of computing security, is teaching a wireless security course in the GCI's new Network Security Lab this spring.

"The modern design and state-of-the-art equipment allow for a more diverse set of lab activities, beyond traditional networking labs, which helps further enrich the education our students get at RIT," said Rahbari. "Now we have a more usable space for wireless security and networking equipment, software-defined radios, and antennas, among other things."

In addition to the Network Security Lab, the GCI has two new security instructional labs and is home to the Eaton Cybersecurity SAFE (Security Assessment and Forensic Examination) Lab. A new Air Gap Lab in the building also gives students the ability to work with dangerous malware, while staying safely sealed off from the rest of campus and the internet.

More than 500 students are currently studying computing security at RIT, which has been nationally recognized for cybersecurity education and research.

The second floor has dedicated space for the students enrolled in the NSF's Cyber-Corps: Scholarship for Service program.

International champs

A team of RIT students beat Stanford and 13 other colleges to win the Collegiate Penetration Testing Competition in January. The GCI hosted the event virtually.

RIT is the founder of CPTC, which is the premier ethical hacking competition. RIT is also a perennial contender at the National Collegiate Cyber Defense Competition.

IBM made a more than $3.3 million gift to help enhance computing security capabilities in the GCI, including state-of-the-art software that uses Watson artificial intelligence to analyze cyberattacks.

These students earn a scholarship covering their costs at RIT, in exchange for agreeing to work at a government computing security job for the same number of years.

The GCI also has space for students participating in competitions and the university's cybersecurity club RITSEC.

Neha Sharma, a computing security master's student, said she is happy to see these student spaces in the new building. As the graduate representative of RIT's WiCyS (Women in CyberSecurity) Student Chapter, which is an independent program within RITSEC, and a member of RIT's Collegiate Penetration Testing Competition team, she has seen first-hand how much these experiences can help students grow.

"The club members and competition leaders are always ready to help and guide you toward the right resources and direction," said Sharma, who is originally from India. "RITSEC has become like a safe space for any student with an interest in cybersecurity to be among like-minded people, to learn from them, and grow— not only in the cybersecurity field, but as a person as well."

3 Third floor
Making software more secure

The Global Cybersecurity Institute's third floor is devoted to researchers tackling some of the most pressing cybersecurity problems of today and tomorrow.

Mehdi Mirakhorli is one of those researchers looking to make large-scale software systems more secure, faster, and more reliable.

Since joining RIT in 2014, Mirakhorli, associate professor of software engineering, has been working to analyze and change the way people create and maintain complex software systems. Today, with more than $4 million in support from the National Science Foundation, Defense Advanced Research Projects Agency (DARPA), and other organizations, Mirakhorli and his team of student researchers are working to change the culture of development.

"Fifty percent of vulnerabilities in today's software systems are because of design flaws," said Mirakhorli, who was named Kodak Endowed Scholar in the Golisano College of Computing and Information Sciences. "Today, we patch

RITSEC, the student cybersecurity club, has dedicated space in the GCI.

Faculty and student cybersecurity researchers have millions in funding from government and private organizations.

The GCI has several new cybersecurity classrooms, including the Network Security Lab.

Cybersecurity Bootcamp

The GCI is home to RIT's Cybersecurity Bootcamp—a 15-week immersive training course that is helping people switch careers and join the cybersecurity workforce.

Integrating RIT's world class Cyber Range and strength in interactive games and media, this innovative offering integrates classroom and lab work with work experience in a simulated real-world cyber business. This highly innovative training model prepares professionals from all backgrounds (even those with no prior coding or IT experience) for critical entry-level cybersecurity roles that come with an average salary of more than $50,000 a year.

The bootcamp is being delivered remotely and new cohorts start almost every month. Learn more at rit.edu/cybersecurity/cybersecurity-bootcamp.

security bugs, but we don't get to the root of the problem and identify architectural flaws in the software."

Software architecture goes beyond just code, explained Mirakhorli. Whether it's a banking system or electronic medical records, most software requires reliability, availability, security, and performance. However, if the pieces don't fit together perfectly, the whole system can crumble.

"Not all programmers are designers that understand these important software design principles," said Mirakhorli. "However, it takes years of experience to become a designer and they are expensive, so we have fewer of them in the industry."

That's why Mirakhorli made it his long-term goal to synthesize software design into something more intuitive, particularly

Mehdi Mirakhorli, an associate professor of software engineering, is trying to change the way people maintain complex software systems.
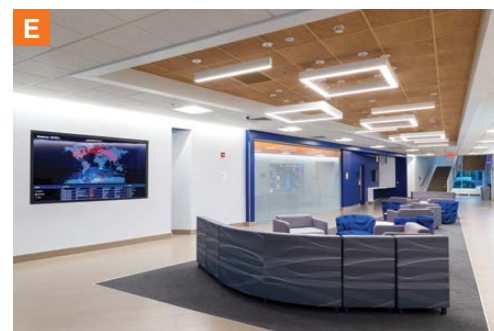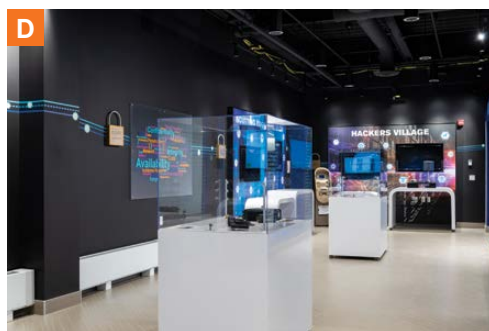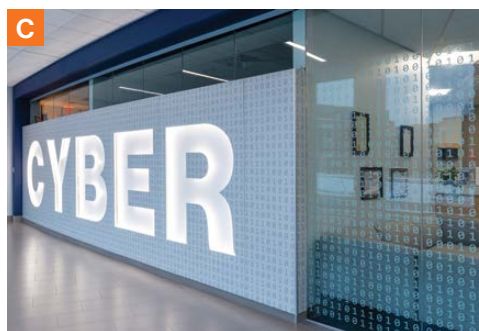
Protecting the Future

A The building is connected to RIT's Golisano College of Computing and Information Sciences. B Binary code decorates many areas of the GCI. C The building was designed by LaBella Associates, with cybersecurity in mind. D The Cybersecurity Experience Center. E The first-floor atrium and conference space can be used for events.

for new learners and novice programmers.

In 2020, he received a prestigious NSF Faculty Early Career Development (CAREER) award for his efforts in software architecture.

His project aims to change software design and programming from a purely manual and exclusive task, to one in which a programmer and an automated design synthesis tool can collaborate to generate software design and implementation that meets its quality attributes scenarios.

"I'm essentially creating a new programming language that makes it easier for people to express design intent," said Mirakhorli. "This tool would

walk programmers through architecture step-by-step and tell them if they're violating any design principles. This will lead to fewer errors and security problems."

For example, programmers who are excited about adding a login and password to their system might not know exactly where to place their technology. If they locate it on the client-side, they could expose their system to an authentication bypass vulnerability.

With Mirakhorli's tool in hand, a programmer would get an alert about this vulnerability and learn how to mitigate it.

As part of the CAREER award, Mirakhorli is looking at software design from a cogni-

tive perspective. He meets with new students, novice programmers, and expert designers to learn how different people approach architecture problems. He is also developing artificial intelligence that can learn best practices from good software systems out in the world today.

In the GCI's research space, Mirakhorli is also guiding a team of student researchers that is creating different tools and techniques coders can use to make more reliable and secure software.

"Ultimately, we hope to make all of our software secure by construction," said Mirakhorli.

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Scott Bureau '11, '16 MBA

Other research

- Detecting fake online videos
- Using artificial intelligence to predict cyberattacks
- Vehicle-to-vehicle communications for smart and autonomous cars
- 5G and wireless security
- Preserving online privacy
- Improving cybersecurity education

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Rochester Rising

a next-generation technology hub

**Move over, Silicon Valley.
Rochester, N.Y., can be the next
great American technology hub.**

That's according to an MIT economics expert,
who ranked Rochester as the No. 1 city with
potential to be a national economic driver.

Why Rochester?

- **No. 1 Northeast city to live in after coronavirus pandemic; 15th best city in the U.S.** *Business Insider*

- **7th brainiest large metro.** Lumosity

- **No. 1 U.S. city for commuters.** Kiplinger

- **17th most arts-vibrant community in 2018.** National Center for Arts Research

- **No. 1 safe weather city in the Northeast.** The Weather Channel

- **13th best place to live for quality of life.** *U.S. News & World Report*

- **No. 1 for patents issued per 1,000 workers.** U.S. Patent and Trademark Office

- **No. 5 metro with potential to be an innovation growth center.** Brookings Institution

- **6th most affordable city to buy a home.** *Forbes*

Here to stay
Mike Pinch '06 MBA, '12 MS, director at Security Risk Advisors, said that new tech companies in Rochester are giving alumni more reasons to stay.

A. Sue Weisler

One of the main factors in this ranking is that Rochester is a college town, with 19 colleges and universities in the region. While many graduates do find jobs around the world, they also have attractive options in the Flower City.

"Rochester has a large and highly educated workforce, a fantastic university base, and a high quality of life, making it an ideal candidate to become a next-generation technology hub," said Jon Gruber, professor of economics at MIT. Gruber is co-author of *Jump-Starting America: How Breakthrough Science Can Revive Economic Growth and the American Dream.*

Several generations ago, Rochester got its first taste of being a technology hub. At the time, it was a three-workplace town. Kodak, Xerox, and Bausch & Lomb helped shape the city and its skyline.

Today, Rochester has an entirely new economy.

Ninety-seven percent of the region's workforce is now working at smaller companies with fewer than 100 employees. There are actually 30,000 more people working in Rochester today than when the Big Three were in their heyday.

"It shows that Rochester is really diversifying—and the innovation is still here," said Matt Hurlbutt, president and CEO at Greater Rochester Enterprise (GRE). "I like to say, we're a place where smart people live and smart businesses grow."

According to Hurlbutt, those fast-growing Rochester businesses can be found in six key industry sectors:
- Advanced manufacturing;
- Energy innovation;
- Food and beverage manufacturing and agriculture;
- Life sciences;
- Optics, photonics, and imaging;
- Software and IT.

RIT is helping drive innovation in each of these sectors.

For example, a Philadelphia-based cybersecurity firm was inspired to open a Rochester office in 2019 because of the new talent coming out of RIT's computing security programs. At high-tech RIT labs, researchers are working with a local corporation to revolutionize plastic recycling and the whole flexible packaging industry.

RIT graduates and collaborators are also playing key roles at one the region's largest employers, where they are helping preserve Rochester's legacy as an imaging leader.

RIT professor Changfeng Ge, left, and packaging science majors Andrew Morris and Nathanael Strong research recycled plastics using the Lab Scale Blown Film Line in the American Packaging Corp. Center for Packaging Innovation on campus.

Even during the pandemic, Rochester is growing. In 2020, GRE managed 34 business expansion projects that account for new capital investments of $554 million, helped retain more than 1,500 jobs, and created 2,150 new ones.

That's positive news for the nearly 30 percent of RIT students who complete at least one co-op locally. It's also good for the more than 39,000 alumni who still call Rochester home.

Local talent

Hiring managers at the cybersecurity consulting firm Security Risk Advisors (SRA) noticed a trend—a lot of their best new employees were coming from colleges in Rochester.

As a result, when the Philadelphia-based company decided to expand its operation in 2019, Rochester was the perfect place to set up shop.

"I knew we could provide challenging technical work with exciting clients, creating an opportunity for top performing students to stay here in Rochester," said Mike Pinch '06 (MBA), '12 MS (computing

security), director at SRA.

Pinch knows Rochester well. Three generations of his family have worked at Kodak, and his parents even met there.

"Technology is in the DNA of this town," said Pinch. "Rochester has been breeding engineers and technologists for years, and as a result, we now have this rich ecosystem of tech startups."

Pinch has helped develop the Security Risk Advisors Rochester office, which collaborates with other tech companies in the region.

The company provides cybersecurity expertise to many Fortune and Global 1,000 companies, helping with penetration testing, governance compliance, 24/7 cybersecurity monitoring, as well as engineering solutions.

More than 20 of the company's employees are RIT graduates. SRA also hires co-op students. In fact, after attending its first RIT career fair, Pinch said that SRA managers were quite surprised.

"RIT put our Human Resources department to the test," said Pinch. "At a normal career fair, we get two or three perfect

candidates to sort through. At RIT, we had dozens."

The company is also excited to work with RIT through the new Global Cybersecurity Institute (GCI), which opened on campus in 2020. The high-tech building is helping RIT expand cybersecurity training, education, and research.

After learning about RIT's Cybersecurity Bootcamp program, a 15-week cybersecurity workforce training course offered through the GCI, Security Risk Advisors saw an opportunity. The company has offered $25,000 in scholarships for underrepresented professionals looking to enter the cyber workforce through the program.

"We're excited to work together to build a more diverse cybersecurity community that can help strengthen the industry," said Pinch. "The GCI is a wonderland for computing security nerds like me, and it's a real bonus to have it here in Rochester."

Breaking research boundaries

American Packaging Corp. is another Rochester employer that's utilizing high-tech facilities at RIT.

Over the past 10 years, the company has donated millions to help create two packaging centers on RIT's campus. Together, they have turned these laboratories into a testing ground for new ideas and solutions in sustainable packaging.

"We get great suggestions and input from experts working at American Packaging," said Daniel Johnson, chair of RIT's Department of Packaging Science. "This helps keep our research really relevant and our lessons up-to-date with the latest industry trends."

As a manufacturing staple in the region for more than 100 years, American Packaging creates flexible packaging for a wide variety of food, pharmaceutical, and industrial products. The company even established one of its Flexographic Printing and Laminating Centers of Excellence in Rochester.

Recently, American Packaging began working with RIT researchers to develop a pre-screening capability that they can use to conduct early assessments of packaging innovations.

Jeff Travis, Manager of Innovation and Sustainability for American Packaging, explained that before using a newly developed recyclable plastic packaging material, the Association of Plastic Recyclers (APR) requires that it is certified by a testing laboratory.

"However, it costs roughly $14,000 every time you submit materials to be certified—and these labs are busy because there are currently only three that exist," said Travis. "We thought that with the equipment and expertise at RIT, we could develop a way to get an early read on whether to go forward with an investment. This can really push the envelope of innovation."

To develop this capability, RIT packaging science Professor Changfeng Ge is conducting a comprehensive laboratory scale assessment of polyethylene film, which is typically used for food packaging. Ge and his research students are evaluating the compatibility of the film coated with barrier resin, with film reclamation systems that source post-consumer film from store drop-off bins and curbside collection.

The team prototypes recycled film and tests its performance compared to the original. Using special machines in RIT's labs, they conduct migration studies and
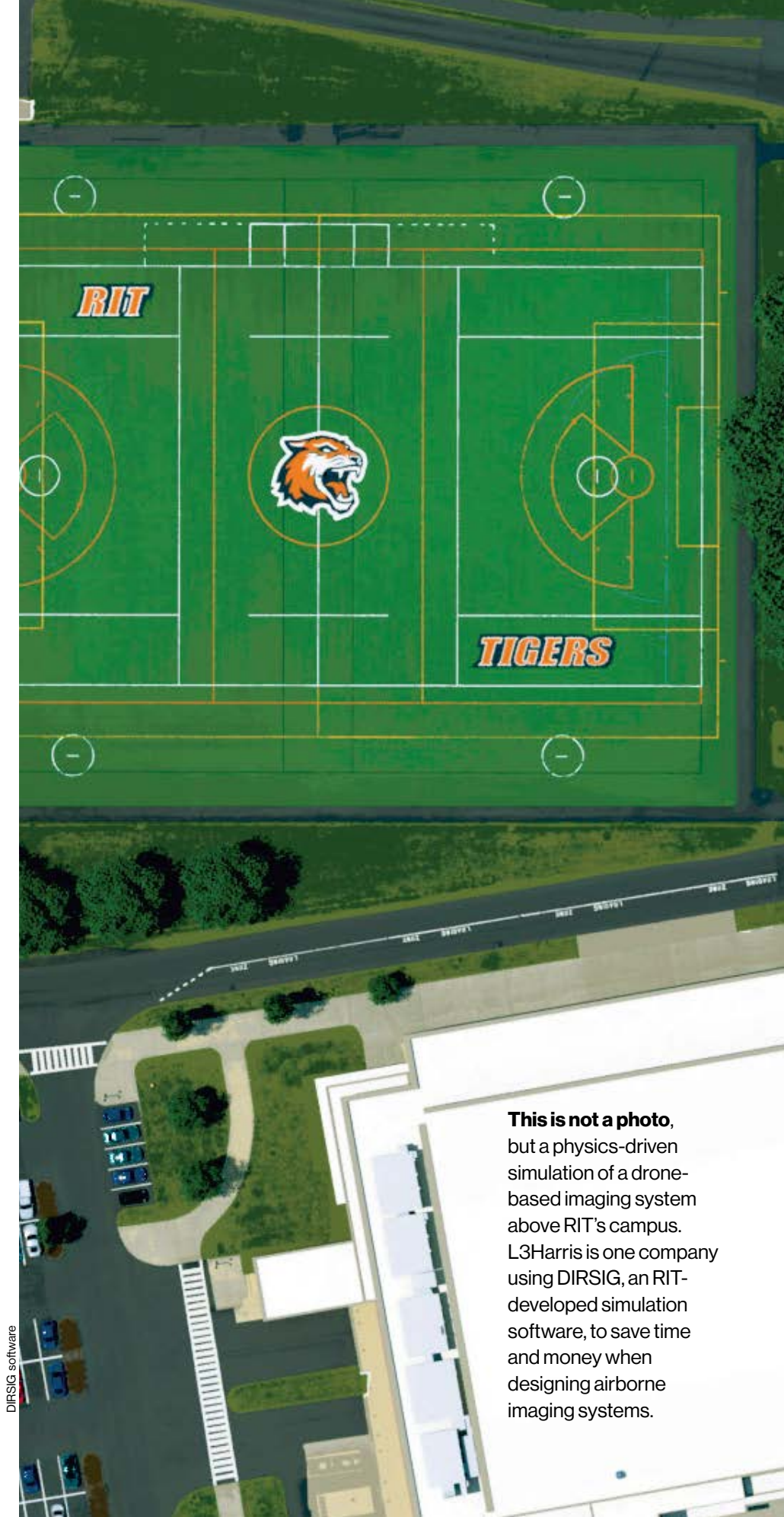
DIRSIG software

This is not a photo, but a physics-driven simulation of a drone-based imaging system above RIT's campus. L3Harris is one company using DIRSIG, an RIT-developed simulation software, to save time and money when designing airborne imaging systems.

measure how the packaging acts as a barrier to oxygen and water vapor.

In the end, they hope to develop an accelerated method — based on APR protocol—to determine if a plastic material is recyclable.

"If we can successfully do this, it could be a major shift that impacts the way all flexible packaging companies develop new recyclable materials," said Ge.

Problem-solving community

Imaging science researchers at RIT also understand the major impact that their work can make on an industry.

The Digital Imaging and Remote Sensing Image Generation (DIRSIG) modeling software, which was developed at RIT decades ago, is used by hundreds of organizations across the country to test image system designs.

In Rochester, L3Harris Technologies continues to leverage the DIRSIG technology to quantify and visualize performance of its imaging systems.

"Companies like L3Harris rely on DIRSIG to save time and money," said Joseph Sirianni, associate director of the Digital Imaging and Remote Sensing (DIRS) Laboratory at RIT. "They come to us for training and continually work with our researchers to develop new capabilities and upgrades for DIRSIG."

L3Harris is one of the largest employers in the region, and much of its business comes from government contracts. In Rochester, many RIT alumni work for the company's Communications Systems and Space and Airborne Systems segments. More than 60 alumni work in the area of remote sensing alone.

DIRSIG plays an important role at L3Harris when scientists begin developing remote sensing systems for drones, satellites, and airborne capabilities mounted to aircrafts. The modeling software essentially allows designers to create physics-based simulations of what

an imaging system can do—and all in advance of the system ever physically being built. For example, the simulations show how a system detects different atmospheric or lighting conditions.

"With RIT's help, we enable our end customers to better understand the impact of system specifications on the performance our imaging system sensors will have — and how that will translate to capturing a better image,"

Stacey Casella

said Stacey Casella '08 MS (color science), general manager of geospatial integrated solutions at L3Harris. "We have a lot of back-and-forth with RIT; working together to leverage existing capabilities and build out future technology road maps."

Derek Walvoord '02 (imaging science), '08 Ph.D. (imaging science), an image scientist at L3Harris, is also working with RIT researchers to explore how DIRSIG simulations can be used to train artificial intelligence-based

Derek Walvoord

imaging algorithms. The group is also collaborating with the University of Puerto Rico in Mayagüez to determine how deep learning can be used to assist scene generation processes alongside DIRSIG.
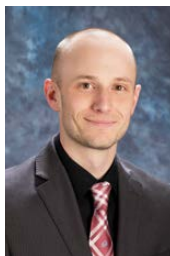
According to Greater Rochester Enterprise leaders, the region has the perfect ingredients to make so many collaborations like these happen.

"We're the right size city, with growing key industries, and a highly skilled workforce coming from great universities," said Hurlbutt.

Scott Bureau '11, '16 MBA

Other key industry sector highlights

Hydrogen future

RIT's Golisano Institute for Sustainability provides renewable energy expertise through its continuing relationship with hydrogen fuel cell developer Plug Power. The company is opening a hydrogen fuel cell "gigafactory" in Henrietta this year and plans to build North America's largest green hydrogen production facility in Genesee County.

Healthy alliance

Since 2008, RIT has had a strong alliance with the city's second largest employer, Rochester Regional Health. Many alumni are also playing a key role in research and development at Ortho Clinical Diagnostics, which developed the first automated, high throughput antibody test for COVID-19 last year.

Zero waste

When the food waste-to-fertilizer company Re-Nuble opened a manufacturing facility in Rochester, it came to RIT's New York State Pollution Prevention Institute (NYSP2I) for help. NYSP2I conducted a greenhouse gas assessment for the company, while the GIS Center of Excellence in Advanced and Sustainable Manufacturing created a plant layout design.

RIT's Venture Creations graduates contribute to Rochester's growth

A new addition to the heart of Rochester's Downtown Innovation Zone—RIT's Venture Creations technology business incubator— is designed to enhance the synergy between the vibrancy and resources of the city and the region's newest start-up companies.

In December, Venture Creations relocated from John Street in Henrietta, N.Y., near the RIT campus, to 40 Franklin St., joining RIT's Center for Urban Entrepreneurship in a move that further advances the commitment from university leadership to have a presence in downtown Rochester.

Venture Creations is no stranger to launching start-ups—42 to date, with more than 550 jobs created. Among its most successful graduates are Leep Foods, IMSWorkX, and Impact Earth, all of which are experiencing enormous growth and demonstrating the positive economic impact that start-ups can have on a city like Rochester and the surrounding region.

Photos by Leep Foods

Leep Foods co-founder George Zheng '14 grew up in the Finger Lakes and considers the region an essential part of who he is.

Food as medicine

From the beginning of his entrepreneurial journey, Leep Foods co-founder George Zheng '14 (mechanical engineering technology) had a vision of persuading American consumers to think of food as medicine.

Today, Zheng and his team are building a science-based super food mushroom empire that is making under-consumed micronutrients and under-recognized longevity nutrients more accessible through the flavor of wood-grown mushrooms.

"I grew up in a medical household where thinking of food as medicine with healing properties was normal," said Zheng.

Zheng's company is bringing to the forefront the right "nutritional tools" for conscious eaters who care about long-term wellness, with a lighter environmental impact, without sacrificing taste.

Just prior to graduating from the incubator in 2015, Zheng, his co-founders Chris Carter and Scott Valpey, and a team of four employees transformed 5,000-square-feet of warehouse space on Scottsville Road in

Rochester into its fungi headquarters. The popularity of the specialty mushrooms, carried in many Wegmans Food Markets and served at several local eateries, seemed to be growing exponentially.

In a few short years, Leep Foods' operation has expanded to 15,000-square-feet of growing space. Its products are available in 300 retail locations, including Wegmans and Tops Friendly Markets. Partnerships with Palmers Foods and Artisan Meats in Canandaigua, N.Y., help produce their blended

burger and sausage line.

While COVID-19 was peaking and more customers were buying food online, Leep launched its Better Blended Burgers with Thrive Market and with Iron Chef Geoffrey Zakarian on the QVC shopping network.

Their blended meats launch success resulted in winning $250,000 in the 2020 Grow-NY Food and Agriculture competition. By this fall, Leep will have its super-food mushrooms and meat blends available in more than 600 retail locations throughout the Northeast, with pending national distribution.

The company has added several employees in production and sales and has brought on well-known Rochester businessman Jeff Adair as CEO. Revenue doubled from 2019 to 2020, and is expected to double again in 2021.

Communicating a great idea

A great idea can go a long way. In fact, it was a great idea that ultimately led Shannon Chevier '99 MS (software development and management) to become a critical part of one of Rochester's most successful family-owned companies and realize her dream of bringing an innovative technology to the marketplace.

REDCOM

Shannon Chevier '99 MS was able to develop her telecommunications company to become a division of REDCOM in a recent acquisition.

Nine years ago, Chevier founded IMSWorkX, a telecommunications startup based on a software platform that enables phone carriers to deploy voicemail, call routing solutions, conferencing controls, and other features. Along with a team of engineers that followed her from a former company, Chevier joined RIT's Venture Creations incubator.

Over the next six years, the company added 18 employees, expanded into office space in a Rochester suburb, deployed its technology in more than a dozen worldwide networks, and accrued nearly $2 million in revenue. However, the search for greater opportunities within the telecom space became a priority for Chevier.

"At the time, there wasn't a lot of local investment opportunities for telecom, so we reached out across the country," she said. "Ultimately, the people who expressed an interest in our company wanted us to relocate our headquarters to the Southeast. That was when we started to explore the idea of an acquisition—a local acquisition."

An already "friendly" relationship with Rochester-based communications systems giant REDCOM developed into the financial investment that Chevier was searching for, and the resulting acquisition enabled IMSWorkX to become a division of the larger corporation.

"No one on the original team was willing to leave Rochester, and this is where we were all born and raised," she said. "And we've kept our focus in order to provide the services that our customers want and need."

Change agents

From developing zero-waste initiatives to revolutionizing composting and food scrap collection, every decision that the Impact Earth team makes takes into account social capitalism, a holistic approach to sustainability, and a communal responsibility to the environment.

Although the birth of the environmental movement in the United States truly began in the 1960s and 1970s, according to Impact Earth co-founder Robert Putney, it had its share of peaks and valleys. But Putney is encouraged by the spirit of today's movement where his company stands to serve a new generation passionate about the planet.

"Impact Earth has really come about at the right place and the right time," he said. "We are change agents that solve problems."

Impact Earth launched from Venture Creations in 2017 with a five-employee team. Clients included the Brighton Central School District and CMAC/Marvin Sands Performing Arts Center in Canandaigua, N.Y., where the company managed recycling, composting, and educational initiatives.

Today, the company has expanded to include a lifestyle products division and sustainability consulting. Twenty-three employees are working on projects with partners like local and regional farmer's markets, Lori's Natural Foods Center in

Impact Earth

Impact Earth co-founder Robert Putney runs an environmental education program for children and parents in several Rochester-area school districts.

Henrietta, N.Y., Abundance Co-op in the city of Rochester, and national companies Walgreens, WebMD, and Zero Waste Chicago.

To complement office space in Brighton, N.Y., Impact Earth has opened a retail location in Eastview Mall in Victor, N.Y., where more than 100 zero-waste lifestyle products, including hand-sewn face masks, and kitchen, bath, and laundry items, are sold. Additionally, Impact Earth will temporarily showcase at downtown Rochester's newest hotspot, Mercantile on Main.

Always in search of opportunities to share its mission, the team has boosted its curbside food scrap collection, acquiring Community Composting and growing its base to nearly 2,000 customers.

"Zero waste is a journey and we are generating opportunities for growth every year," Putney said. "We're at the steep part of the mountain climb right now. But we started with nothing. We are in it to win it. And we believe that you win it by grinding every single day."

Vienna McGrain '12 MS

Joshua Rashaad McFadden

Joshua Rashaad McFadden is an award-winning, internationally recognized assistant professor of photography at RIT's School of Photographic Arts and Sciences, nationally recognized for its degree programs. A transformative artist, social justice advocate, and change agent, he possesses a unique vision of the Black American experience. His artwork transcends the genres of social documentary, reportage, portraiture, book arts, and fine arts to bring forward powerful stories about the realities of the injustices Black people in America still face today.

Tune in

Intersections: The RIT Podcast is a conversation between people whose daily work is making a difference in the world. To listen to Joshua Rashaad McFadden's episode, go to **bit.ly/RITpodcast**.

Many people don't know you are from Rochester. How has that played into your work and current sense of place?
Yes, I was born and raised here in Rochester. As many can imagine, photography has always been a big part of my life, actually from the time my mother introduced me to photography at the age of 7. Additionally, much of my family has worked at Kodak. From then on, my goal was to be an artist, and in my newest body of work, I've started to explore this notion of family, place, and time.

How has your time in places such as North Carolina, Atlanta, and additional cradles of civil rights movements informed your experience and perspective with your photography?
My experience in these locales has made a profound impact on my work, and it started when I left Rochester in 2008 to attend college at Elizabeth City State University, a historically black college and university (HBCU) in North Carolina, to study fine art. In undergrad, I started an organization that advocated for non-violence, and also focused on voter education and regeneration. That experience led me to intern at The King Center in Atlanta. I worked hand-in-hand with civil rights leaders, such as Bernice King, MLK's daughter, and many others. That experience guided my decision to move to

Atlanta, go to graduate school, and continue to combine my passions for social justice with my art. I created projects like "After Selma," "Come to Selfhood," "I AM A MAN," and a "Lynching's Long Shadow."

Your powerful work in "After Selma" covers the 50th-anniversary march from Selma to Montgomery. How did this experience inform your trajectory to the present?
That was the moment I truly understood that freedom was a constant struggle and that history is not linear but cyclical. We must continue to fight against the evils of oppression, racism, injustice. If we aren't careful and mindful, then we will always end up where we started but in a worse position, almost like walking two steps forward then taking three steps back.

Do you think there is a relationship between your compelling photographs in your exhibit "Evidence" and recent work showing the Black Lives Matter movement, including the funerals of Black citizens killed by police?
I think multiple threads connect all of my projects. They build on each other. It's also important to say that Blackness or The Black Experience doesn't only exist within trauma caused by white supremacy, racism, and police brutality. We are so much more, and my project only begins

to tell those various stories. The true problem is that Black Americans are never allowed to just exist without having that existence constantly brought into question.

What role does education play in your work?
Education is integral because everyone learns from art, and there are many concepts visual culture can teach us. I love that photography makes you visualize the unseen and the little known. With it, you see what you can't ignore or forget, such as the hidden layers of injustice. My goal is to create conscious creators and conscious visual analysts who will be moved to speak out against injustice everywhere. In fact, it should be the goal of all professors to make conscious creators and thinkers because, as it is said, injustice anywhere is a threat to justice everywhere. We all must be part of the solution.

What are some ways in which RIT, the College of Art and Design, and the photography school play in all this?
Again, part of my mission is to develop conscious creators and visual analysts.

RIT has allowed me the space to do this. But to make a real change, I need much more support from the entire university, the global community, and everyday positive change agents.

Joshua Rashaad McFadden, assistant professor of photography, documents the fight for social justice, as seen in the photos below.
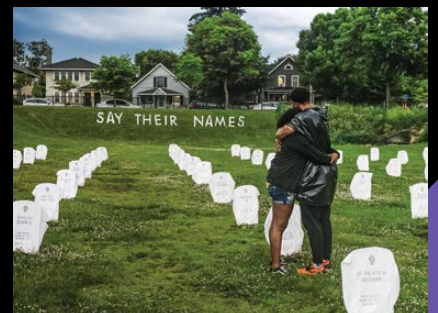
Photo by Elizabeth Lamark

Protesters in Minneapolis march in unity in response to the killing of George Floyd.

A June 14, 2020, protest at the Wendy's in Atlanta where Rayshard Brooks was shot and killed by police.

This is a scene from the Say Their Names Cemetery in Minneapolis, located down the street from the George Floyd memorial.

Alumni Awards

College honors

The Distinguished Alumni Awards are presented annually by each of RIT's nine colleges and the School of Individualized Study to alumni who have performed at the highest levels of their profession or who have contributed to the advancement and leadership of civic, philanthropic, or service organizations. It is the highest award an RIT college can bestow upon its alumni. The 2020-2021 recipients were honored during a virtual ceremony on April 29.

College of Art and Design

Dave Gallagher '91
Imaging and photographic technology
CEO and owner, Capture Integration

What is your favorite RIT memory?
"The RIT experience cannot be summed up in a few sentences. RIT and the imaging technology program gave me so much more than I could have imagined 35 years ago. The program opened my eyes to the variety of possibilities in the photographic industry for someone who never wanted to become a 'photographer.'

"Without a doubt, my most rewarding experiences were my teaching assistant positions with Glenn Miller, Phil Terry, and Michael Peres. These professors took me under their wings and allowed me to get a glimpse of how rewarding it can be to help another student with their educational goals. Their generosity, trust, and mentorship were as important as—or even more important than—any class I attended. It set me in a direction that I am still on today and is such an important aspect of why I still volunteer my time at RIT."

College of Engineering Technology

Laureen R. Cook '07 MS
Telecommunications engineering technology
CEO, Extelcon

What is your favorite RIT memory?
"One of my favorite RIT memories includes the challenges, and eventual triumph, as a returning adult student, in mastering a fiber optics course, which was taught by the Department Chairman Dr. Warren Koontz."

How did RIT help to prepare you for success?
"After 22 years of mobile industry experience, I found myself competing globally for executive roles. As a senior female American TMTS executive, aside from my MBA, I needed a technical degree to cement my place on the global stage in this male dominated field, which was secured by going back to school at age 44 and graduating with a master's degree in telecommunications engineering at RIT."

What does being an RIT alumna mean to you?
"RIT is one of the finest technology and engineering schools in the United States. I am very proud to be an RIT alumna."

College of Health Sciences and Technology

Andrew Goodfriend '88

Medical informatics
Ophthalmologist,
OcuSight Eye Care Center

What is your career highlight to date?
"I find the ability to make a difference in my patients' lives the highlight. As an ophthalmologist, I am, for some, able to restore sight. I had a patient who was terminally ill with metastatic cancer and she was given radiation treatment to her brain to reduce the tumors for comfort. This, unfortunately, caused instant cataracts and blinded her. Her wish was to be able to see her grandchildren one last time and I was able to give her that wish, though she did not live long after her surgery. Though this was more than 20 years ago, this is a reminder to me of why I love this career."

What does being an RIT alumnus mean to you?
"RIT is a community and taught me how to be a part of something greater than myself, and I now enjoy giving back to the university that has given so much to me."

College of Liberal Arts

Osbourne A. McKay '88

Criminal justice
Deputy commissioner,
Correctional Industries, New York State Department of Corrections

What is your favorite RIT memory?
"I have several favorite RIT memories, so allow me to share just two. My first favorite RIT memory is becoming a member of Alpha Phi Alpha Fraternity 35 years ago. I am a life member and remain active in our local alumni chapter. My second favorite RIT memory is being awarded the Alfred L. and Ruby C. Davis Scholarship and being honored by the Mark Ellingson Association."

What is your career highlight?
"My career highlights include running a statewide occupational firm in the mid-1990s and becoming deputy commissioner for New York State Department of Corrections and Community Supervision, where I had the opportunity to bring about institutional change to infuse fairness and equity in the workplace."

College of Science

Rob Hochstetler '04 MS

Applied statistics
President and CEO,
Central Electric Power Cooperative

What is your favorite RIT memory?
"I had a classmate, Tom Weymann '06 MS, who really pushed me to be better, and I hope he would feel that I also pushed him and others to be better learners. I don't even want to say students, because our professors were teaching and instructing, but more than anything they were helping us enjoy and love what they were teaching. RIT is a special place and a special school."

What is your career highlight to date?
"There was a project I worked on at RIT that I actually used at work, as I worked while going to school. That was exciting. My current job allows me to make a real difference in lives of the citizens of South Carolina. If I do my job well, they pay lower power bills. There is something satisfying about determining how you are serving your fellow man while working. I'm a believer in the concept that at work we are all serving our fellow man."

Golisano College of Computing and Information Sciences

Elan Lee '98

Computer science
Founder and CEO,
Exploding Kittens

What is your favorite RIT memory?
"Being on Tech Crew and working all night with the rest of the team to tear down after a huge concert."

What is your career highlight?
"I was at an airport waiting at the gate for a delayed flight. Everyone was grumpy and frustrated. Everyone except for a group of four kids sitting in a circle on the floor playing a game. When I walked over, they were playing Exploding Kittens. The only thing that kept me from standing there beaming, was the fear of being the creepy guy at the airport smirking at a bunch of kids."

How did RIT help prepare you for success?
"My professor's encouragement to build things instead of just talking about building them."

College Honors

Kate Gleason College of Engineering

Michelle S. Spina '91

Electrical engineering
Vice president, Signal Processing & Algorithms Group, Sensors Division, Systems & Technology Research

What is your favorite RIT memory?
"Letting the professors in the electrical engineering department know that I had been accepted to MIT for graduate school. I felt they were as happy about the news as I was, which reflected the level of involvement they had with their students. They were thrilled for me and I was equally thrilled to share the exciting news with them. Thirty years later, I remember all of the faculty and staff fondly, keep in touch with a few, and feel so very thankful to have had such a close-knit community during my time at RIT."

What is your career highlight to date?
"The day that I heard that we won not one, but two major project proposals for which I was the lead at Systems & Technology Research. The effort was monumental. Two years later, we are now seeing our ideas that were once just mere thoughts on paper being successfully tested."

National Technical Institute for the Deaf

Pamela Lloyd-Ogoke '81

Social work
Chief, Division of Vocational Rehabilitation, Community Integration Services and Supports and an RIT Trustee

What is your career highlight to date?
"Serving on the North Carolina Division of Vocational Rehabilitation Executive Leadership team where my role of being a leader of several statewide programs for all people with disabilities has enabled me to witness positive outcomes for individuals successfully integrating into their communities. As a person who is Deaf, I enjoy dispelling the myth that Deaf people are limited in their ability to supervise and manage others."

How did RIT help to prepare you for success?
"Arriving to NTID newly Deaf and extremely shy was a challenge. Entering the social work program where there was an expectation for students to interact, engage, and do presentations was out of my comfort zone. Through support of staff and peers, I began to develop confidence and also became a proud Deaf individual with a desire to break barriers—especially for the marginalized Black Deaf community."

Saunders College of Business

Mark G. Barberio '85

Accounting
Principal, Markapital and an RIT trustee

What is your favorite RIT memory?
"While in school I enjoyed being involved with the Residence Hall Association and Student Government. I made a great group of lifelong friends who worked hard and fully enjoyed student life. Twenty-five years after graduation, it's returning to see the huge, positive changes at RIT. I also got to enjoy being a part of two sons, a niece, cousins, and friends attending RIT and finding their career paths."

What is your career highlight?
"Advancing from a staff accountant in a $30 million revenue company to co-CEO and CFO of a multi-billion dollar global industrial group, participating in the growth through acquisitions, innovation, and changes in ownership/cultures. Also, learning from and working with some of the smartest business people around the world, while leveraging my experience to add value to companies through board memberships."

School of Individualized Study

Luticha André Doucette '14

Applied arts and sciences
Owner of Catalyst Consulting

What is your favorite RIT memory?
"Wow, honestly, I really enjoyed talking with friends after lab. Making connections that last to this day are the most important to me."

What is your career highlight?
"Becoming my own business owner. Helping organizations and people look at themselves with an equity lens and seeing them transform is amazing for me."

How did RIT help prepare you for success?
"My education helped me hone my critical thinking skills, as well as my ability to deal with ambiguity. Furthermore, I can easily identify how to 'get to the work' quickly and with accuracy. This is a needed skill in today's world."

What does being an RIT alumna mean to you?
"It means you're part of a network of skilled people who are also OK with being nerdy and odd. This uniqueness is so needed."

Jeffrey Harris named Outstanding Alumnus

If RIT Trustee Jeffrey Harris '75 (photographic science) were to impart one piece of advice, it would probably be to listen to your mother, who he affectionately referred to as "The General" growing up.

That's because it was his mother who found the perfect university where her son could parlay his interests in photography and science into a highly successful career.

"She ascertained that I wanted to do something with photography, but not take pictures, and the only school on the planet that had something like this was Rochester Institute of Technology," said Harris. "She figured that out, got me up to the campus, and introduced me to the imaging science program."

When it came time for Harris and his partner, Joyce Pratt, to give back to the university that was so instrumental to his success, he did so in honor of his mother's 90th birthday, establishing the J.K. (Jane King) Harris Scholarship for a Rochester City Scholar. They have also generously supported the Chester F. Carlson Center for Imaging Science and the performing arts at RIT.

Harris was honored for his ongoing support of the university and career achievements with the 2020/2021 Outstanding Alumnus award during a virtual ceremony on April 29.

Harris thrived in the experiential nature of RIT's imaging science program, which led him to a career advancing national security programs in both government and industry.

Currently consulting for both industry and government organizations, Harris has served as president of

Lockheed Martin Missiles and Space, as well as Lockheed Martin Special Programs. He was also president of Space Imaging, the first company to commercially provide high-resolution satellite imagery of the Earth and information products.

Before his corporate career, Harris served in senior national leadership positions, including assistant secretary of the Air Force for Space, director of the National Reconnaissance Office, and associate executive director of the Intelligence Community Management Staff. In these roles, he provided direct support to the Secretary of Defense and the Director of Central Intelligence.

In addition to his philanthropic support, Harris serves as chair-elect of RIT's Board of Trustees, having been a member for more than a decade.

His engagement as an active member of the RIT community has helped to frame the university's strategic plan that leverages insights gained by working with students and faculty.

Previously, Harris received the College of Science Distinguished Alumni Award and the NRS Award.

"You recognize the value of experiences gained while at RIT that makes you an engaged citizen," said Harris. "Although the university is now very different than when I graduated in 1975, it has continued to equip graduates to be successful leaders and thinkers, demonstrating the impact that the comprehensive RIT experience delivers."

Amber Webb
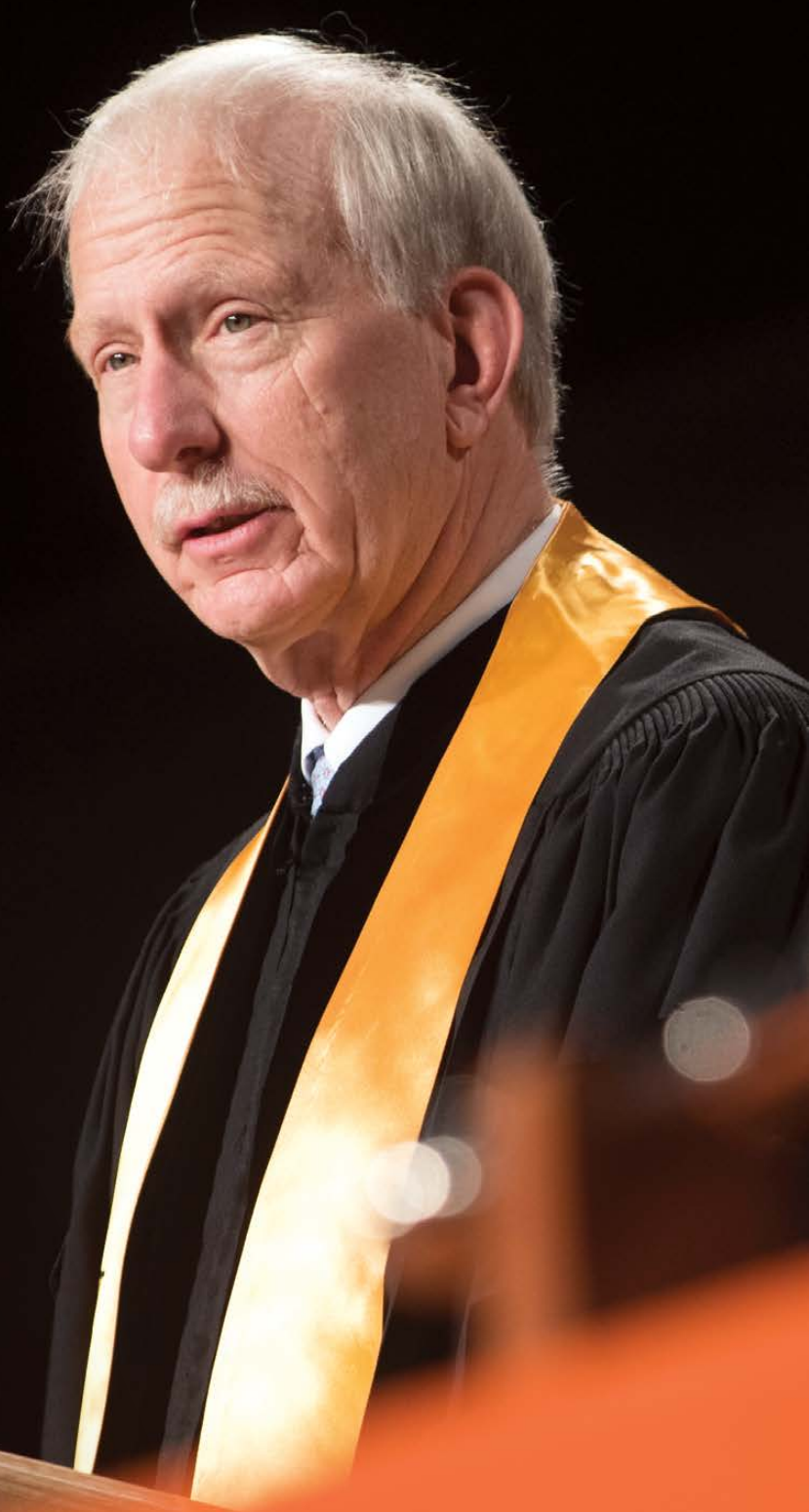
Jeffrey Harris '75 was honored for his ongoing support and career achievements with the 2020/2021 Outstanding Alumnus award in April.

A. Sue Weisler

Mona Harrington '08 MS, executive director of the U.S. Election Assistance Commission, is helping to improve the usability, security, and accessibility of voting systems used across the country.

Lacey Johnson

Alumna guides U.S. election commission

On Feb. 10, alumna Mona Harrington sat before the U.S. Election Assistance Commission (EAC) in a public meeting. The commissioners unanimously voted to approve her recommendation to adopt the next generation of federal voting system guidelines.

As executive director of the EAC, Harrington '08 MS (professional studies) helped steer the U.S. through a unique 2020 election. Today, she is continuing her work and hopes to rebuild voter confidence across the country.

"Given the circumstances, our election officials did a miraculous job and really rose to the occasion," said Harrington. "It's a process of continuous improvement, so by moving the Voluntary Voting System Guidelines forward to version 2.0, I believe we are going to revolutionize voting technology."

In June 2020, Harrington was voted—by Democrat and Republican presidential appointees—to a four-year term as executive director of the EAC.

As leader, Harrington has revamped the

agency and spearheaded a series of initiatives to ensure COVID-19 and cybersecurity challenges don't harm the election process.

Her past jobs in cybersecurity, 18 years of federal government experience, and a degree from RIT all helped get her to this critical role.

Cybersecurity has been a key issue for Harrington, ever since she helped eliminate a computer virus at the U.S. Court of Appeals for the Federal Circuit in the early 2000s. It started as a contracting IT job at the court and led to a permanent position monitoring cyber activities.

She wanted to boost her skills, so she found a master's program at RIT that focused on cybersecurity, computer forensics, and counterterrorism. The program was a partnership between RIT and the Center for Advanced Defense Studies in Washington, D.C. Today, students can take part in a similar customizable master's program in RIT's School of Individualized Study.

With the growing importance of cybersecurity management, the court named

Harrington its first information security officer. She set up policies, procedures, and an awareness campaign to get cultural buy-in on the importance of cybersecurity.

"I came up with the first international travel cybersecurity guidelines for our judges and had numerous other circuits throughout the country asking for my guidance," said Harrington.

At the EAC, Harrington has directed the distribution of more than $800 million in funding to states. Under her leadership, the agency has been strategically reorganized and undergone a hiring initiative.

Leading up to the 2020 election, she assembled a new cyber team and partnered with the Department of Homeland Security to release a risk profile tool that allows states and local jurisdictions to identify their risks.

"Who knew that what I learned from RIT in 2008 would help me every day on the job," said Harrington.

Scott Bureau '11, '16 MBA

Chris Edwards '97 (film and video production) is co-founder and CEO of THE THIRD FLOOR.

Grad applies studio's talent to faraway galaxies

Since Chris Edwards '97 (film and video production) graduated, you could say the sky has been the limit when it comes to his meteoric success over the last two decades.

Fittingly, THE THIRD FLOOR (TTF)—the multinational, award-winning visualization studio Edwards co-founded with computer-graphics artists in 2004— was hatched on the third floor of George Lucas' Skywalker Ranch in northern California.

Today, Edwards serves as CEO of the Los Angeles-headquartered company that began with 10 artists originally tasked with digitally prototyping *Star Wars: Episode III*, shot-by-shot, and has grown to more than 400 employees deployed from Los Angeles to London to Beijing.

Recognized as the gold standard for virtual "previsualization," THE THIRD FLOOR has empowered thousands of directors and producers to plan blockbuster films, TV series, video games, and theme park attractions worldwide.

"We were fortunate to have George Lucas and Steven Spielberg as early adopters of the 'previs' process, so our theory was that there had to be many more storytellers who would love to have this level of support for their creative visions," Edwards said.

TTF's collaborations include *Avatar*, *Gravity*, *Joker*, five recent *Star Wars* films, 19 Marvel films, five seasons of *Game of Thrones,* and *The Mandalorian*.

Working on "Mando," as Edwards affectionately calls the Disney+ series, has been especially rewarding for the TTF crew.

"When we first heard about Lucasfilm's plan to produce a live-action *Star Wars* TV series, on par with the features, we knew that the clever use of real-time visualization was going to be key to realizing the scope and scale of the *Star Wars* universe on an episodic budget and schedule," he said.

The studio's accolades include five Emmy Awards, multiple Visual Effects Society Awards, two Lumiere Awards, and a Clio. Edwards' ingenuity was recognized with the GENIE Visionary Award at the 2020 Paris Digital Images Summit—a lifetime achieve-

ment award he shares with VFX pioneers he has idolized since childhood.

Edwards said he continues to call on what he learned from his School of Film and Animation instructors inside the walls of what is today RIT's College of Art and Design. "The perfect balance of technical and artistic training in an environment that encouraged me to become an entrepreneur," he recalled fondly.

His connections to the college and university remain strong. Five years ago, Edwards helped establish the Entertainment Advisory Board, a group of RIT alumni with strong industry ties who meet regularly inside TTF's Los Angeles screening room.

THE THIRD FLOOR continues to expand and apply its design process into the world of professional education and simulation, with a space theme, of course.

"We're now building 3D experiences to help train U.S. Space Force cadets," Edwards concluded.

Rich Kiley

Another round

Alumni craft beer and open breweries

Chris Rhoades, left, and Brendan Harder

Jeff McCullor

Jeff McCullor '04 misses sitting down at a table and getting to know a group of strangers over a pint of beer at his brewery. However, the Erie Ale Works owner isn't letting the pandemic halt his business entirely. He has invested in his own canning equipment, so he can increase distribution.

Tom Sutter '84, another brewery owner in Massachusetts, is using this time to expand his facilities, so he can create a sour and barrel-aged beer program.

More than a dozen RIT alumni have tapped into the craft-beer boom that has swept across the country. In the past 12 years, the number of craft breweries has more than quadrupled.

Alumni are taking what they learned at RIT and using it to create unique businesses with one thing in common—beer.

Beer Tree Brew Co.
Port Crane, N.Y.

From farm to glass, it's all in the family for Chris Rhoades '16 (mechanical engineering technology), '16 MS (manufacturing and mechanical systems integration) and his brother-in-law Brendan Harder '13 (mechanical engineering).

Using hops from the family's central New York hop and grain farm, Rhoades and Harder have gone from weekend brewers to owners of Beer Tree Brew Co., near Binghamton, N.Y. The pair built and opened their hemlock A-frame brewhouse on the farm in 2017. They also opened a factory location in nearby Johnson City in late 2020.

Rhoades has gone from aerospace engineering to working at the brewery full time, while Harder also works as a new product development manager at Amphenol Aerospace. The duo said that they still use what they learned at RIT every day in the brewery.

"We designed and run everything in the buildings ourselves, including the PLC-driven automatic systems that control temperature, steam, and all the essentials for making good beer," said Harder.

Erie Ale Works
Erie, Pa.

Jeff McCullor '04 (marketing) always has his pitch ready for when someone asks about what he does—or about beer in general.

"That's one thing my professor Philip Tyler taught me about personal selling that I'll never forget," said McCullor.

Since writing up a business plan and opening Erie Ale Works in 2014, McCullor is always looking for new ways to sell his beer. He helped found the Lake Erie Ale Trail, in an effort to work together with other local breweries. Today, there are 13 breweries on the trail passport with two more on the way.

"I also see a better return on digital marketing, as opposed to traditional advertising media," said McCullor. "Social media and email is our focus now."

Tom Sutter

Jeff Lukasik

Everett "Sid" Lovell

Medusa Brewing Co. and Timberyard Brewing Co.
Hudson, Mass., and East Brookfield, Mass.

While traveling through Europe as a Dow Chemical research director for many years, Tom Sutter '84 (photographic sciences) grew a fondness for Belgian beer. When he decided that he wanted to challenge himself with a new business, he knew beer was the direction to go.

Working with partners, Sutter opened Medusa Brewing near his home in Massachusetts in 2015. When a friend in a neighboring town was looking for help to start Timberyard Brewing in 2018, Sutter knew this would be another good investment.

"In our first year at Medusa, we brewed more than 100 different beers," said Sutter, who also works as an operations director at Kayaku Advanced Materials. "Our taprooms are community based and we have a well-rounded portfolio of beers to go along with that."

Nostrovia Brewing Co.
Erie, Pa.

It took Jeff Lukasik '05 (mechanical engineering technology) four years to make his dream a reality. In 2019, he opened Nostrovia Brewing.

"It's been a unique venture because I took a lot of significant steps to minimize risk and overhead," said Lukasik.

Using his engineering background from RIT and his job as a mechanical engineer at Cummins, he designed and fabricated a 10-barrel brewing system in his garage. He then renovated the building that would become the new home for his brewery, gutting all of the plumbing and electrical himself.

The brewery's name, Nostrovia, is an English mispronunciation of an eastern European toast and pays homage to Erie's large Russian and Polish populations.

Wild Run Brewing Co.
Stafford, Va.

When Everett "Sid" Lovell '80 (mechanical engineering) decided to get out of the corporate world at General Electric, he began looking for a small business that he'd like to own.

He settled on a camp ground and 34 years later he is still running the 20 acre Aquia Pines Camp Resort, less than an hour drive south of Washington, D.C. After years of homebrewing beer, he also opened a tasting room at the camp ground in 2014.

"I really like stouts, but I wasn't a fan of the bitter aspect of the ones I could buy," said Lovell. "So I learned how to make them myself, with an aftertaste that is a lot smoother."

Lovell makes about 100 gallons of beer at a time, so he only sells the beer onsite. Being close to the Marine Corps Base Quantico, many of his brews are military themed.

Scott Bureau '11, '16 MBA

Dimple Joseph '18, '18 ME has been working with the healthcare company Abbott, coordinating the manufacturing process for new COVID-19 rapid tests.

Grad helps ramp up rapid test manufacturing

Dimple Joseph's short-term assignment last year turned out to be a "really big start up."

As part of the healthcare company Abbott, Joseph contributed to the main manufacturing site's readiness to produce the company's new BinaxNOW Rapid Test, which met the growing demand for testing options as pandemic cases were rising.

Although the rapid test is only the size of a credit card, it is a big breakthrough because it can determine an individual's COVID-19 status in nearly 15 minutes.

"My life pretty much changed in August," said Joseph '18 (industrial engineering), '18 ME (engineering management), describing her reaction to the assignment to be part of the team that would ramp up production of the important tests.

Originally based at the company's site in Plano, Texas, she joined a rapid response team that headed to Gurnee, Ill., over the summer to scale-up the overall manufacturing process and train employees at the site. They are on target to produce their goal of 50 million rapid tests per month.

"As industrial engineers, we look at people and processes and how they interact. We look at identifying where we can do things better," she said. "This is our element—a request came in and our company responded."

Coordinating projects and working with a variety of people is not new to Joseph, who mixed coursework with campus activities and community service projects.

She held leadership positions with RIT's student chapter of the Institute of Industrial and Systems Engineers and was a member of DIVAS (Determined Individuals Victoriously Achieving Success), a former leadership program through RIT's Multicultural Center. As director of the College Activities Board, she managed a staff of 30, and together the group delivered more than 100 events per year for students.

"Planning other people's social life was my social life," she said, laughing.

While working on a senior design project for the Student Health Center, she met the center's director, Dr. Wendy Gelbard, who would become both a mentor who fostered her interest in the medical field and a friend she remains in touch with today.

"It is not just leading this test project— that is big enough," said Gelbard, who is part of RIT's COVID-19 task force. "But doing it in a pandemic and having to live by safety rules and regulations that make it possible to even work, that is pretty amazing."

Gelbard credits Joseph's education, experience, and a knack to connect well with people as key to her ability to produce at a high level.

Joseph's continued connections to RIT mentors and previous leadership practice are being put through the paces at Abbott, where she is a front-line leader who supervises workers on the manufacturing team.

"I'm not a medical professional, but my work can still help somebody get better, to get back to their families," she said. "That is the sort of mission I wanted to be a part of."

Michelle Cometa '00
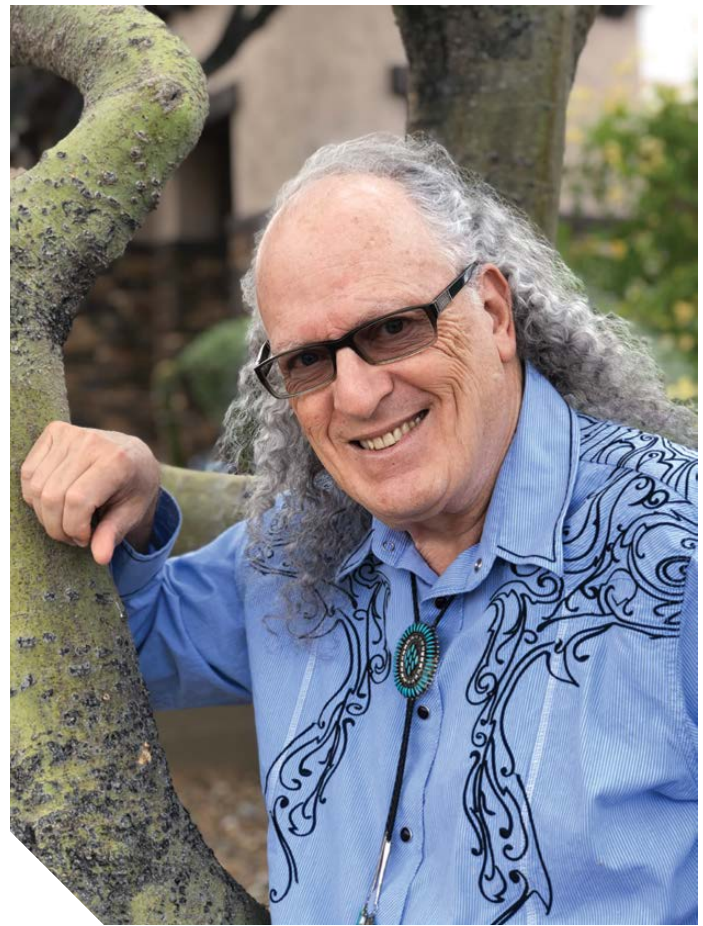
David Spindel '64, right, has photographed celebrities including John Lennon, Jerry Stiller, Chuck Connors, and Joe DiMaggio. To view more of his photographs, go to spindelvisions.com.

Photos by David Spindel

Photographer is a 'kid in the candy store of life'

All David Spindel wants to do in life is create works of art that bring smiles to people's faces. So, he turned that into a career.

Spindel '64 (professional photography) is known for both his commercial work, memorabilia photographs on general subjects, and baseball memorabilia. He has also created a large body of photographs called Rebuses, which is the use of visual images to represent words or phrases.

Upon graduating, the Brooklyn, N.Y., native started his career by taking on a few assisting jobs, including with Tosh Matsumoto, a Japanese commercial photographer. After working under Matsumoto for about a year, Matsumoto suggested he open his own studio, and that is when Spindel's career exploded.

He specialized in commercial advertising photography and in photographing celebrities, such as Joe DiMaggio, Eli Wallach, Anne Jackson, Jerry Stiller, Chuck Connors, and George Burns. Even though they were famous names, Spindel said he saw them as one of his own.

"They didn't really shake me up," said Spindel. "I met them and they were really down-to-earth. I can't even think of one who had their nose up in the air."

The one job that Spindel said will always be stuck in his mind was the time he had the honor to photograph John Lennon. These photographs are featured in a book created by Yoko Ono, *John Lennon Summer of 1980*, the PBS special documentary LENNONYC, and others.

"I didn't even know I was to be photographing him until I entered the Hit Factory. I walked into a room to set up my equipment and there was a guy getting a massage. He turned over and I realized it was John Lennon," Spindel said. "He told me he usually received a fee to have people watch him get a massage. I told him I usually get a fee to have people watch me move my equipment. He said I was funny and said we would get along great. It was definitely an unforgettable experience."

Spindel also has a passion for using his emotions and experiences to create nostalgic photographs that trigger memories inside one's mind.

"My mother-in-law would love to go to garage sales in Rochester, and having lived in Brooklyn my whole life I had no idea what they were," said Spindel. "She bought these little knick-knacks and I loved them. Each piece had a story. I started collecting some of my own and making collages. That's really where I got my inspiration to drive my career."

Spindel is creating a book of his past works called *Kid in the Candy Store of Life*. He plans to include a compilation of his memorabilia photographs, celebrity portraits, and stories. He aims to show his readers that they should never give up on their true desires in life. "If you love something you've created, show it to the world and never stop doing that," he said. "Stick to what you love and don't let anyone tell you what to do otherwise."

Ava Gervan '22

Class Notes

About Class Notes

Class Notes are edited for space, clarity, and style. Share information by going to rit.edu/alumni/class-notes.

1961

Ron Gallo '61 (FAA) was the recipient of the Best Figure and Portrait award from the national art magazine *Plein Air Painting* in April 2020. View his painting at rongallo.com.

1968

Gene DePrez '68 (FAA) advised the board and staff of the Greater Richmond Partnership in the development of their Regional Strategic Economic Development plan. He also moderated a panel on design leadership at the annual conference of the International Economic Development Council. DePrez recently moved from the New York City area back to Rochester.

Jan Detanna '68 MFA (FAA) is the lead singer in The Dukes a cappella singing group, which appeared on a seven-day Mexican Riviera cruise in February 2020.

Charles Holden '68 (GAP) started a letterpress and book studio and teaches classes in typography, letterpress printing, bookbinding, and papermaking in Wilmington, N.C. Visit the site at portcityletterpress.com.

VFX editor finds fulfilling work on *The Prom*

Harlan Doolittle '14 (film production) is a VFX editor and assistant editor with Ryan Murphy Productions, which made *The Prom*.

Early in 2020, Harlan Doolittle '14 (film production) had just wrapped up working on Netflix's *Hollywood* and was looking forward to adding visual-effects expertise to season 3 of the FX series *Pose* when the pandemic brought Hollywood—and the world—to a halt.

Doolittle was fortunate, however, to be able to head over to *The Prom*, the Netflix ensemble comedy movie directed by Ryan Murphy, the television producer, director, and writer Doolittle had previously worked with on *American Horror Story* and other hits.

"Luckily, *The Prom* was mostly done shooting, so they asked me to supervise their VFX (visual effects) and I was happy to step in," the VFX editor and assistant editor with Ryan Murphy Productions recalled. "I loved how I could pour over every detail on *The Prom*."

As a VFX editor, the Los Angeles resident (who uses they/he/she pronouns) helps shape each individual shot with VFX artists and vendors.

Doolittle's work on *The Prom*—and the show's strong message rooted in the need for inclusivity—was especially rewarding both personally and professionally.

"As a gay millennial, I didn't have a whole lot of exposure to positive queer role models or stories—let alone coming-of-age stories—until my late teens," they observed. "I had to dig for stories on the Internet or on forums to find people who were like me."

Murphy's award-winning show *Glee*, about a show choir with disparate members dealing with social issues regarding sexuality, race, and relationships, was a watershed moment for Doolittle.

"Some of us don't really get the chance to go incognito about being queer, and as an effeminate kid who danced competitively and loved pop culture, that resonated with me," they recalled. "This was the first time I had seen a kid like me get a happy ending, enshrined on mainstream television and universally recognized."

A decade later, Doolittle was working on a similar story for a new generation.

"It means the world to know there are queer kids out there like me who might get a much needed dose of courage and feel-good hope from *The Prom*, and to know they can dream big without having to hide themselves or feel ashamed," Doolittle said. "My job is to support the story being told, and it's such a blessing to be able to tell stories for a living."

Rich Kiley

1969

John Morrison '69 (SCB) has accepted a second three-year appointment to the Board of Trustees of Keystone College, LaPlume, Pa., and to the Board of Directors for the Outreach Center for Community Services, Scranton, Pa.

1971

Tom Klinkowstein '71 (GAP) presented a lecture and workshop in the Digital Media Design program at the National Yun-Lin University of Science and Technology in Taiwan.

1972

Kenneth Becker '72 (SCB) has worked as vice president for National Corporation for Housing Partnerships, president of Rakusin & Becker Management Inc., and currently is board chair of real estate development and management of the Montgomery College Foundation. He's not yet retired and has been married for 44 years with two daughters and four granddaughters.

1975

Bill Turan '75 (GAP) writes that he turned 67 and has a great hint for all RIT photo students—make sure your clients are younger than you. In 2004, he left a corporate job at Nabisco and went back to the freelance life where his clients are about 10 years younger than him. Even with the pandemic, he is still shooting food.

1977

Alan Frohlichstein '77 (GAP) has been re-elected to a four-year term to the board of directors of the Ophthalmic Photographers' Society. He launched his website Alanfrohlichstein.com and has a book chapter on ophthalmic photography in *Photography in Clinical Medicine*, published by Springer.

Kevin Hall '77 (FAA) has won an award from the Advertising Club of Connecticut 2020 Awards Show in the category of Signage, Graphics, and Point of Purchase for his design work titled: "Holiday Sales Event." Hall is principal and creative director at Kevin Hall Design, a graphic design and branding firm just outside New Haven, Conn.

1979

Bill Coons '79 (FAA) founded Creative Dynamics Studio, a Chicagoland corporate video production agency. He most recently celebrated its 20th anniversary. Clients exclusively include Fortune 500 class companies.

Sam Giannavola '79 (GAP) has retired from a 34-year career at the University of Arkansas for Medical Science in Little Rock. He held many staff and administrative positions over the years, including director of the 40-person department that included photographers, graphic designers, videographers, and a print shop. He became a Registered Biological Photographer in 1980, was awarded Fellowship for meritorious contributions to the biological sciences in 1998, and a lifetime services award, the Louis Schmidt Laurite award, in 2005 by the Biological Photographic Association.

Gene Salerno '79 (FAA) shares his most recent work, *The American Series Art*, a book of five historical paintings with other Tiger alumni. These five beautiful oil paintings were created during the 1976 American Bicentennial and are as relevant today as they were then.

1980
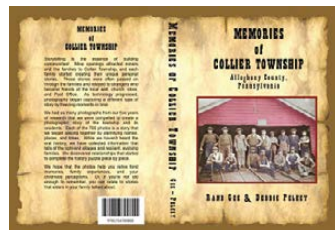
Kenneth Kuzia '80 (CCE) just finished editing and illustrating the fifth and sixth books for his author and friend, Rand Gee. The books include short stories, humorous quips, anecdotes, and, most recently, a series of books documenting the coal mining regions in Pennsylvania in the 1800s and early 1900s.

Bruce Thompson '80 (KGCOE) retired in December 2017 from Xerox Corp.

Marc Turkel '80 (GAP) began a master's degree program at Seattle University in Existential Phenomenology—Psychology in September 2020 with an eye toward clinical psychotherapy. He also plays guitar for relaxation.

Jeffrey White '80 (GAP) retired from Electronics for Imaging after a long career in information systems sales and operations. He is now living in Pittsburgh and working for the Print & Graphics Scholarship Foundation on a part-time basis.

1981

Frank Bonsignore '81 (COS) has written and published his first book, *Uncle Frank's Guide To Joining the Workforce*. The book is available on Amazon.

Thomas A. Ethington '81 (GAP) retires after 30-plus years at Independent Commercial Studio, seven-plus years as a staff photographer, and three-plus years as an intern and lab tech at Eastman, while at RIT and just after.

Tom Hubert '81 (FAA) retired in June 2020 after a 40-year career as professor of art at Mercyhurst University in Erie, Pa. He looks forward to continued production in his ceramic studio. His website is hubertceramics.com.

John McNicholl '81 (GAP) ran a successful printing company for many years and is still in the printing industry today. His son, John P. McNicholl, is proud to be a Tiger and is in his final semester of a five-year dual-degree program in industrial engineering and a master's degree in engineering management.

Scott Pfanstiel '81 (GAP) retired as the environmental coordinator for the Solid Waste Department at the County of Tulare, Calif.

1982

Daniel Holmes '82 (GAP) recently moved to New Mexico where he returned to a career as a deputy district attorney in Clayton. He spends a lot of time outdoors hiking and using his photography degree sharing his experiences in photos with family and friends. Former classmates can contact him at DanielE.Holmes@yahoo.com.

Jolana Babacek Photography
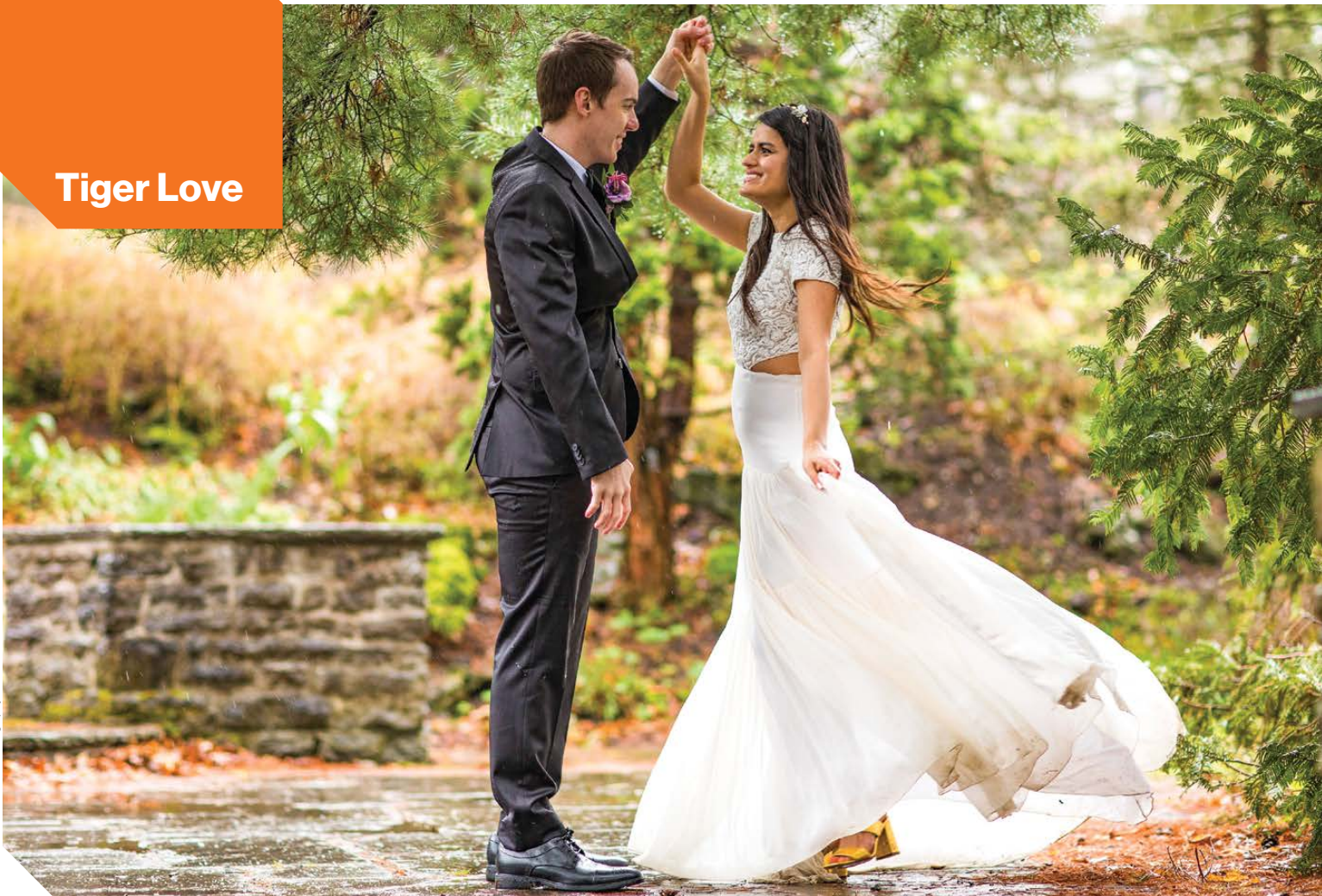
Zahal Kohistani '15 and Thomas Doolittle were married on Zoom in April 2020. About 25 families attended the Zoom wedding and wished the couple well.

Tigers tie the knot over Zoom

RIT plays a starring role in the April 2020 virtual wedding of Zahal Kohistani '15 (psychology) and former Tiger Thomas Doolittle.

The couple met while they were students living in Global Village. Their first date was at SpringFest. They got engaged in front of Salsarita's. They celebrated their engagement at the Joseph M. Lobozzo Alumni House. And they were married on Zoom by Kelly Redder, executive director of the Lobozzo Alumni House.

"It's like we planned it to be an RIT-themed relationship," Doolittle joked. "It is funny how it all revolved around RIT."

The two, who were introduced by Doolittle's sister, Emily Doolittle '15 (media arts and technology), had planned a wedding in downtown Rochester for April 26, 2020.

But Doolittle was watching the coronavirus situation closely. He has asthma and didn't want to put himself, or family and friends, in danger. They canceled the event on March 14, 2020.

Then they started seeing people around the country get married on Zoom.

"At first we thought it was kind of funny," Kohistani said. "It's not something you think about when you are planning a wedding."

On April 18, 2020, New York Gov. Andrew Cuomo signed an executive order allowing couples to obtain licenses and marry using audio-video technology.

A week later, they were saying their "I dos."

Kohistani wore her wedding dress and Doolittle donned a tuxedo-style suit. They ordered flowers, made a three-layer wedding cake for two, and had a ceremony online.

Emily Doolittle became their wedding planner. Redder, who hit it off with the couple when they were planning their engagement ceremony at the Alumni House, officiated.

Redder became ordained a year before to assist family members and friends who were looking for something other than a traditional ceremony.

She adapted the ceremony so the 25 families who attended could say a few words and wish them well.

"It was perfect in every way except one," Redder said. "I so wanted to give them both a huge congratulations hug."

By the end of the summer, the couple had moved to Southern California.

Kohistani works for San Diego State University and Doolittle works for Community Psychiatry.

They are expecting a baby this fall.

"Overall it has been a very good year for us," Kohistani said. "We are looking forward to all of the things the next year will bring."

Mindy Mozer

1983

Gerard Kiernan '83 (CAST) is the facilities engineer and sustainability coordinator for the City of Springfield, Mass. He was instrumental in securing solar credits for the city that will result in energy savings and reduce the city's carbon footprint.

Rick Morris '83 (CCE) was promoted to industrial furnace co-site supervisor at AMG Vanadium in Zanesville, Ohio.

1984

Gregory Germain '84 (KGCOE), retired VP NetApp, is now serving as the chairman of the advisory board for 321 Coffee. Established by four North Carolina State students, 321 Coffee is a nonprofit coffee shop that employs adults with intellectual development disorders.

Peggy Terhune '84 MBA (SCB) received North Carolina's Order of the Long Leaf Pine award. She was recognized for her outstanding work as an advocate and leader in services and support for individuals with intellectual and developmental disabilities, mental illness, and substance use disorders.

1985

Robert Bruschini '85 (GAP) re-joined the Corporate Brand Creative team at Bristol Myers Squibb as director, Corporate Brand Photography and Video. He is responsible for leading the visual identity of the new global corporate brand through photography and video across all platforms and communication channels.


Ann-Elizabeth Nash '85 (GAP) was awarded her doctorate in Biological Education from the University of Northern Colorado, Graduate Dean's Citation for Excellence, in December 2019. Her research focuses on non-cooperative social lizards, primarily the spiny-tailed iguana in Costa Rica. Nash is the Executive Director of Colorado Reptile Humane Society.

Taylor Zimmer '85 (GAP) is developing an environmental tourism destination in Central New York called Solitude Farmz, with plans on opening this spring, depending on COVID. Zimmer has partnered with RIT students in the department of architecture for some forward-thinking ideas on sustainability and design. Learn more at SolitudeFarmz.com.

1986
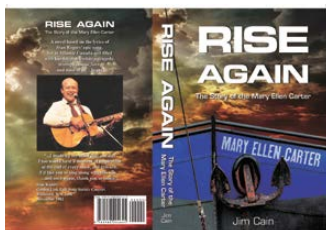
Jim Cain '86 MS (KGCOE) has written 22 books in the past 20 years, but this year published his first novel. *Rise Again* is available on Amazon.com.

1990

Paul Chaplo '90 MFA (GAP) wrote *Amarillo Flights: Aerial Views of Llano Estacado Country*, a book of photography published by Texas

A tiger with taste

Kyle DeFord '08 (applied arts and sciences) is one of the stars of the HBO Max show *STYLISH with Jenna Lyons*.

Kyle DeFord '08 (applied arts and sciences) has become one of the stars of the HBO Max show *STYLISH with Jenna Lyons*. But it didn't happen overnight.

Graduating in 2008 in the middle of a recession, DeFord took a position at J. Crew, becoming store manager for the popular clothing giant.

After several years, he was hired as a recruiting coordinator in New York City, which became a pathway for the work he is doing today.

"When you are working on the recruiting team, you get to know everyone."

Within a couple of years, he was recommended for a position as special projects assistant to the CEO and chairman of J. Crew Group, Mickey Drexler. The position turned into a critical on-the-job training experience.

"It was like getting my MBA directly from him," he said.

Changes were happening in the retail clothing industry and the company. Drexler retired and several vital leaders moved on to new opportunities. A call to work with former Creative Director Jenna Lyons was too good a chance to pass up and led to DeFord's current role as both chief of staff for her company, Lyons LAD, and the general manager of LoveSeen.

Concurrently, Warner Media/HBO Max wanted to make a lifestyle show, and Lyons was an established figurehead in fashion. Originally, DeFord wasn't slated to be in the show. He was responsible for concept development. But after a successful screen test, he made his way in front of the camera. "It's funny. People say, 'You're great on TV. Was this something you've always wanted to do?' Definitely not," he said, laughing.

DeFord, Lyons, and Sarah Clary, a fashion-stylist, do more than just star in the show. They coordinate the show's projects and edit scenes after filming.

"People may think it's a competition—a cut-throat reality show. This is something different. We want to see about hiring these people full-time."

Michelle Cometa '00

Tiger Cubs

1 **Joshua Zatulove '03 (GCCIS)** and Jessica Peltz-Zatulove welcomed their second sweet and smiley daughter, Dahlia Raine Zatulove, in February 2020.

2 **Seth Schapiro '05 (GCCIS)** and his wife, Alyson, welcomed their son, Owen, in August 2020 in Annapolis, Md.

3 **Jerlyn (Thomas) O'Donnell '07 (CIAS)** and her husband, Michael, are happy to announce the birth of their daughter, Mattis Joan, in February 2020.

4 **Julie (Zepke) Krug '09 (CIAS)** and **Ken Krug '10 (GCCIS)** welcomed their first baby into the world in June 2020. Victoria Lillian Krug already loves to watch hockey.

5 **Erika (Soltis) Griffith '10 (KGCOE), '10 ME (KGCOE)** and **John Griffith '10 (KGCOE), '10 MS (KGCOE)** welcomed a new adventurer to the family. Aiden Griffith was born in October 2020.

6 **Sophie Schillaci '10 (CLA)** and **Mike Boya '11 (GCCIS)** welcomed their second child, Colton Dean Boya, in March 2020 in Los Angeles.

Jennifer (Mueller) Dwyer '11 (CIAS) and **William Dwyer '11 (KGCOE)** welcomed Adelaide Dwyer in June 2020.

7 **Lauren Iuranich '12 (CAST)** and her husband, John, are excited to announce a third addition to their family, Apollo Oberon, born in October 2020.

8 **Elizabeth Abdeen '13 (KGCOE), '13 MS (KGCOE)** and **Danny Abdeen '13 (KGCOE)** welcomed their second daughter, Zoë Ella, in May 2020.

9 **Lorenny Mota Morla '16 (SOIS)** and **Michael Berrios '14 (GCCIS)** are happy to announce the birth of their son, Silas Michael, in February 2020.

A&M University Press. It is his second book. The book was accompanied by a touring solo exhibition, which opened at the Panhandle-Plains Historical Museum.

1991

David Gianna '91 (CAST, GAP) completed a Ph.D. in Technology at Capitol Technical University. He is teaching graduate Cybersecurity at Yeshiva University and at University of Maryland. He is also a business risk and control officer at Wells Fargo Bank.

Tamra Werner '91 (CAST), '20 MS (SOIS) published her second book in her series, *Koli The Great White Shark*. *Koli's Friendship Adventure* includes a licensed partnership with OCEARCH and a percentage of each sale benefits its research and STEM programs. **Alan Gesek '11 (CIAS)** illustrated the 36-page children's book.

1995

Shail (Mithani) Rajan '95 MBA (SCB) serves as the president of a nonprofit and is chasing her dream of becoming a novelist. She recently published her first novel, *The Summer Breeze* (bit.ly/TheSummer BreezebyShailRajan).
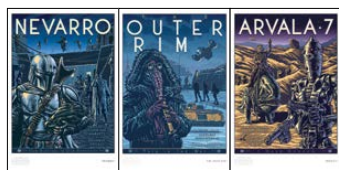
Jeremy Sniatecki '95 (CIAS) developed a series of location-themed designs based on season one of *The Mandalorian*, to be released as numbered, limited edition poster prints by Acme Archives/Lucasfilm. The first three designs can be found on AcmeArchivesDirect.com under a search by artist name. Season two poster art designs are currently in development.

1996

Timothy Cosgriff '96 MS (CAST) exhibited at George Eastman Museum in the Holiday Sweet Creations Exhibit 2020.

He is the director of community events for SUNY Empire State College and has exhibited at the museum in this exhibit for more than 10 years.

1997

Mark Higgins '97 (SCB), '03 MBA (SCB) hosted the 11th Annual Autism Open with **Ron Toper '97 (SCB), '98 MBA (SCB)**. The event raised more than $18,000 for Autism Up, an autism support group in Rochester. Dozens of RIT graduates attended.

Charles Wilson '97 MFA (CIAS) is teaching animation history at Central Michigan University.
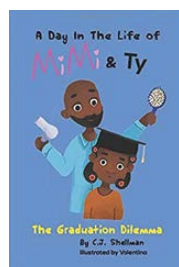
1999

Laura Glazer '99 (CIAS) started her first term as a graduate student at Portland State University, working toward a Master of Fine Arts in Art and Social Practice.
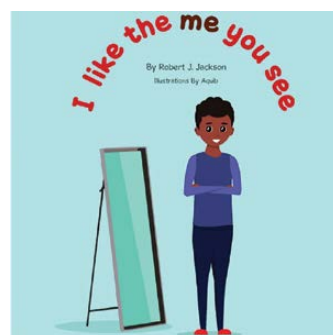
Robert J. Jackson '99 (CAST) released *I Like the Me You See*, the second children's book in a three-book series. It is his third book overall. Additionally, he is a Ph.D. student at Carolina University.

2004

Chester Shellman Jr. '04 (CLA) is a brand-new author who is inspired by the relationship he has with his young daughter, Cassidy. *A Day in the Life of MiMi and Ty: The Graduation Dilemma* is the first of a series of books about a newly divorced father who has primary custody of his daughter, and how they experience life's situations together.

2005

Seth Schapiro '05 (GCCIS) was awarded IEEE Senior Membership in recognition of his commitment to advancement in the field of Systems Engineering through continued education, mentoring, and professional

engagement. He was also promoted to the title of Staff Systems Engineer with Northrop Grumman Corporation (Mission Systems) in Annapolis, Md.

2006

Kristen (Emery) Willmott '06 MS (CAST) recently published a book through Information Age Publishing. *Gender, Tenure and the Pursuit of Work-Life-Family Stability* is a timely work that may interest anyone juggling work, home, and family.

2007

Jerlyn (Thomas) O'Donnell '07 (CIAS) and Michael O'Donnell were married on May 26, 2019. Both are marathoners and triathlon (half ironman) athletes who met each other on OkCupid. They got married on their favorite running path in New Paltz, N.Y., and went for a run proceeding the ceremony. They currently live in New York City.

2008

Mary Mihajlov '08 (CIAS) accepted a new position as a Human Resources Generalist at Banner Engineering in Minneapolis.

2009
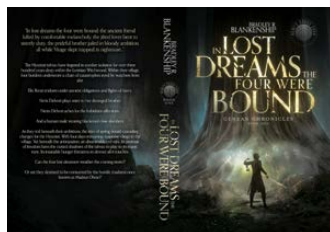
Bradley R. Blankenship '09 (GCCIS), '11 MS (GCCIS) self-published his first book, *In Lost Dreams the Four Were Bound*, through Amazon KDP and IngramSpark, in September 2020. The book is the first in the *Genean Chronicles* series and his larger Remi's Cross Saga mythos.

2011

Sarah Bicsak '11 (COS) has been promoted to chemist II, specializing in petroleum gas chromatography, at Paragon Laboratories in Livonia, Mich.

George Felipe '11 (KGCOE) married Abigail Crespo on March 13, 2020.

Rik Schmeelk '11 (KGCOE) celebrated one year at L3Harris Technologies, now working as a component engineer for the Space and Airborne Systems Division. Earlier in his career, he spent 10 years in the RF division, now Communication Systems.

Natalie Surace-Veator '11 (SCB), '20 MBA (SCB) was married in a small outdoor ceremony on Sept. 26, 2020. She and her husband, David Veator, enjoyed a honeymoon shortly after in the Adirondack high peaks.

2012

Aurelkys Estevez '12 MS (CAST) was promoted to head of the office of free access to public information in the Attorney General's Office in Santo Domingo, Dominican Republic, in November 2020.
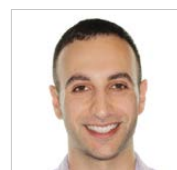
Zeid Nasser '12 (CAST) moved on to L3Harris engineering after six years with Delphi Automotive, and has now transitioned to the L3Harris international sales team.

Class Notes

2013

Rachel (Herman) Crandell '13 (CAST), '14 MS (CAST) and **Spencer Crandell '13 (KGCOE)** were married on Sept. 5, 2020, in a small outdoor ceremony in front of a senior living facility, so that Rachel's grandmother could be a part of the celebration. Following their wedding, they adopted their new puppy, Penny.

Danny Abdeen '13 (KGCOE) recently completed nine years of active duty service as a submarine officer with the United States Navy and transitioned to a role as a technical program manager at Amazon Web Services.

2014

Robb Dooling '14 (GCCIS) won election as an Advisory Neighborhood Commissioner in 6A06 in Washington, D.C. Dooling successfully ran against two opponents.

Holly Rollins Ostrout '14 MS (CIAS) and **Nathan Ostrout '15 MS (CIAS)** met at RIT in the print media graduate program. They were married in 2016, had a daughter in 2018, and recently bought a house.

Katie Lachut-Yevich '14 (CIAS) married Turner Yevich on Oct. 23, 2020, in Richmond, Va. They made it through a small pandemic wedding and hope to continue on together for many more years (and worldly disasters) to come.

2015

Dina Johnson '15 (CHST) started Monroe County Family Coalition Inc., a nonprofit organization. Her vision is to create opportunities for families to bring about change and bridge inequality in the community.

Sarah Proper '15 (CIAS) and **Geoffrey Ackerman '15 (GCCIS), '15 MS (GCCIS)** were married at the courthouse in Douglas County, Colo. After their 2020 wedding plans were cancelled, they spent a quiet Thursday tying the knot. They hope to celebrate with all their Tiger pals in the future.
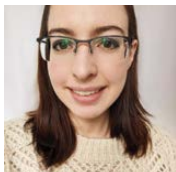
Jennifer Stanton '15 (GCCIS) was promoted to an advanced software engineer position at Niantic Inc. while also celebrating two years with the company. She assumed the role of lead engineer for *Pokemon GO*'s Mega Evolutions feature, released in August 2020.

Ryan Vogt '15 (GCCIS) successfully defended his doctorate thesis "Interface Problems and Binary Electromagnetic Cloaking Designs in Computational Electromagnetics." He is currently a mathematician at Argonne National Laboratory working on partial-differential equation optimization theory and optimal control of partial-differential equations. He is starting a new role at Lawrence Livermore National Laboratory in the Quantum Computing group, focusing on the optimal control of quantum systems to construct the next generation quantum computers.

Emily DeVault '15 (CIAS) and **Ed Foose '15 (CIAS)** were married on Oct. 15, 2020. They were wed at the courthouse in Fairmont, W.Va. They met on their first day at RIT.

2016

Ian Berringer '16 (CAST) recently got engaged to the love of his life, Kerri Doyle, during a rock climbing trip in New Hampshire. He also changed jobs within Collins Aerospace (formerly UTC Aerospace Systems) and now works in its Space Systems division working as a reliability engineer.

Lorenny Mota Morla '16 (SOIS) and **Michael Berrios '14 (GCCIS)** are celebrating their two-year wedding anniversary.

Parth Shah '16 ME (KGCOE) recently graduated from The George Washington University during the 2020 winter term with a doctoral degree in Engineering Management. He is the first in his family to earn a doctorate.
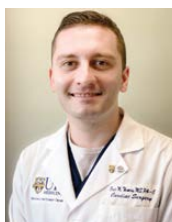
Eric Thomas '16 (CHST), '16 MS (CHST) graduated from the Simon School of Business in Rochester with an MBA in December 2020. He also holds a master's degree in Medical Management from Simon. In 2020, Thomas was promoted to Deputy Chief and Vice President of Clinical Care at CHS Mobile Integrated Health Care (in Rochester) overseeing 200 prehospital medical providers. Additionally, Thomas was also appointed to the Department of Emergency Medicine and Divisions of Cardiac Surgery and Prehospital Medicine at the University of Rochester Medical Center.

Anjuan Thomas '16 MS (CAST) secured his dream job—an appointment into the United States Foreign Service as a facility manager. After specialty and language training, he will serve in Bogota, Colombia.

2018

Jasmine (Newton) Sprague '18 (CLA) and **Nick Sprague '18 (CLA)** were married on Nov. 30, 2019. They are high school sweethearts and had been together for more than six years at the time of their wedding.
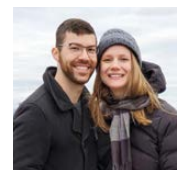
Tim Torres '18 (CAD) accepted an offer from EY Seren in London as a senior user experience designer. He had recently moved to London from New York City to be closer to his partner.

2019

Hammad Ahsan '19 (CET) credits his RIT degree for helping him to transfer jobs during the pandemic and then get promoted to a Level 2 Engineer after eight months in his position.

Lydia Yeckley '19 (KGCOE) and her father competed on Discovery Channel's *Rocket Around The Xmas Tree* as the Snow It Alls. Airing in December 2020, the rocket competition featured launching holiday trees, sleighs, toy soldiers, and more.

2020

Yordan Tuzsuzov '20 (SOIS) released his book, *Systems Engineering for All*, a short, non-academic introduction to systems engineering and targeted to the general public of engineers and product designers without prior systems engineering experience.

> ## "We see our gift as being impactful in several ways.
>
> These young women will have the opportunity to network with fellow students, leaders in the field, and potential employers. They will also be ambassadors for RIT's computer science programs at national and international conferences."
>
> **–Alice Jo Lichtman MS '79**
> Computer Science

RIT | Ellingson Society

Use Your IRA Distribution to Impact the Future

Gender equity in computing fields is critical for our future. Alice Jo Lichtman MS '79, and her husband, Marshall, believe strongly in the importance of women in computing fields. As one of two women in her RIT computing master's degree program, she was supported through her studies by RIT faculty and fellow students, and that gave her confidence to pursue a successful career that included being a part of the team that developed the first automated teller machine for banking in Rochester.

The Lichtmans wanted to share Alice Jo's success and make an impact by attracting more young women to this career field, so they created a fund to support travel for RIT's Women In Computing organization. They used their IRA distribution to create the fund, and continue to add to it each year through a Qualified Charitable Distribution (QCD). A QCD is easy to execute, and provides a tax advantage by lowering taxable income each year.

You can use your annual IRA distribution to support an area of RIT that you care about. Download our free guide to the Qualified Charitable Distribution at **rit.edu/giving/QCD**.

Contact us to learn more today.

Hal Burrall
RIT Office of Planned Giving
585-475-3106 | hal.burrall@rit.edu
legacyrit.org

In Memoriam

Alumni

1942
Charles Rogers '42 (FAA) Oct. 20, 2020
Vincent Ross '42 (SCB) June 22, 2020

1943
Jane Doyle '43 (SCB) March 7, 2020

1944
Walter Beckdahl '44 (KGCOE) Nov. 14, 2020
Gladys (Crosby) Kelly '44 (SCB) Feb. 7, 2020

1945
Mary (Sanderson) Erickson '45 (SCB) June 6, 2020
Barbara (Dixon) Fehr '45 (SCB) May 23, 2020
Caroline (Merletti) Pane '45 (SCB) March 2, 2020
Daisy (Palmer) Radoulovitch '45 (SCB) Jan. 5, 2020

1946
M. Jeanne (Finster) Ellinger '46 (SCB) May 15, 2020
Miriam (Herman) Jacobson '46 (SCB) Oct. 18, 2020
Lynn Zuckerman '46 (SCB) April 18, 2020

1947
Jeanne (Von Daacke) Burr '47 (SCB) May 13, 2020
Laura Rugg '47 (SCB) April 9, 2020

1948
Leo Hnyda '48 (KGCOE) Jan. 28, 2020
Joyce (Brockmyre) Sherwood '48 (FAA) July 19, 2020

1949
Mary Eggleston '49 (FAA) April 5, 2020
Gail (Perkins) Gilroy '49 (SCB) March 25, 2020
Muriel (Reilly) Kendall '49 (SCB) Jan. 27, 2020
Charles Knolle '49 (KGCOE) Oct. 19, 2020
Janet (Schlottman) Quetschenbach '49 (SCB) Feb. 18, 2020
Charles Sawdey Jr. '49 (FAA) May 10, 2020
Francis Sweeney '49 (FAA) April 30, 2020
Donald Watrous '49 (KGCOE) June 4, 2020

1950
Shirley (Young) Buck '50 (SCB) April 5, 2020
Ralph Defrank '50 (COS) April 10, 2020
Earl Fuller '50 (CCE) July 16, 2020
Charlene Harmes '50 (SCB) Dec. 14, 2020
Charles Kirkland '50 (KGCOE) Feb. 26, 2020
Alma Loy '50 (SCB) April 10, 2020
Douglas Pruett '50 (GAP) May 4, 2020
Carl Raineir '50 (KGCOE) June 1, 2020

Herbert Schafer '50 (FAA) Dec. 1, 2020
Mary Sedita '50 (SCB) April 10, 2020
Roger Stabley '50 (GAP) Feb. 17, 2020

1951
Lynn Behnk '51 (SCB) Feb. 25, 2020
Donald Cameron '51 (GAP) March 28, 2020
James Cundall '51 (GAP) Feb. 9, 2020
Robert Dibble '51 (KGCOE) May 4, 2020
Loren Manbeck '51 (FAA) Aug. 29, 2020
Catherine (Schneider) Marsden '51 (SCB) Sept. 10, 2020
Bernard Weis '51 (FAA) Dec. 9, 2020
Richard Wiles '51 (CCE) Sept. 4, 2020

1952
Harold Beamish '52 (CCE) March 7, 2020
Gladys (Chileen) Cushman '52 (SCB) July 18, 2020
George Herschell '52 (FAA) Jan. 12, 2020
Wallace Hughes '52 (KGCOE) Feb. 14, 2020
Joseph Magro '52 (KGCOE) Nov. 16, 2020
Richard Monroe '52 (FAA) July 30, 2020

1953
Herbert Barnett '53 (GAP) May 4, 2020
H. Lili (Hirsch) Krakowski '53 (FAA) Sept. 21, 2020
W. Harry Prout '53 (GAP) Dec. 11, 2020
Albert Scharf Jr. '53 (KGCOE) Jan. 6, 2020
Robert Weinstein '53 (GAP) Oct. 27, 2020
David White '53 (GAP) Nov. 21, 2020

1954
Rodney Curtis '54 (GAP) May 17, 2020
Marion (Muldoon) McMullen '54 (SCB) Sept. 16, 2020
Andrew Schantz '54 (SCB) March 14, 2020
Anita (Hecktor) Warschkow '54 (SCB) March 6, 2020

1955
Laverne Bowman '55 (SCB) Oct. 19, 2020
Doris Britt '55 (FAA) July 29, 2020
Gene Giavedoni '55 (SCB) Nov. 4, 2020
William Hochreiter '55 (CCE) July 8, 2020
John Lapomarda '55 (GAP) June 14, 2020
Kathleen Outlaw '55 (FAA) Feb. 18, 2020
Santo Valenti '55 (CCE) June 16, 2020

1956
Helen (Garland) Castelli '56 (SCB) March 18, 2020
Alfred Cutaia '56 (KGCOE) March 27, 2020

Nancy (Guenther) Douglass '56 (FAA) March 6, 2020
Michael Durkot '56 (GAP) April 8, 2020
Catherine (Wright) Searle '56 (SCB) April 4, 2020

1957
Adrienne (Balzer) Cwalina '57 (SCB) Sept. 21, 2020
Mitchell Diamond '57 (GAP) April 2020
John Fix '57 (FAA) Nov. 20, 2020
Vito Metallo '57 (CCE) Oct. 1, 2020
Lee Phelan '57 (GAP) May 22, 2020
Stephen Szwec '57 (GAP) June 3, 2020

1958
Max Albertson '58 (CCE) Nov. 9, 2020
Joan McCreadie '58 (SCB) Sept. 18, 2020
Alfred Olsen Jr. '58 (GAP) April 4, 2020
William Rabjohns Jr. '58 (KGCOE) Dec. 14, 2020
Karle Schlemmer '58 (KGCOE) June 30, 2020
Ronald Stenglein '58 (GAP) Dec. 17, 2020

1959
Allan Abramow '59 (KGCOE) July 3, 2020
Judith (DeRocher) Gelder '59 (COS) Aug. 13, 2020
Carl Grusell '59 (GAP) Feb. 25, 2020
William Hudson '59 (GAP) May 13, 2020
Thomas O'Brien '59 (KGCOE) May 3, 2020
John Paul '59 (SCB) Oct. 29, 2020
Arthur Pavelle '59 (GAP) Nov. 11, 2020
Raymond Rauscher '59 (COS) May 3, 2020
Joseph Schick '59 (FAA) Sept. 27, 2020
Gerald Snell '59 (CCE) April 26, 2020
George Springett '59 (CCE) Nov. 23, 2020
Lee Swanson '59 (KGCOE) March 14, 2020
Emil Vogel '59 (SCB) May 28, 2020
Alvin Westfall '59 (KGCOE) June 10, 2020

1960
Bernard Bialaszewski '60 (CCE) Dec. 4, 2020
Pawlo Choroszylow '60 (CCE) April 25, 2020
John Consul '60 (CCE) Sept. 14, 2020
Joseph Dengler Jr. '60 (SCB) April 9, 2020
Oscar Erickson '60 (CCE) Jan. 4, 2020
John Fox '60 (SCB) Oct. 26, 2020
S. Spencer Merz '60 (KGCOE) Dec. 19, 2020
Robert Saxe '60 (CCE) March 25, 2020
Terrence Schubert '60 (FAA), '63 MFA (FAA) April 4, 2020
Ronald Senungetuk '60 (FAA) Jan. 21, 2020
Richard Waring Sr. '60 (KGCOE) Jan. 18, 2020
Ellen (Cody) Wrobel '60 (COS) Jan. 10, 2020

1961
Dario Armanini '61 (GAP) Oct. 22, 2020

Frank Ballabio '61 (GAP) April 17, 2020
Orest Engelbrecht '61 (KGCOE) March 29, 2020
Carl Greene '61 (KGCOE) May 29, 2020
Herbert Guck Sr. '61 (CCE) Aug. 3, 2020
Alan Lupton '61 (SCB) February 2020
Frank Schulz '61 (CCE) Dec. 1, 2020
Donald Stanton '61 (SCB) July 11, 2020

1962
John Deary '62 (SCB) Jan. 22, 2020
George Debalko '62 (SCB) Aug. 1, 2020
Robert Fisher '62 (GAP) June 4, 2020
Gardner Wills '62 (GAP) July 25, 2020

1963
Philip Sykes '63 (KGCOE) Feb. 29, 2020

1964
Robert Bayer '64 (SCB) Jan. 11, 2020
Bonnie (Phillips) Beckett '64 (COS) Jan. 4, 2020
Roberta Broussard '64 (SCB) June 29, 2020
Vincent Ferrini '64 MFA (FAA) Nov. 12, 2020
Gary Lindsay '64 (SCB) Sept. 21, 2020
Terry Lutz '64 (KGCOE) Nov. 9, 2020
Robert Marlette '64 (SCB) Nov. 3, 2020
Gregory Soehner '64 (FAA) Aug. 9, 2020
Philip Sperr '64 (KGCOE) May 18, 2020
Robert Sturn '64 (SCB) Nov. 30, 2020

1965
Ellen (Barnes) Dabolt '65 (SCB) July 7, 2020
Adrian Fenyn '65 (SCB) July 8, 2020
Arthur Hughes '65 (CCE) Oct. 15, 2020
Douglas MacConnell '65 (COS) Aug. 21, 2020
John Piedmont '65 (CCE) Oct. 18, 2020
Raymond Prince '65 (GAP) May 1, 2020
Carol (Gangemi) Spagnola '65 (SCB) Aug. 21, 2020
Daryl Sullivan '65 (KGCOE) Sept. 27, 2020
John Trickey '65 (SCB) March 2, 2020
Timothy Welch '65 (GAP) May 15, 2020

1966
Peter Consol '66 (SCB) April 5, 2020
Cornelius Newton '66 (CCE) March 10, 2020
Raymond Pawley '66 (SCB) Nov. 14, 2020
Michael Plakosh '66 (CCE) Feb. 1, 2020
Ronald Sterling '66 (CCE) Aug. 12, 2020
Wallace Stuart '66 (GAP) Nov. 28, 2020
Barbara (Jack) Throunk '66 (FAA) Dec. 3, 2020

1967
John Bitner '67 (FAA) May 14, 2020
Helmut Brosi '67 (CCE) Oct. 25, 2020
David Kelch '67 (GAP) Oct. 27, 2020

Robert Macur '67 (COS) Jan. 9, 2020
Ronald McMaster '67 (CCE) April 25, 2020
Denton Ortman '67 (GAP) Jan. 8, 2020
Edward Sklar '67 (GAP) June 2020

1968
Ronald Dinger '68 (CCE) Dec. 6, 2020
Terry French '68 (GAP) April 27, 2020
Terrance King '68 (CCE) Aug. 25, 2020
Glen Simpson MFA '68 (FAA) Dec. 15, 2020
Eugene Struble '68 (CCE) Jan. 22, 2020
Frank Wardynski '68 (CCE) Jan. 17, 2020

1969
Dominic Bianchi '69 (CCE) Sept. 12, 2020
Edward Carpenter '69 (KGCOE) Oct. 7, 2020
Joseph Distefano '69 (FAA) April 20, 2020
Christian Groff '69 (GAP) Nov. 27, 2020
Thomas Hennelly '69 (SCB) April 30, 2020
Richard Hennip '69 (SCB) Oct. 14, 2020
Ralph Hopkins '69 (GAP) Oct. 15, 2020
Ina Kurz '69 MFA (FAA) July 30, 2020
Jesse Stevens '69 (CCE) Dec. 2, 2020
Laurence Van Etten '69 (COS) Feb. 22, 2020
John Williams '69 (GAP) May 24, 2020

1970
John Cavallaro '70 (CCE) Dec. 4, 2020
Bruce Clark '70 (GAP) Oct. 23, 2020
James Colegrove '70 (CCE) Nov. 22, 2020
Joseph Deblaere ME '70 (KGCOE) Oct. 14, 2020
Loreto Deciantis '70 (KGCOE) Aug. 15, 2020
Gary Demske '70 (KGCOE) June 4, 2020
David Hamelink '70 (CCE) April 12, 2020
Donald Owens '70 (CCE) Dec. 12, 2020
John Talbot '70 (CCE) Feb. 24, 2020
Richard Thompson '70 MS (GAP) Feb. 3, 2020
Ernest Washburn '70 MBA(CCE) June 26, 2020

1971
Rudolph Agostinelli '71 (CCE) Jan. 20, 2020
David Disanto '71 (CCE) March 24, 2020
Gary Garcia '71 (KGCOE) Aug. 16, 2020
Allan Karp '71 (NTID) Aug. 2, 2020
James Milne '71 MS (KGCOE) April 26, 2020
Arvid Mukes '71 MFA (FAA) June 12, 2020
Irving Roeder '71 MBA (SCB) May 10, 2020
Guy Wonder III '71 (FAA) Nov. 27, 2020

1972
Nancy (Elder) Backus '72 (CLA) Oct. 7, 2020
Stephen Bassett '72 (GAP) July 2020
Sharon Buchta '72 (GAP) Dec. 8, 2020
Thomas Digiacomo '72 (KGCOE) Feb. 28, 2020

Bertram Falk '72 (SCB) Feb. 17, 2020
Lawrence Fetterly '72 (CCE) Feb. 20, 2020
Willis Georgia III '72 (GAP) May 6, 2020
Allan Holm '72 (GAP) May 3, 2020
Ronald Paulhamus '72 (GAP) Oct. 27, 2020
John Quincey '72 (SCB) Oct. 27, 2020
George Reynolds '72 (CCE) Feb. 7, 2020
Douglas Ross '72 (CCE) March 7, 2020
Marilyn (Wright) Rubright '72 (COS) March 30, 2020
Robert Stappenbeck '72 (SCB) Feb. 3, 2020
Michael Sylvestri Jr. '72 (KGCOE) Oct. 14, 2020
Anthony Szczygielski '72 (GAP) May 12, 2020
Norma (Jefferson) Thompson '72 (FAA) Dec. 19, 2020
Raymond Tillman '72 (GAP) Nov. 8, 2020
Geoffrey Whittier '72 (CCE) Feb. 19, 2020
George Yuna '72 (CCE) Jan. 22, 2020

1973
Frank Allenza '73 (CCE) April 1, 2020
Dan Davis '73 MBA (SCB) Jan. 7, 2020
Gregory Fuller '73 ME (CCE) July 16, 2020
Frederick Krizan '73 MS (CAST) Oct. 1, 2020
Ray Mandeville '73 (CCE) Oct. 28, 2020
Donald Merchant '73 (CCE) Feb. 23, 2020
Gerald Minns '73 (CCE) Jan. 24, 2020
Bertrand Morgan II '73 (CCE) Sept. 3, 2020
David Starr '73 (SCB) March 2, 2020
James Storrier '73 (SCB) March 8, 2020
Brian Sutton '73 (CCE) Jan. 1, 2020
Richard Thomas '73 (CCE) Sept. 3, 2020

1974
David Baker '74 (SCB) July 15, 2020
Douglas Barr '74 (GAP) March 27, 2020
David Beckwith '74 (SCB) July 14, 2020
Robert Burns '74 (CLA) Jan. 1, 2020
Larry Hathaway '74 (CCE) Jan. 23, 2020
Helen Mikolji '74 (CLA) Dec. 7, 2020
Herbert Oelkers '74 MS (CCE) Oct. 20, 2020
Robert Pisa '74 (GAP) Oct. 26, 2020
John Tucker '74 (CLA) April 30, 2020
Carl Wade '74 (COS) May 27, 2020

1975
Erwin Boettcher '75 (KGCOE) Jan. 8, 2020
Henry Douglas '75 MS (CAST) Oct. 17, 2020
Nancy Douglas '75 MS (CCE), '76 MS (CAST) March 6, 2020
David Flint '75 ME (KGCOE) March 12, 2020
Cathie Guion '75 (SCB) March 2, 2020
David Kinlein '75 (GAP) Oct. 10, 2020

Raymond Kohloff '75 MFA (GAP), '83 MFA (CIAS) Dec. 11, 2020
Edward McGee '75 (KGCOE), '83 MBA (SCB) April 4, 2020
Neil Rich '75 MBA (SCB) Sept. 22, 2020
Michael Schopp Jr. '75 (CCE) Oct. 11, 2020

1976
Lorraine Almond (Crowter) '76 (FAA) July 15, 2020
Anthony Annis '76 (CCE) Oct. 14, 2020
Peter Doe '76 (GAP) Sept. 16, 2020
Paul Klem '76 (CAST) Nov. 23, 2020
David Kolupski '76 (SCB) Sept. 7, 2020
James McCarthy '76 (FAA) April 20, 2020
Julianna (Havens) Rittmeyer '76 (FAA), '77 MST (FAA) Oct. 21, 2020
Marshall Roberson '76 (GAP) Sept. 22, 2020
Robert White '76 (CCE) Sept. 13, 2020

1977
Donald Cash '77 (CCE) Oct. 20, 2020
Karen (Winston) Cranford '77 (COS) June 18, 2020
Richard Davin '77 (COS) Oct. 4, 2020
Larry Evans '77 (GAP) April 17, 2020
Timothy Glenn '77 (CCE) Aug. 18, 2020
Douglas Heffer '77 (GAP) June 27, 2020
Patrick Massaro '77 (CCE) Nov. 1, 2020
Warner Meininger '77 (SCB) March 13, 2020
Randy Olmstead '77 (NTID) Dec. 10, 2020
Gordon Sawrey '77 MS (CCE) March 25, 2020
Charles Scardino '77 (CCE) June 29, 2020
Robert Snyder '77 (KGCOE) Dec. 9, 2020
Stephen Staub '77 (CCE) April 8, 2020
Mark Williams '77 (CAST) Nov. 11, 2020

1978
Nunzio Bisking '78 (GAP) April 4, 2020
Dennis Bowles '78 (GAP) Nov. 3, 2020
Craig Carey '78 (CCE) Oct. 25, 2020
Franklin Clark '78 (CCE) Nov. 2, 2020
Thomas Dalberth '78 (CCE) June 20, 2020
Michael Eschrich '78 (NTID) May 13, 2020
James Fichera '78 (SCB) April 4, 2020
Harbert Gregory Jr. '78 (GAP) June 13, 2020
David Gotham '78 (CIAS) Sept. 3, 2020
Leon Kransler Jr. '78 (CAST) Sept. 1, 2020
Ronald Patterson '78 (CCE) Sept. 27, 2020
Paul Toner '78 MBA (SCB) April 14, 2020

1979
James Austin '79 MS (CAST) Dec. 9, 2020
Lauri Berns '79 (SCB) Aug. 1, 2020
William Devore '79 (CCE) April 2, 2020

Jennifer Gravitz '79 (CLA), '81 MS (CAST) Jan. 24, 2020
William Hicks '79 (SCB) February 2020
David Huntoon '79 (CCE), '92 MS (CAST) April 2, 2020
Roberta Klein '79 MBA (SCB) April 26, 2020
Eugene Lawless '79 (SCB) May 22, 2020
Marion Oldershaw '79 (COS) Jan. 14, 2020
Joan Stormont '79 (GAP) Oct. 6, 2020

1980
Dudley Atkinson '80 (GAP) July 30, 2020
Raymond Bottner '80 MS (CAST), '89 MS (CAST) Oct. 6, 2020
Sharon (Copeland) Coderre '80 (COS) Nov. 30, 2020
Gary Delduca '80 (KGCOE) Oct. 15, 2020
Franklin DiBella '80 (CCE) Feb. 12, 2020
Gary Lillibridge '80 (SCB) Oct. 24, 2020
Robert Mahoney '80 (CAST) July 9, 2020
Anthony Marconi '80 (CCE), '84 (CCE) Sept. 28, 2020
Craig Messimer '80 (KGCOE) Oct. 15, 2020
Richard Proia '80 (SCB) April 16, 2020
James Sykes Sr. '80 (CCE) Sept. 11, 2020

1981
Mark Armstrong '81 (GAP) June 9, 2020
Daniel Farrell '81 (SCB) Jan. 28, 2020
Timothy Gilbert '81 MS (CCE) Jan. 31, 2020
Louise Hill '81 (CCE), '82 (CCE), '86 (CCE) April 17, 2020
David Maher '81 (NTID) Oct. 13, 2020
Christopher Vann '81 (SCB) Oct. 1, 2020
Jette (Davidson) Whitely '81 (FAA), '83 MFA (FAA) Aug. 20, 2020
Jerry Young '81 (CCE) March 5, 2020

1982
Peter Ackerman '82 (SCB) March 14, 2020
James Boardman '82 (CAST) Dec. 2, 2020
Robert Downey '82 (CCE), '83 (CCE) June 14, 2020
Rita Fay '82 (CCE) July 16, 2020
Victor Jacek '82 MS (KGCOE) Aug. 1, 2020
David Johns '82 (SCB) May 3, 2020
Jacques Karr '82 (CCE) March 9, 2020
Michael Kuzmak '82 (SCB) Dec. 4, 2020
Jack Preall '82 MS (CAST) Nov. 25, 2020
Stanley Prezyna '82 (CCE) July 29, 2020
Charles Rink Jr. '82 (SCB) Nov. 25, 2020
James Rollins '82 (NTID) June 15, 2020
Merlin Scharfe '82 ME (KGCOE) Oct. 20, 2020
Gary Todak '82 MFA (FAA) Oct. 6, 2020

1983
John Ash II '83 (CCE) Oct. 21, 2020

Linda Groves '83 (SCB), '08 (SCB) Feb. 20, 2020
Joshua Kelsey '83 (CAST) March 27, 2020
Kenneth Reid '83 (CCE) Dec. 5, 2020
Eugene Toth '83 (GAP) June 4, 2020

1984
Robert Allen '84 (CCE) Dec. 5, 2020
Kevin Bulson '84 (KGCOE) Aug. 29, 2020
Judith Cranston '84 (CCE), '93 MBA (SCB) Oct. 29, 2020
Roger Kober '84 ME (KGCOE) Jan. 25, 2020
Carol Malanowski '84 (CCE) Feb. 10, 2020
Warren Redonnet '84 MBA (SCB) March 3,2020
Dean Valavanis '84 (GAP) Feb. 6, 2020
Patricia (Woolschlager) Weiler '84 (SCB) Oct. 10, 2020

1985
Michael Dunn '85 (SCB) Oct. 1, 2020
Richard Nelson '85 (CCE), '05 (CAST) Oct. 2, 2020
Robert Peck Jr. '85 (KGCOE) Nov. 7, 2020
Donald Smith '85 MBA (SCB) Nov. 30, 2020
Terri (Berthiaume) Ylitalo '85 (COS) Sept. 18, 2020

1987
Charlotte (Bettina) Arrocha '87 (SCB) Sept. 23, 2020
Shirley Besanceney '87 (CCE) Oct. 25, 2020
Roger Claybourne '87 (NTID) Nov. 24, 2020
Catherine Warren '87 (CCE) July 16, 2020
Kevin Zugibe '87 (KGCOE) June 23, 2020

1988
George Ball '88 MS (CAST) May 11, 2020
Kenneth Daldry '88 (CAST) Nov. 25, 2020
Patricia Irr '88 (CLA) Sept. 3, 2020
George Peterson '88 (CAST) March 4, 2020
Robert Ray '88 (KGCOE) Nov. 2, 2020
John Tamaro '88 (NTID) May 3, 2020

1989
Linda Levitan '89 (FAA) July 31, 2020
Kevin Talty '89 (CLA) Sept. 6, 2020
Marian Toth '89 MS (CCE) Jan. 13, 2020

1990
Mary Hayes '90 (CLA), '95 (CCE) Sept. 16, 2020
Tami MacDonald '90 (CLA) Nov. 27, 2020
Bion Pohl '90 (KGCOE) November 2020
Kenneth Popeck '90 (CAST) Dec. 9, 2020
Ken Strempel '90 (CAST) Sept. 24, 2020

1991
Brian Boos '91 (CAST) Feb. 21, 2020
David Hardy Jr. '91 (COS) Dec. 8, 2020
Suzanne Lenhard '91 (CAST) Nov. 18, 2020
Nancy Sauter '91 (CAST) May 16, 2020
Robert Sherlock '91 MS (COS) Aug. 15, 2020

Michael Wojnovich '91 (COS) Oct. 21, 2020

1992
Doris Chest '92 (CCE), '92 (CCE) Jan. 2, 2020
Matthew DeRoller '92 (CAST), '98 MS (CAST) Oct. 13, 2020
Ronald Statt '92 (CLA) May 14, 2020
Martha Walton '92 (CCE) Jan. 13, 2020

1993
Regina Carrone '93 (FAA) July 17, 2020
Timothy McCarron '93 (FAA) Feb. 11, 2020
Heather Olson '93 (FAA) Jan. 21, 2020
Jeff Shufelt '93 (GAP) Nov. 23, 2020
Dorothea Twohig '93 (CCE) Dec. 15, 2020
Edward Washington '93 (CIAS) June 14, 2020

1994
Robert Swedenhjelm '94 (CIAS) July 11, 2020
Jasper Watts '94 MS (CCE) May 28, 2020

1995
Bonnie Coen'95 MFA (CIAS) May 28, 2020
Jennifer Damiano '95 (CIAS) April 16, 2020
Daniel Fisher '95 (CIAS) Jan. 3, 2020

1997
Kathleen Gibbons-Howes '97 (NTID) March 6, 2020
Christian Kennedy '97 (CLA) Jan. 17, 2020
William Marsden '97 (CAST) June 3, 2020

1998
Jay Becker '98 (NTID) July 31, 2020
Michael Burley '98 (CAST) Dec. 1, 2020
Charles Penkitis '98 (CAST) Nov. 24, 2020
Robert Spearing '98 (CAST) Sept. 4, 2020
Kenneth White '98 (CAST) June 24, 2020

1999
Tricia Weed '99 MBA (SCB) May 15, 2020

2000
Michael Brugnoni '00 (CIAS), '00 (SCB) Aug. 2, 2020
Joshua Gleason '00 (KGCOE) May 1, 2020
Ronald Gumberts '00 (CAST) Jan. 3, 2020
Timothy Manchester '00 (KGCOE) Jan. 4, 2020
Jeffrey Meredith '00 (CAST) Aug. 21, 2020
Tad Moon '00 (KGCOE) Jan. 21, 2020
Judy (Marif) Surline '00 (NTID) Jan. 15, 2020

2001
Cory Card '01 (CIAS), '06 MFA (CIAS) March 3, 2020

2003
Scott Weaver '03 (CAST), '03 (SCB), '06 MBA (SCB) Feb. 23, 2020

2004
Mary Orr '04 (CAST) June 14, 2020

2006
June Anderson '06 MS (CAST) Oct. 16, 2020

Michael Leathem '06 MS (KGCOE) July 12, 2020

2007
Ariana De Rue '07 (COS) Sept. 30, 2020
Thomas Oldani '07 (KGCOE) Jan. 23, 2020
Daniel Spak '07 MS (CAST) April 11, 2020
Michael Voellinger '07 (GCCIS) Aug. 5, 2020

2008
Kimberly Turner '08 MS (CAST) Nov. 26, 2020

2011
Georgia Becker '11 (CAST) Feb. 1, 2020
Susan Butenhof '11 MBA (SCB) Nov. 24, 2020

2013
Kailea Colayori '13 (NTID) Sept. 22, 2020
Mary Irwin '13 (CIAS) Jan. 23, 2020
Talisha Payton '13 (GCCIS) July 15, 2020

2015
Ephraim Daniels '15 (CIAS) July 5, 2020

2018
Jonathan Amerault '18 (KGCOE) Sept. 20, 2020

2020
David Grzebinski Jr. '20 (GCCIS) Oct. 9, 2020

Faculty and Staff

Retired Image Permanence Institute staff member **Peter Adelstein**, April 30, 2019

Retired staff member **James Austin '79**, Dec. 9, 2020

Retiree **Duane Barto**, July 28, 2020

Retired faculty member **Arnold J. Berman**, Nov. 2, 2020

Retired staff member **Shirley Besanceney** (Campus Safety), Oct. 25, 2020

RIT Trustee Emeritus **Joseph Briggs**, Jan. 22, 2021

Trustee Chairman Emeritus **Colby Chandler**, March 4, 2021

Retired faculty member **Terry Dennis** (SCB), April 26, 2020

Staff member **Christie Dobson** (Student Affairs), July 18, 2020.

Retired staff member **Monica Frantzen** (Grace Watson Dining Room), Sept. 1, 2020

Former wrestling and golf coach **Earl Fuller**, July 16, 2020

Retired staff member **Linda C. Groves** (Wallace Center), Feb. 20, 2020

Retired faculty member **Paul A. Haefner Jr.** (COS), May 15, 2020

Retired NTID faculty member **Frederic Hamil**, Dec. 15, 2020

Retired faculty member **Ronald Hilton**, Feb. 1, 2021

Retired CIAS (now CAD) faculty member **Herbert Johnson**, Jan. 17, 2021

Retired Payroll and Accounts Payable Services staff member **Keithaleen Jones**, Jan. 20, 2021

Retired staff member **Linda Kanaley** (University Communications), April 14, 2020

Retired staff member **Elizabeth "Betty" Kelly,** Dec. 6, 2020

Retired faculty member **Roberta Klein** (SCB), April 26, 2020

Retiree **Lucille B. Marcera**, June 17, 2020

Retired NTID interpreter **Dave McCloskey**, Feb. 12, 2021

Retiree **Patricia A. McCoy**, Aug. 19, 2020

Retired NTID faculty member **Edward McGee '75, '83**, April 4, 2020

Retired faculty member **Sidney McQuay** (NTID), March 25, 2020

Retired staff member **Jeffrey Meredith** (Public Safety), Aug. 21, 2020

Retired faculty member **Terence C. Morrill** (COS), Sept. 7, 2020

Retired staff member **Mark Morrison** (FMS Building Services), Sept. 5, 2020

Retiree **Cheryl Petersen** (FMS Building Services), Oct. 27, 2020

Former CAD faculty member **John Pfahl**, April 15, 2020

Retired NTID faculty member **K. Dean Santos,** Dec. 28, 2020

Retired faculty member **Rosemary Saur** (NTID), Oct. 5, 2020

Retired staff member **Daryl Sullivan** (Center for Intercollegiate Athletics and Recreation), Sept. 27, 2020

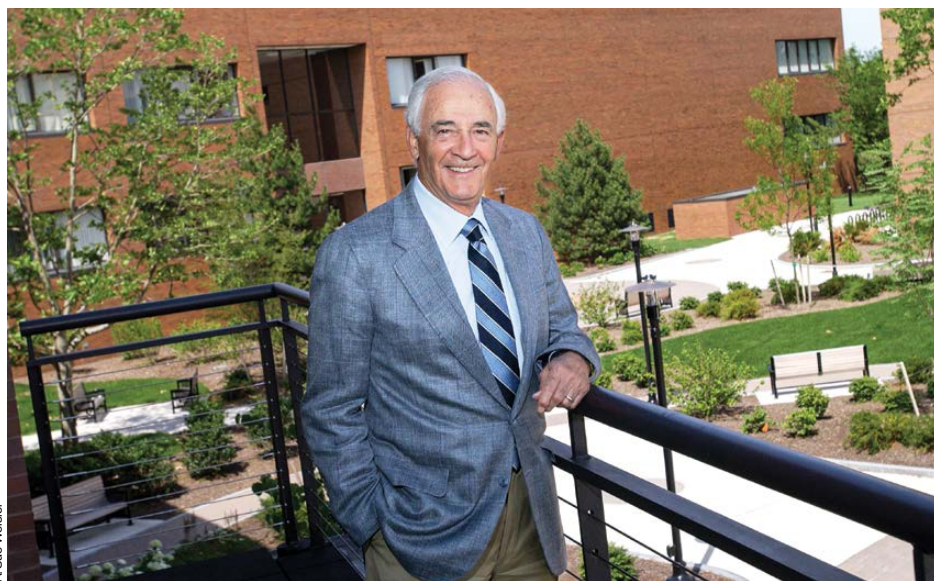Retired NTID faculty member **Paul L. Taylor III**, Jan. 11, 2021

Retired faculty member **Jerome Wagner** (COS), June 10, 2020

Retired faculty member **Charles W. Warren** (COLA), Feb. 13, 2020

Retired faculty member **Theodore "Ted" Wilcox** (COS) Feb. 17, 2021

Retired staff member **Nancy Wixom** (CIMS), Sept. 29, 2020

Remembering D. Robert Frisina

A. Sue Weisler

D. Robert Frisina, founding director of the National Technical Institute for the Deaf, stands on the balcony overlooking the area now known as Frisina Quad, dedicated in his honor in 2007.

The founding director of the National Technical Institute for the Deaf, D. Robert Frisina, died in Florida on March 29. He was 96.

An international author and lecturer, Frisina was a visionary and a pioneer in the field of deaf education. He was selected by the RIT Board of Trustees as the first director of NTID in January 1967, and he went on to quite literally build NTID from the ground up.

"Few leaders anywhere in the nation could have matched his dynamic leadership in charting the course for the National Technical Institute for the Deaf," once said Arthur L. Stern about Frisina. Stern chaired RIT's Board of Trustees from 1961 to 1976.

At the time he was appointed NTID director, less than 1 percent of all college-age deaf individuals were enrolled in post-secondary education. Of those employed, most held unskilled or semi-skilled positions, and there were virtually no deaf people in technical or managerial positions.

Frisina's goal from the start was to improve education opportunities for deaf and hard-of-hearing students to open to them successful career paths on par with those of their hearing peers.

He brought with him to RIT/NTID a background in education and deafness as well as an acute understanding of the need for RIT to fulfill its contract with the federal government for operating NTID.

When he saw a challenge, he doggedly pursued a solution. He scrupulously selected faculty and staff who were experts in a variety of technical and educational fields and who understood they were embarking on what he called "The Grand Experiment," an entirely new venture to educate a large number of deaf and hard-of-hearing students at the postsecondary level on a mainstream college campus.

Well known for encouraging faculty and staff to develop innovative ideas, Frisina was known to say that he had two pockets—one for problems and one for solutions. He often would tell people that if they brought him a problem for one pocket, he also expected them to bring a solution for his other pocket.

"Bob was instrumental in developing, encouraging, and mentoring many of NTID's best leaders over the years," said Gerry Buckley, current NTID president and RIT vice president and dean. "His foresight, wisdom, and perseverance helped make NTID what it is today."

Stepping down as leader of NTID in 1976, Frisina continued to serve as an RIT senior vice president for 15 years. In 1993, he formed the International Center for Hearing and Speech Research (ICHSR), which was housed at RIT/NTID, and served as director of ICHSR for 17 years.

He also served as a board member and adviser for a number of organizations and earned many RIT awards, including the Presidential Medallion, the Principal Investigator Award, and the RIT Diversity Trailblazer Award. In 2007, RIT/NTID dedicated the D. Robert Frisina Quadrangle in his honor. In 2009, he was named vice president emeritus of RIT.

"He always spoke with tremendous pride about the mission of NTID and the positive impact it has had on the lives of thousands

Frisina, pictured here in the 1970s, enjoyed interacting with students at RIT/NTID.

of deaf individuals," Buckley said. "He said that one of the highlights of his career was receiving a standing ovation from the thousands of alumni who attended NTID's 50th anniversary celebration in Rochester in 2018."

Pamela L. Carmichael

Become a founding member of the Sentinel Society.

As a Sentinel Society member, your annual and unrestricted giving plays a crucial role in allowing RIT to offer scholarship aid to attract a highly talented and diverse student body, while enriching the RIT experience for all students.

Your five-year pledge—at a specific level—entitles you to membership in the Sentinel Society where you'll receive online honor roll recognition, donor newsletters, and special access to in-person and virtual events and programs. **By becoming a Sentinel member, you will make a direct, immediate, and substantial impact on our students.**

Sentinel members are turning aspirations into achievements. Learn more about how you can be a member by visiting **rit.edu/sentinel**.

The Sentinel sculpture, by renowned sculptor and RIT Professor Albert Paley, is a dramatic focal point in the heart of campus that celebrates the fusion of art and technology.

RIT | Sentinel Society

BRICK CITY
HOMECOMING
& FAMILY WEEKEND

October 15-17

We're always on to something amazing at homecoming and family weekend.
Save the date, Tigers.

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