Rochester Review

University of Rochester
Fall 2025

175 Ways URochester Makes the World Ever Better


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every
wonder
sparks
a better
discovery.

Whether driving innovation in the lab, the classroom, the operating room, or the community, we are united by a commitment to bold inquiry that leads to real impact. We work together across disciplines to ask big questions, solve pressing challenges, and shape what's next.

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MELIORA
University of Rochester

Ever Wonder. Ever Better.

Oh, What a Night

One of the University of Rochester's most beloved traditions got a fresh burst of energy as more than 1,300 first-year and transfer students gathered in August for the annual Candlelight Ceremony. This year featured the debut of the Jersey Release Party, with each new student receiving a personalized baseball jersey. They enjoyed ice cream and danced to beats played by Vice President for Student Life (and resident DJ) John Blackshear. As night fell, a sea of LED candles flickered to life, reflecting the spirit, pride, and connection that define the URochester community.
—Jim Mandelaro


BLIGH
29
KHLEIF
29
SAMUDER
29

Float Like a Butterfly

For years, teams of mechanical engineering students would design, build, and race drill-powered go-karts across the Eastman and Wilson Quadrangles for their senior design capstone projects. But this year Professor Christopher Muir issued a new challenge—create hovercrafts powered by leaf blowers that can glide over flat surfaces. On Design Day, a crowd in the Goergen Athletic Center cheered on mechanical engineering student Ian Yao '25 from Team Alligator as he competed against Team Crocodile. The race ended in a dead heat. —*Luke Auburn*


playsight
SMARTCOURT
EXIT

Setting the Stage

A new comprehensive campaign got off to a rousing start at Meliora Weekend. *For Ever Better*, which aims to raise $1.75 billion while amplifying alumni and community engagement, celebrated its official launch with a moving performance by Assistant Professor YooJin Jang. Playing the Eastman School of Music's prized 1714 Stradivarius—gifted to the school in 1957—Jang performed Vivaldi's *The Four Seasons, Op. 8, No. 4, "Winter"* with an Eastman student string chamber ensemble. Watch the performance at uofr.us/stradivarius. *—Tama Miyake Lung*

for
EVER BETTER

THE CAMPAIGN
FOR THE UNIVERSITY
OF ROCHESTER

For a world fueled by collaboration.

The challenges facing our world rarely fit neatly into one discipline. At the University of Rochester, collaboration drives discovery. Our size empowers us to work across boundaries—to unite thinkers, creators, and innovators who see connections where others see limits. Building on more than 175 years of progress, we turn curiosity into discovery, and discovery into solutions.

CANCER
FUSION
DATA
OPTICS
AGING
MENTAL HEALTH
ECONOMICS

Join us in a campaign for the next century.

everbetter.rochester.edu

MELIORA

University of Rochester

For Ever Better: Investing in Our Future

As we celebrate 175 years of institutional leadership, we see our people and our ideas as key to our next chapter of excellence.

BY SARAH C. MANGELSDORF

When members of the University of Rochester community ask me what the future holds for the institution, I often remind them of the deep history of research and academic leadership, technological innovation, and optimism that runs through our legacy. We can find many lessons for our future in the story of our founding and in the 175 years of institutional achievement that we are celebrating this year.

While we have no shortage of incredible stories of success since we admitted our first students in 1850, we have also risen to face challenges. We have seen wars and pandemics, economic turmoil, and fluctuations in public and political support for research universities and academic medical centers.

In good times and bad, our answer has always been to invest in our strengths: our people, our ideas, and most of all, each other. We have proven that by creating opportunities for talented and curious people—from all walks of life and from all over the world—to pursue ideas, ask challenging questions, share their histories and perspectives, and engage as partners with communities near and far, we can make a better world for generations to come.

The list of the ways in which we have shaped the economic, social, and physical well-being of people close to campus and across the globe is long, but allow me a few examples:

Our leadership in vaccine research and technology at the Medical Center has, for all practical purposes, eradicated a form of meningitis that was once a scourge of childhood. At the Eastman School of Music, we combined conservatory training and musical education in ways that made us an internationally recognized home for performance.

"We have proven that by creating opportunities for talented and curious people, we can make a better world for generations to come."

MATT WITTMEYER

And at the Laboratory for Laser Energetics, we regularly harness the interaction of matter and light to advance technologies that drive the digital revolution, model the interiors of distant planets, and may power sustainable energy for the future.

As we look to our next 175 years, we are making ambitious plans, knowing that we must be strategic in our decision-making and nimble in our actions. We are ready for challenges in the months and years ahead, but we are investing in our founding missions, work that demonstrates our responsibility to serving the greater good.

At Meliora Weekend this fall, we launched our largest and most impactful comprehensive campaign. *For Ever Better: The Campaign for the University of Rochester* promises to elevate our research and clinical enterprises; provide a new level of support for our students, faculty, and staff; transform many campus facilities; and extend the reach of our Meliora spirit in ways that engage and celebrate our campus, alumni, and global constituencies.

The campaign echoes our long-standing tradition of working together to build something larger than any single individual. While the history books tell the stories of generous philanthropists who helped shape our institution, they also report the outpouring of support from members of the community: the janitor who helped lead the first commencement parade through downtown Rochester, the local restaurant Eddie's Chop House listed near George Eastman's name in the 1924 roster of donors who helped establish the River Campus. And, of course, the story of Susan B. Anthony, who canvassed the city in the late 1800s to ensure support for coeducation.

They committed themselves to creating an institution and a way of thinking about the future that resonates well beyond Rochester.

As I have met with alumni, parents, friends, and volunteer leaders, I have experienced the excitement and energy for URochester and what we can accomplish. I am grateful for that engagement, and I appreciate the willingness of every member of our academic community to share their story of our institution's impact and influence.

We are each a steward of our future, and I am looking forward to joining everyone as we invest in the next chapter of our remarkable University of Rochester story.

Contact President Mangelsdorf:
thepresidentsoffice@rochester.edu

Connect with her on LinkedIn:
/in/sarahmangelsdorf

"All-time best"

↑
Our spring 2025 issue, featuring MRI expert and sci-fi novelist Edward Ashton '96 (PhD) of *Mickey 17* fame.

Aw, shucks
I always enjoy reading the *Rochester Review*. The most recent issue was one of the all-time best. The artwork, graphics, photographs, and articles were all very well done. Of special interest to me was the article about Terry Gurnett and the digital material he has been organizing from the U of R's sports history. Terry is doing an extraordinary job trying to preserve these past moments which would otherwise be lost.

The profiles of the creative people from the University and their work were truly outstanding in this issue. The work from Cheryl Mendelson about "Keeping Your Word in the Modern World" was very interesting as was the excerpt from *Vows: The Modern Genius of an Ancient Rite*. Cheryl created an interesting work on an important issue.

The profile of Edward Ashton and his work on the film *Mickey 17* provided a view of the creative accomplishments of another former Rochester student. Seeing what people like this have accomplished and the contributions they have made reminds me of how lucky I was to attend the U of R. Thank you for your great work in the *Review*.

David Ragusa '68
Venice, Florida

Music to our ears
Thank you for the spring 2025 edition of *Rochester Review*, and for including my class note. I look forward to reading the magazine carefully, including the President's Page and other good stuff, as it is said. As a response to my receiving the *Review* today, I played "Amen" on my concert grand marimba in appreciation—I'm doing a Jazz Appreciation Month program with circa 50 pieces!

Geary H. Larrick '70E (MM)
Glenview, Illinois

Ever better, indeed
The spring 2025 issue of *Rochester Review* announced that the National Cancer Institute has conferred on the Wilmot Cancer Institute the laudable distinction of being an NCI-Designated Cancer Center. To be more specific, it is now an NCI-Designated Clinical Cancer Center, one of three cancer center designations, the other two being a Comprehensive Cancer Center and a Basic Laboratory Cancer Center. Given the quality and level of basic and translational research at the U of R, I hope at some point the cancer center qualifies for and applies for a Comprehensive Cancer Center designation, which also requires a level of public outreach and education as well as conducting and recruiting patients for early-stage clinical trials.

Dan Keller '72, '80M (PhD)
Glenside, Pennsylvania

All in the family
"Learning Russian in the Heart of Rochester" sparked a memory

/University-of-Rochester

"So inspiring. Gonna take a course in creative writing!"
— Frederick Carter '83

"As a fellow alum, I applaud your accomplishment. Can't wait to see the film. Kudos."
— Brian Bellanca '84

↑
LinkedIn followers react to Luke Auburn's spring 2025 cover story on Edward Ashton '96 (PhD) detailing the alumnus's journey from southern West Virginia to the red carpet in London.

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University of Rochester

COVER: NASA EARTH OBSERVATORY

of when I was studying Russian at the U of R in the late '60s. When I was taking RUS 101 during my freshman year, I used to practice speaking with Maria, one of the housekeepers on Gannett 5. In time, we became quite friendly. Maria invited me to her home, where I met her husband. I shared meals and attended church services with them.

She told me how her family had lived in Harbin [China] because her father worked for the railroad there. There was a large Russian presence in Harbin because of that railroad, about 40,000 people by 1911. After the 1917 revolution, most of them, White Russians, opted not to return to Russia. Then, in 1949, Mao's Communists took over China, and most of the Russian population again fled. Maria, like many other Russian inhabitants of Harbin, fled first to Rio de Janeiro in Brazil, and eventually found her way to the United States, and to Rochester.

But the tale gets even stranger. After my mother died in 1983, I found in our house a box of letters between my father, who had also worked briefly in Harbin in the 1930s, and a Russian woman named Nina Rimsky-[Korsakov] (granddaughter of the composer), with whom he lived for a time. The letters, which were written between 1950 and 1953, came first from Harbin, then Tientsin [now Tianjin], and finally Rio de Janeiro.

Nina begged my father to help her immigrate to the United States or to Australia. She did not want to go to Brazil. My father wrote to an Australian friend of his to ask her advice, and Nina and her daughter Helen eventually received visas to go there, but they could not afford the tickets. She asked my father to help her buy the tickets, but he wrote to tell her that he was sick with cancer and unemployed, and unable to help her. Nina's last letter came from Rio de Janeiro.

Since there was probably a close community of White Russians from Harbin who settled in Rio, I think it's very likely that my friend Maria was acquainted with my father's former girlfriend! They would have been approximately the same age. But I was never able to determine if Nina and her daughter ever made it to the United States. And I had long since lost touch with Maria and her husband.

I never knew how much my mother knew about Nina, but I presume that my father probably never told her that her daughter was named for his ex!

Nina Liakos '71
Gaithersburg, Maryland

"Just remember that no matter where you go from here, what profession you choose—or perhaps, like me, chooses you—you can change the world. Better yet, you can improve the world by seeking connections, by striving to understand the world around you, by listening to others, and by giving people the chance to show you who they really are. *Tout comprendre, c'est tout pardonner.* As Tolstoy wrote, to understand all is to forgive all."

2025 Commencement speaker Tommy Evans '99, who in September was named editor-in-chief of NPR

@urochester **VOLUME UP FOR MAXIMUM YELLOWJACKET PRIDE!** 🐝

KEITH WALTERS (EVANS)

↑ **David Andreatta's spring 2025 story on Terry Gurnett '77, the associate director of athletics for advancement, and his treasure trove of game footage dating back to 1927 was a hit on social media.**


Hey,
Yellowjackets.
Let's talk special teams.
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rochester.edu/wonder
MELIORA
University of Rochester

175 Ways URochester Makes the World Ever Better

ISTOCK/GETTY IMAGES PLUS

What good is the research university?

175

We all should keep asking that question, if for this reason only: The University of Rochester's answers get ever better.

Start with economic growth. We're upstate New York's largest employer, with a multiplier effect of some 30,000 jobs across the state. And of course there's the clear educational task—fostering a future Renée Fleming, the next fusion energy pioneer, the next great biotech entrepreneur. It's no accident that this University has produced 13 Pulitzer Prizes, 12 Nobels, 77 Grammys, and even two Guinness World Records.

Then there are the tangible results. Contributions by URochester students, faculty, staff, and alumni over the past 175 years have been making our lives richer, healthier, filled with music, enlightened. In the pages that follow, some of the items may surprise you, from *Avatar*'s native language to anabolic steroids, from the volunteer military to metal that refuses to sink.

These gifts to the world offer proof of the University's philanthropic leverage. A dollar contributed to URochester seeds more than a single investigator, building, or experiment; it can lead to profound, positive change. Innovations that emerge from our laboratories, clinics, performance spaces, and classrooms continue to transform optics, nursing, galactic imagery, music, materials science, even the way major corporations are run. All in the pursuit of making the world ever better.

So, congratulations! As a reader of this magazine and a member of the URochester community, you share the credit for one of the world's great resources. At the same time, we all have an increasingly urgent obligation to spread the word. Meliora is more than a wish or ambition for us; it's a living, global, inspiring actuality.

And so we bring you this evidence-based survey, a cross-section of the indispensable research university. *—The Editors*

With contributions by David Andreatta, Alison Arnold, Luke Auburn, Karen Black, Matt Cook, Gianluca D'Elia, Jay Heinrichs, Sandra Knispel, Johanna Lester, Tama Miyake Lung, Mark Michaud, Leslie Orr, Erin Peterson, Melissa Pheterson, Sofia Tokar, and Lindsey Valich

SPOT ILLUSTRATIONS BY JAMES JOYCE

Health & Care

175

From HPV to RNA, URochester leads in preventions and cures by ...

1

Putting a vaccine into the cancer fight.

Human papillomavirus (HPV) is one of the most common sexually transmitted infections worldwide, causing genital warts and consisting of two strains that cause nearly all cases of more than 70 percent of cervical cancers. In the 1990s, URochester faculty Richard Reichman, William Bonnez, and Robert Rose ’94M (PhD) contributed to the development of a definitive **HPV vaccine**: the world’s first cancer-preventing inoculation, saving hundreds of thousands of women’s lives.

Collaborating at the School of Medicine & Dentistry, the trio discovered that harmless virus-like particles could safely trigger immune protection against HPV. Following FDA approval in 2006, the vaccine was adopted worldwide, leading to dramatic reductions in HPV infections, precancerous lesions, and genital warts. Beyond its direct health impact, the HPV vaccine has become a milestone in cancer prevention. *MP*

2

Detecting mental health problems before they start.

It seems standard now, but the notion of “prevention” barely existed in the vocabulary of the mental health field in 1957. Cue URochester psychologist Emory Cowen, who started a program he dubbed the **Primary Mental Health Project** at Rochester’s School No. 33, a joint enterprise with the Rochester City School District.

Used to detect and prevent school adjustment problems in young children, the PMHP has been adopted in more than 700 school districts around the world, with more than a quarter of a million children having participated in the program since its inception.

The project, focusing on building wellness and establishing trust rather than merely treating emotional damage after the fact, is known for its longevity and as a revolutionary step in mental health intervention. *JL*

3

Recruiting a dog to fight crime.

Trench coat. Signature voice. Enemy to criminals everywhere. Enter **McGruff the Crime Dog**. URochester alumnus Jack Keil ’44 created and voiced the canine, who debuted in 1980 to teach us all how to “take a bite out of crime.” *JL*

4

Correcting RNA’s deadly mistakes.

It may seem like the lesser known of the nucleic acids, but RNA (ribonucleic acid) has been having a moment. Talk of RNA-based treatments and trials has become commonplace, thanks primarily to the COVID-19 pandemic and the rapid development of messenger RNA (mRNA) vaccines.

At URochester, Lynne Maquat, director of the Center for RNA Biology who has been studying RNA since 1972, discovered **nonsense-mediated mRNA decay**—one of the major surveillance systems in the body that protects against innate mistakes in gene expression by targeting and eliminating deleterious mRNAs that could lead to the production of incomplete and potentially toxic proteins that can cause disease.

Key chapters are still being written by many URochester researchers, and new clinical trials are showing the life-changing promise of this once-obscure research. The University’s expertise in mRNAs will continue to lead to new therapeutics for a wide range of diseases that cannot currently be treated with conventional drugs. *JL*

Forty-five (human) years after he was created, McGruff is still the face of the National Crime Prevention Council.

FAV PNG

5

Supporting local children and families.

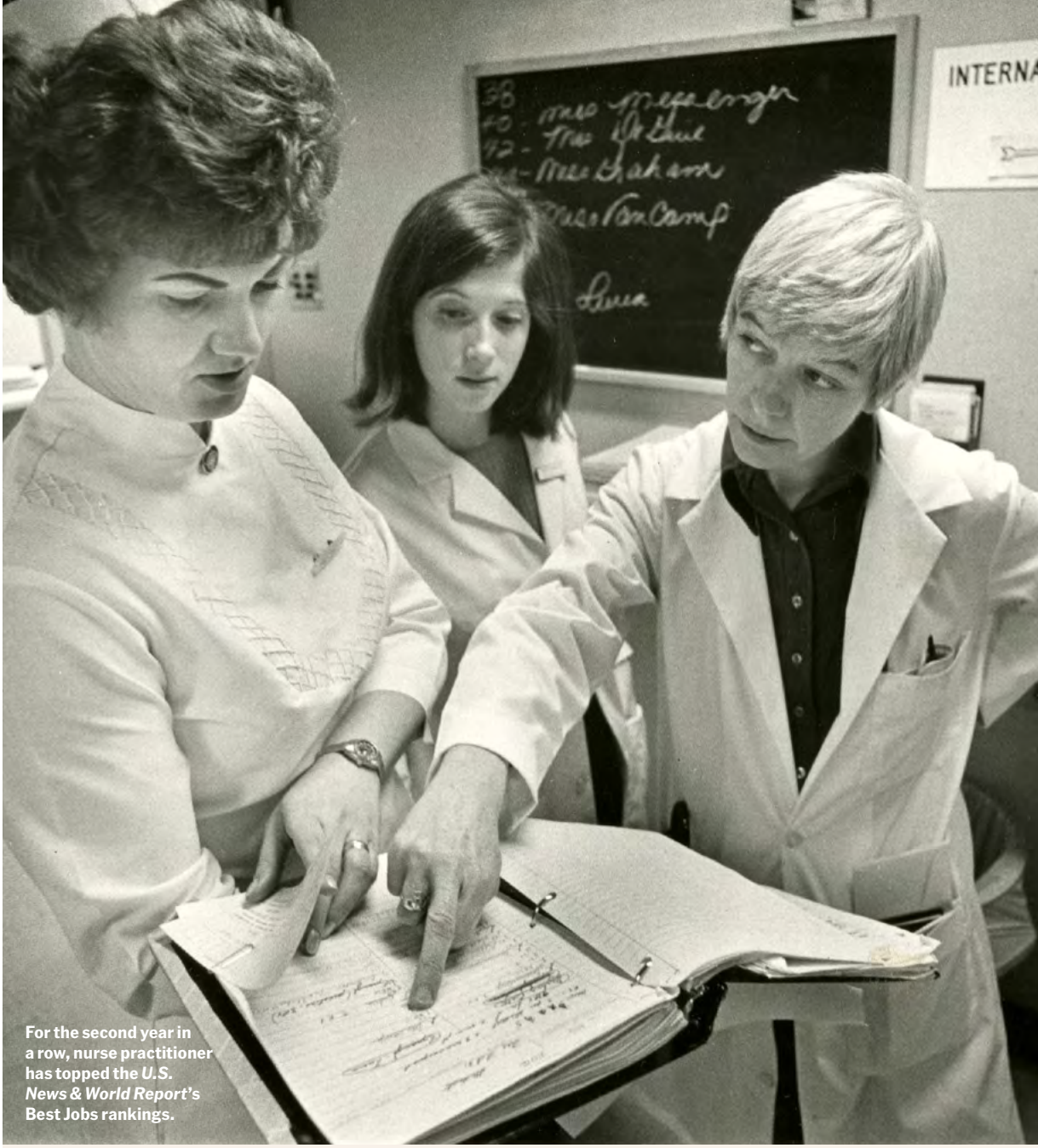
Established in 1979, **Mt. Hope Family Center** is one of just three NIH-funded national centers specializing in treating children who have suffered trauma and maltreatment. Affiliated with the Department of Psychology, MHFC translates its researchers' scientific findings into evidence-based therapies and programs—providing intervention and prevention services to thousands of Rochester-area children and families. *JL*

6

Curing acne, pneumonia, and the Black Death.

While working at Pfizer in the early 1950s, Lloyd Conover '50 (PhD) invented the first antibiotic arising from chemical modification of a naturally occurring drug. More effective, broader in spectrum, and cheaper to produce, **tetracycline** was also a godsend for those who were allergic to penicillin. Granted a patent in 1955, it soon became the most prescribed broad-spectrum antibiotic in the US, treating everything from acne to pneumonia to, yes, the bubonic plague. *MP*

CHRIS QUILLEN/UNIVERSITY OF ROCHESTER MEDICAL CENTER PHOTOGRAPH COLLECTION



For the second year in a row, nurse practitioner has topped the *U.S. News & World Report*'s Best Jobs rankings.

7

Pioneering the nurse practitioner movement.

Today, being treated by a nurse practitioner (NP) seems almost as common as seeing a physician. The role—now a norm in most healthcare settings—has URochester roots. An early leader in the NP movement, the School of Nursing introduced the first academic program for acute care NPs and became one of the first nursing schools to prepare pediatric NPs to work in primary care throughout the 1970s and '80s.

The inaugural dean of the school, Loretta Ford, originated the NP role and founded the first academic program for NPs at the University of Colorado alongside pediatrician Henry Silver before coming to URochester in 1972. Ford's bold ideas often faced resistance and skepticism, but she worked tirelessly to advocate for nurses as educators, researchers, and advanced practice providers, garnering greater respect for nursing and transforming the way millions of Americans receive care.

"I get a lot of credit for 140,000 nurses, and I don't deserve it," Ford said of the growing NP profession in a 2011 acceptance speech when she was inducted into the National Women's Hall of Fame. "They're the ones who fought the good fight. They took the heat and they stood it and they've done beautifully." *GD*

8

Eradicating smallpox.

During the 1960s and ’70s, Donald Henderson ’54M (MD) directed the World Health Organization team that methodically tracked smallpox infections and immunized others in their circles. In 1980 the WHO declared smallpox eradicated —**the only human disease to achieve this status** to date. *MP*

The eradication of smallpox is hailed as one of history’s most profound public health successes.

9

Paving the way for the Pill.

Drug-delivery pioneer Alejandro Zaffaroni ’49M (PhD), ’51M (Pdc), ’72M (Honorary) became known for **making the impossible possible**. Among myriad accomplishments and creations, Zaffaroni had a hand in developing the birth control pill, therapeutic corticosteroids, transdermal patches for nicotine, and controlled-release systems for various drugs.

He stayed at URochester to complete an NIH Fellowship from 1949 to 1951, where his research led to the “Zaffaroni technique” for isolating steroids, which gained international attention. An outright visionary, Zaffaroni received the National Medal of Technology and Innovation and was inducted into the National Inventors Hall of Fame at the Smithsonian Institution. *JL*

10

Making chemo tolerable.

Until the 1980s, many cancer patients quit chemotherapy because of its harsh side effects. Longtime URochester faculty member Gary Morrow ’88M (MS) transformed this challenge into a new field—known as **cancer control**—focused on making life better for patients and survivors. His research helped establish URochester and the Wilmot Cancer Institute as global leaders, with the American Society of Clinical Oncology citing nausea prevention research as one of the top five advances of the past 50 years. *LO*

11

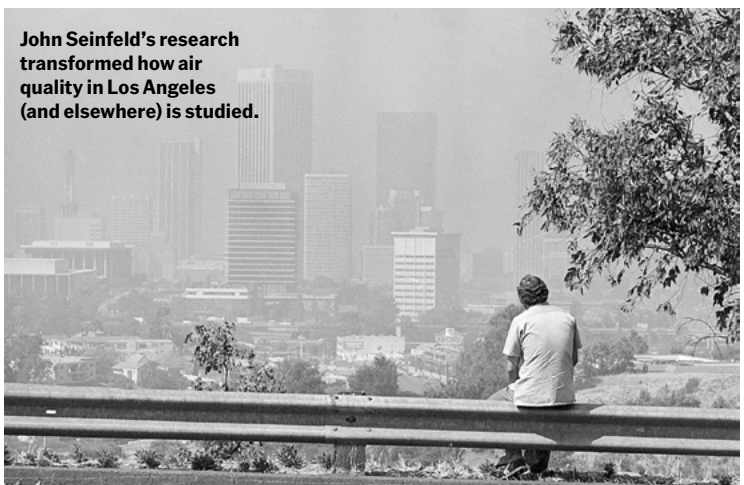
Smacking down diphtheria.

In 1893, a diphtheria epidemic hit the city of Rochester. Good thing Charles Wright Dodge had arrived at URochester three years earlier—toting his own microscope, as the University didn’t have one. Dodge, who founded the Department of Biology, developed **the country’s first diphtheria antitoxin**, which took control over Rochester’s epidemic. He would go on to serve on the department’s faculty for 40 years. *JL*

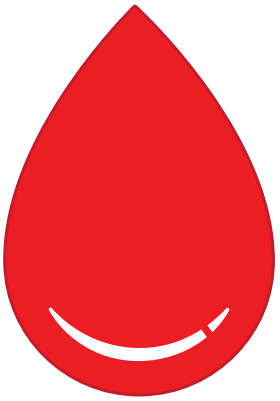
12

Modeling air pollution.

John Seinfeld ’64 revolutionized the way scientists study pollution. When the atmospheric scientist joined the California Institute of Technology, he took special interest in Los Angeles’s smog levels, which at the time were hitting historic highs. Seinfeld and his research group systematically examined air pollution data and developed **the first large-scale urban air pollution model** for the Los Angeles basin. That spurred a new field of scientific research focused on modeling tropospheric pollution, and it laid the foundation for pollution modeling used nationwide by the Environmental Protection Agency. *LA*



John Seinfeld’s research transformed how air quality in Los Angeles (and elsewhere) is studied.



13

Solving the liver’s deadliest problems.

As a senior investigator at the National Institutes of Health during the 1970s, Harvey Alter ’56, ’60M (MD) puzzled over a persistent finding: Many patients were developing chronic hepatitis after receiving blood transfusions, even when tests ruled out hepatitis A and B.

Through meticulous studies, Alter demonstrated the existence of a previously unknown infectious agent responsible for most cases of transfusion-associated hepatitis. In 1989, he identified the virus as **hepatitis C**—a breakthrough in public health. Within years, highly sensitive blood tests built around this finding virtually eliminated the risk of transfusion-related hepatitis C in many countries.

Alter received the 2020 Nobel Prize in Physiology or Medicine for his work, with the Nobel committee crediting Alter and his partners with “greatly improving global health.” Alter’s work also laid the foundation for effective antiviral drugs that can now cure the infection, preventing liver failure and cancer while saving millions of lives worldwide. *MP*

PHOTO 12 FOR GETTY IMAGES (SMALLPOX); BETTMANN FOR GETTY IMAGES (POLLUTION)

VEXELS

Popeye creator E. C. Segar is said to have chosen spinach as his character's signature food to encourage kids to eat more of the nutrient-rich vegetable.

14

Finding spinach's special K.

Dark green vegetables like kale, spinach, and broccoli are potent sources of **vitamin K**, essential to bone health and blood clotting. Danish biochemist Henrik Dam discovered the vitamin in the early 1930s while working in Europe. He was conducting research at the University of Rochester Medical Center in 1943 when he shared the Nobel Prize in Physiology or Medicine for this discovery. *JL*

15

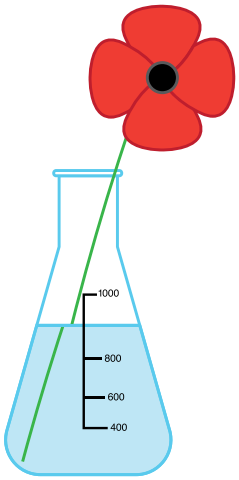
Making tap water safe.

We have Martin Tiernan, Class of 1906, to thank for the safety of our public drinking water. While working at the Gerard Ozone Process Company in 1913, Tiernan and Charles Frederick Wallace introduced **the world's first chlorinator**. *JL*

16

Detecting the hazards in transmission lines.

Edwin Carstensen, a professor of electrical engineering for nearly 50 years, made pioneering contributions to the understanding and development of ultrasound. Working with a committee established by the National Institutes of Health, he helped set **the worldwide standards for ultrasound exposure**. His landmark book, *Biological Effects of Transmission Line Fields* (1987), was widely influential in legal and government actions aimed at reducing exposure to electromagnetic fields. In 1986, he became the founding director of the Rochester Center for Biomedical Ultrasound, with one of the largest groups of MD and PhD researchers active in medical ultrasound. *LA*



17

Battling eating disorders.

Suffering and recovering from an eating disorder can be a lonely journey but not for those fortunate to be treated at the School of Nursing's **Western New York Comprehensive Care Center for Eating Disorders**, one of only three comprehensive care centers in the state. Longtime director and professor of clinical nursing Mary Tantillo '86N (MS) is widely hailed for her innovative multifamily therapy group approach for young adults with anorexia nervosa, known as Reconnecting for Recovery (R4R). *TML*

18

Bringing science to full bloom.

In 1952, URochester chemistry professor Marshall Gates achieved **the first total synthesis of morphine**. Previously obtainable only by extracting it from opium poppies—think of the fields lulling Dorothy to sleep in Oz—the potent pain reliever could now be built entirely in the laboratory from a starter kit of chemicals.

In more than 30 methodical steps, Gates and his team created a new source for a stable and controlled supply of morphine independent of crop yields and supply chain challenges. Though the process yielded only minute quantities of morphine, it proved that chemists could replicate nature's most complex compounds. It also went on to fuel the design of other synthetic painkillers and anesthetics. *MP*

19

Tackling the problems of prenatal alcohol exposure.

Caused by exposure to alcohol during pregnancy, fetal alcohol spectrum disorders (FASD) cause behavioral, learning, and physical problems in 1 to 5 percent of Americans. New treatments, developed by URochester psychologists, focus on strength-based interventions and improving people's quality of life. The **FASD Diagnostic and Evaluation Clinic**, a partnership between the Department of Developmental and Behavioral Pediatrics at Golisano Children's Hospital and Mt. Hope Family Center, is one of just two specialty clinics in the state that regularly diagnose FASD. Next up is a documentary that seeks to decrease stigma and increase awareness. *SK*

20

Delivering healthy smiles.

Since 1967, the Eastman Institute for Oral Health's **SMILEmobile** program has provided dental care to underserved children and adults in Rochester and the surrounding area. The state-of-the-art dental offices on wheels bring services directly to schools, group homes, and nursing homes—reducing barriers like transportation and insurance and helping boost patients' academic performance. *TML*

21

Improving cancer treatment for over-60s.

URochester is a trailblazer in **geriatric oncology**. Our research has improved cancer treatment in adults aged 60 and up—with geriatric assessments of the whole person, functional ability, and other illnesses and health conditions. URochester was among the first in the nation to open a dedicated Geriatric Oncology Clinic, founded by Supriya Mohile, a professor of medicine and of surgery. *JL*

22

Eliminating bacterial meningitis in kids.

Pediatric researchers David Smith '58M (MD), '92 (Honorary), Porter Anderson, and Richard Insel transformed child health worldwide by developing **the Haemophilus influenzae type b (Hib) conjugate vaccine**, virtually eliminating a leading cause of bacterial meningitis—a previously often fatal illness—in preschoolers.

Since the vaccine became universally recommended for infants in 1990, cases among children under five have dropped by as much as 99 percent. The URochester team's breakthrough not only subdued Hib but also inspired new vaccines using the same template. One notable product of this approach is Prevnar, the vaccine that protects against pneumococcal infections. *MP*

SMILEmobile was a New York first in creating dental offices on wheels. Some 39,000 kids have been served by the program.

UNIVERSITY OF ROCHESTER MEDICAL CENTER PHOTOGRAPH COLLECTION (SMILEMOBILE)

AIDS EDUCATION COLLECTION/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION

Featuring more than 8,000 posters, the AIDS Education Collection documents HIV/AIDS education efforts in more than 130 countries and in more than 75 languages and dialects.

23

Discovering AIDS.

Michael Gottlieb '73M (MD), '74M (Res), '77M (Res) made medical history as the first physician to identify and describe the disease that soon after became known as acquired immune deficiency syndrome, or AIDS. The date of Gottlieb's report—June 5, 1981—marks the official start of the AIDS epidemic. Since cofounding the American Foundation for AIDS Research in 1985, Gottlieb has been a leading advocate for AIDS research and treatment.

URochester is also home to the AIDS Education Collection, housed in the River Campus Libraries' Department of Rare Books, Special Collections, and Preservation. A gift from the late physician and medical historian Edward Atwater '50, it's one of the world's largest collections of HIV/AIDS posters and visual resources.

And there's more: The Medical Center was one of the first research sites in the country to conduct HIV vaccine studies, and its Rochester Victory Alliance, established in 1988, is one of the first five clinics in the world focused on HIV vaccine research. *JL*

24

Revealing the gene that launched Celebrex.

Warning: The ending to this story is bittersweet. In 1990, URochester scientists led by Donald Young helped discover the gene responsible for the **COX-2 enzyme**—paving the way for new and more powerful anti-inflammatory drugs and sparking a global pharmaceutical race to identify drugs that would inhibit the action of the enzyme.

When URochester received patents—eight years after the initial filing—for Young's inventions, Pfizer had already begun marketing the COX-2 inhibitor Celebrex. A patent infringement lawsuit ensued, but, in 2004, federal courts declared URochester's patents invalid and denied an appeal. US Supreme Court justices claimed we failed to offer details on specific compounds that would inhibit the enzyme. So, while we discovered the gene, we missed out on the drug. *JL*

25

Preventing RSV in seniors.

In May and June 2023, the US Food and Drug Administration approved **the first vaccines to prevent respiratory syncytial virus (RSV) infection in older adults**. Medical Center experts were involved in testing two of the three vaccines and Professor of Medicine Edward Walsh served as the national lead investigator for the trials testing Pfizer's vaccine, Abrysvo. Walsh and Professor of Medicine Ann Falsey have worked with Pfizer for nearly 20 years developing and testing RSV vaccines for adults. *JL*

26

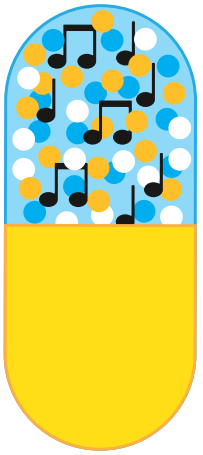
Proving we need to get the lead out.

The dangers of lead exposure have been well documented: everything from developmental delays in children to reproductive issues in adults. But it was Deborah Cory-Slechta, a professor of environmental medicine, who demonstrated in 2003 that even very low levels of the metal damaged the brains of young children. She became cochair of a 2012 Centers for Disease Control and Prevention panel that **recommended slashing by half the level of lead that should be considered as the point for intervention by physicians and public health authorities**. Her ongoing research has led to similar influential advisory roles for plastics, pesticides, air pollution, and various volatile chemicals. *TML*

27

Telling you what to expect from surgery.

Imagine going in for surgery with no idea of what to expect, during either the procedure or the recovery period afterward. Thanks to Jean Johnson, a professor at the nursing school and director for nursing oncology at the Wilmot Cancer Institute from 1979 to 1993, you don't have to. Her groundbreaking research on **information sharing and self-regulation theory** revolutionized the way healthcare is provided, giving doctors and nurses the tools to help patients cope with illness and the impact of its treatment. When it comes to healing, knowledge truly is power. *TML*



28

Healing through music.

What happens when the resources of an acclaimed music school meet those of a top-tier academic medical center? Corridors turn into concert halls, patients find healing in creative arts therapy, and artists receive care attuned to their craft. Jointly run by the Eastman School of Music and the Medical Center and the region's only center of its kind, **Eastman Performing Arts Medicine** furthers these initiatives while studying music's rich potential to promote healing, from live lullabies in the NICU to the optimal playlist in the OR. *MP*

29

Raising hope for Hodgkin's lymphoma patients.

In a landmark study led by Wilmot Cancer Institute Director Jonathan Friedberg and published in 2024, a new treatment combining the immunotherapy drug nivolumab and chemotherapy **raised the survival rate for advanced Hodgkin's lymphoma patients to 92 percent**, suggesting a new standard therapy for the disease. Friedberg predicts that within a few decades we'll see many fewer breast cancers in Hodgkin's patients, as well as "less infertility, less heart disease." *JL*

KAANG FOR GETTY IMAGES (LEAD); ALAIN LE BOT FOR GETTY IMAGES (SEATBELTS); SEBASTIAN KAULITZKI/SCIENCE PHOTO LIBRARY VIA GETTY IMAGES (BLOOD CELLS)

30

Improving the lives of moms and babies.

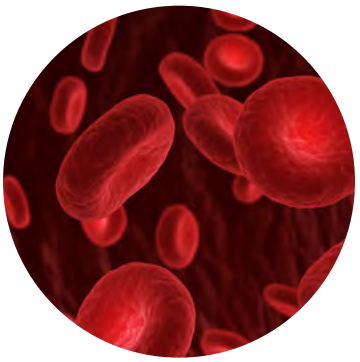
Over more than four decades, research consistently has proven that the **Nurse-Family Partnership** succeeds at its most important goals: keeping children healthy and safe and improving the lives of moms and babies. At the forefront of this research was Harriet Kitzman '61W (MS), '84N (PhD), whose development of a nurse home visitation program became the basis for the initiative. *JL*

31

Turning science into safety.

Racetracks may seem odd settings for an epiphany, but John States '46, a professor at the medical school from 1976 to 1990, noticed that race-car drivers in high-speed collisions fared better than his patients on ordinary roads, thanks to their safety harness. His research and advocacy **made New York the first state to require seatbelts**, in 1984, and earned him the nickname "Dr. Seatbelt." *MP*

Before the discovery of liver as a treatment, pernicious anemia was "universally fatal."



32

Giving liver its due.

While most of us know to start scarfing down beef liver at the first sign of anemia, it took two URochester researchers and 40 Dalmatian-English bulldogs to lead to this 1934 Nobel Prize–winning discovery. By showing that certain foods—especially liver—**stimulated rapid regeneration of hemoglobin and red blood cells** in the anemia-induced dogs, the medical school's founding dean, George Whipple, and his assistant, Frieda Robscheit-Robbins, laid the groundwork for the successful treatment of humans with pernicious anemia. *TML*

Seatbelts save an estimated 15,000 lives annually in the US, according to the National Highway Traffic Safety Administration.

THE SAVE

This woman's life depended on a determined doctor, a groundbreaking procedure, and an institution built to support the research behind complex medicine.

BY ERIN PETERSON

PHOTOGRAPHY BY J. ADAM FENSTER

Roberto Hernandez-Alejandro, right, chief of the Transplant Institute at the University of Rochester Medical Center, and fellow surgeon Koji Tomiyama, left, perform a living donor liver transplant surgery in July 2025.

"We found something."

A gastroenterologist stood over Jess Delaney-Sloper in the recovery room as she awoke from a colonoscopy. "It most certainly is cancer," the doctor said.

Delaney-Sloper struggled to make sense of the words. She was a healthy, fit 42-year-old, an avid runner and nurse practitioner. A single bout of rectal bleeding had triggered a small precautionary procedure. Now she lay alone on a hospital bed. It was January 2021, the height of COVID-19, and her husband was waiting in the parking lot to take her home.

Follow-up tests proved the doctor right—only worse: She had stage IV colon cancer. It had spread to her liver. Doctors told her she had two years to live.

The prognosis did not jibe with who Delaney-Sloper knew herself to be. "I thought I was the picture of health," she says. "I saw my primary care doctor regularly. I worked out every day." What's more, she had exhibited none of the other common signs of cancer—weight loss, night sweats, abdominal pain. Just that one minor episode of rectal bleeding.

The doctors encouraged her to make peace with the prognosis. *Go live your life*, they told her. *You don't want to spend the time you have left in and out of the hospital.*

Make peace? Delaney-Sloper had three daughters, ages 7, 9, and 11. She couldn't accept what amounted to a palliative approach. "I had to be there for them," she says. "First kisses, puberty, all the things that girls go through—I just couldn't imagine not being there for that. I couldn't sit back and accept that diagnosis."

So she and her husband, Ryan, got to work. They made calls, flew to visit top hospitals, and sought expert opinions across the country in California, New York, and Illinois. Again and again, they heard variations of the same thing: *Sorry, there's nothing we can do.*

Finally, a doctor they visited in Boston mentioned an option that might just provide a solution. He connected her with **Roberto Hernandez-Alejandro**, chief of the Transplant Institute at the University of Rochester Medical Center. The regimen was relatively new—and complicated. The procedure entailed transplanting part of the liver of a living donor. Unlike most transplants, a living donation can be scheduled. This allows doctors to perform the transplant at the optimal moment for cancer patients. And because of Delaney-Sloper's grim prognosis, she likely would not have qualified for one from a deceased donor anyway.

Hernandez had been building a reputation among his peers for groundbreaking procedures on some of the most desperate of patients—particularly those with colon cancer that had metastasized and spread to the liver. He told Delaney-Sloper that she was an excellent candidate for living donor liver transplant surgery. In tandem with colon surgery, the regimen could potentially remove all traces of cancer from her body and eliminate the need for future chemotherapy.

Hernandez did not sugarcoat the many challenges ahead, but he also promised he would help her meet those obstacles with methodical determination. "I always try to have a Plan A, Plan B, and Plan C," Hernandez says of his approach to every case.

For perhaps the first time since the diagnosis, Delaney-Sloper felt a real sense of possibility. "There had been a lot of doors shut in our faces," she says. "But Dr. Hernandez opened the door."

The story of Delaney-Sloper and Hernandez is one of resilience, persistence, and extraordinary medical achievement. It also reflects something deeper: the power of the larger systems that a modern research university can bring to bear to make the extraordinary possible. Hernandez's vision is leveraged by a team and an institution built to enable bold ideas and complex treatments. But it's also the most human kind of story—a hybrid of science and deep care.

Seventy volunteers, two livers

Over the course of the next several months, Delaney-Sloper endured a punishing 12-round regimen of chemotherapy to stabilize her cancer and prevent it from spreading further. In August 2021, she traveled to Rochester and spent a week in the hospital for the first surgery: the removal of a portion of her colon and surrounding lymph nodes, performed by colorectal surgeon and division chief **Larissa Temple**.

The next step was to find a compatible donor, one willing to donate about two-thirds of their liver for Delaney-Sloper's transplant. She and Ryan gathered dozens of people on a Zoom call to share their story. The couple asked their friends and family to spread the word and to consider getting evaluated as a match. Within 24 hours, 70 people had called in to volunteer for the screening process. "They had to dedicate one nurse just to take calls for me," she says, clearly moved even four years later by the generosity of their circle.

Her younger brother, Bobby Delaney, a police officer, was the first to call in. He turned out to be a match.

In February 2022, 13 months after her initial diagnosis—and after an additional 10 rounds of chemotherapy—Delaney-Sloper and her brother were in adjacent operating rooms for the lengthy and technically demanding surgical procedures. After ensuring that Delaney-Sloper had no signs of cancer progression, Hernandez removed much of the right lobe of Bobby's liver, a process that took about six hours.

Then fellow URochester transplant surgeons **Koji Tomiyama** and **Amit Nair** removed Delaney-Sloper's diseased liver. Finally, Tomiyama completed the transplant of Bobby's liver to Delaney-Sloper.

About 12 hours after they began, the surgeries were complete: Tomiyama and Hernandez debriefed before going home. The procedure, they told Delaney-Sloper later, was textbook perfect.

While Delaney-Sloper spent the first day or so in a sedation-induced haze with her husband and rotating crews of nurses, she does remember

Jess Delaney-Sloper, far right, with brother Bobby, far left, and husband Ryan and their three daughters in Zion National Park.

COURTESY OF JESS DELANEY-SLOPER

Hernandez, who has been pioneering liver surgeries for cancer patients since the early 2010s, enters the operating room after a surgical scrub.

the moment her brother walked in, pushing a wheelchair to maintain his balance. She recalls how good he looked—so much better than she had expected after donating 69 percent of his liver. "Seeing him for the first time, I felt pure joy, an overwhelming love for him, and admiration for his bravery. What he had done for me was incredible, and I was relieved that we both got through," she recalls. "I felt very hopeful for the future."

The pair was discharged from the hospital eight days later; they spent about a month at a nearby Airbnb so that doctors could monitor their recoveries. Over the course of the coming months, their livers each regrew almost to full size.

Delaney-Sloper continues to adjust to her post-transplant life; she lives with numbness, tingling, and pain from chemotherapy-induced neuropathy in her feet. She continues to have frequent medical appointments, and she will be on immunosuppressants for life. Yet it's a new—and in some ways more purposeful—kind of normal. "I could be dead right now," she says matter-of-factly. But she notes that it has been four years since she woke up after that first devastating colonoscopy—two years past the doctors' initial prognosis. Her most recent scans show no evidence of disease.

Built to go big

Stories about against-the-odds cases like Delaney-Sloper's often get simplified to highlight a single patient and a heroic doctor. But this kind of storytelling can obscure a reality that is far more layered.

Hernandez does fit the heroic mold. That's in part a reflection of his relentless work ethic; he has been known to sketch out surgical ideas on cocktail napkins at conferences and to ditch dinners with colleagues to refine those ideas in his hotel room. He jokes that after his own three children, liver cancer is his "fourth child."

His drive also comes from a deeply personal source: When Hernandez completed his residency at the Mexican Institute of Social Security, his classmates celebrated with friends and family; he attended the recognition ceremony alone. His mother was home receiving chemotherapy for liver cancer, and the rest of his family remained with her as she fought for her life. She died at age 58.

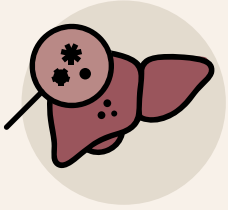
However we wish to portray Hernandez's heroism, innovations like his demand extensive teamwork and a deep bench of expertise and resources—as he himself is quick to note. "Living donor liver transplantation requires two operating rooms, two groups of anesthesiologists, two groups of nurses, and a donor team," Hernandez says, ticking off just a partial list of the surgical team. Success involves hepatologists, radiologists, pathologists, pharmacists, infectious disease specialists, nutritionists, psychologists, social workers, nurse practitioners and coordinators, and administrative and support staff.

Their work is urgently, and increasingly, needed. The incidence of colon cancer in people under the age of 55 has nearly doubled over the past decade and continues to increase by 1 percent a year. Medical experts aren't sure of the reasons; our changing diet, environmental exposures, even microorganisms in our gut might play a role. But Hernandez and his colleagues are focusing on an even more alarming fact: More of these younger patients are diagnosed at advanced stages. An understanding of potential solutions and how to accelerate them is essential.

Hernandez's pathbreaking liver surgeries began in the early 2010s, when he was working at the London Health Sciences Centre in southwestern Ontario. There he advanced a distinctive two-stage surgical

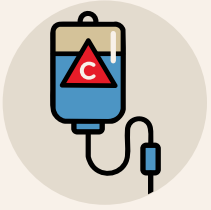
How It Works

As part of a multistep treatment approach, living donor liver transplants have the potential to extend lives for some patients with colon cancer and liver metastases.



1. Diagnosis and evaluation

Colon cancer that has spread to the liver is diagnosed.



2. Cancer control

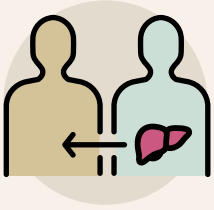
The patient undergoes chemotherapy to reduce or stabilize the cancer.

3. Colon surgery

The primary colon tumor is surgically removed.

4. Living donor match

A healthy living donor is evaluated for compatibility.



5. Transplant surgery

The donor and recipient surgeries happen on the same day: The patient's diseased liver is removed, and up to 70 percent of a donor's liver is transplanted.

6. Recovery

The donor's liver regenerates; the transplanted lobe grows to full size; follow-up scans check for cancer recurrence.

Did you know? The liver is the only organ in humans that regenerates.

ILLUSTRATIONS BY REMIE GEOFFROI

> **"I had the opportunity to develop a team. And I could be a leader that could have an impact not only in upstate New York but nationally."**
>
> — ROBERTO HERNANDEZ-ALEJANDRO

operation to treat liver cancer and metastasis. First presented in 2012 by a German team at a Miami conference, the ALPPS (Associating Liver Partition and Portal vein ligation for Staged hepatectomy) procedure offered a promising treatment for patients whose liver cancer was so extensive that it was often considered inoperable. In the first step, surgeons removed tumors from the smaller side of the liver and redirected blood flow to help that side regrow. Then, once the healthy part had regrown, surgeons removed the remaining cancerous section so the patient could survive without liver failure.

The audience of surgeons greeted the Germans' presentation skeptically, pointing out the significant risk of complications. But Hernandez saw potential for patients who had few other options. He pushed forward with ALPPS, carefully selecting patients with the most promising clinical profiles. The procedure worked once, twice, and eventually some 50 times. While the cancer often ultimately returned, it was extending the lives of patients whose cases had seemed to hold little hope.

The field began to take notice. Soon enough, suitors from around the world were hoping to lure him to their institutions. One of those offering a position was **David Linehan**, then the chair of the Medical Center's Department of Surgery.

As Hernandez deliberated over his next move—a move that likely would determine where he spent the rest of his career—he saw major potential at URochester. "I had the opportunity to develop a team," he says. "And I could be a leader that could have an impact not only in upstate New York but nationally." To have that kind of influence, he knew he had to have more than a single strong champion. He needed the backing of an institution. With that kind of support, he felt confident he would be able to take his biggest ideas as far as they could go.

He had other options, but he chose URochester. And here he began building clinical and research teams.

The next big swing

Hernandez was eager to recruit fiercely dedicated experts with wide-ranging perspectives, a strategy shaped by his own international training. As a young surgeon he had sought out institutions in Mexico, Canada, and Japan, where he had the chance to study some of the most advanced liver procedures. He wanted to learn from the best, wherever they were. The peripatetic path had additional advantages: It gave him insight into the strengths and shortcomings of different healthcare systems and the influence of cultural norms, lessons he would draw on to navigate complex medical challenges.

For example, Japan's relatively conservative approach to organ donation from deceased donors had led it to rely more heavily on living donor liver transplantation. It was one reason Hernandez spent several months learning specialized techniques at Kyoto University, where such surgeries took place two or three times a week—far more frequently than at hospitals in North America.

So it was understandable that Hernandez's first URochester hire would be a Japanese-trained surgeon. Sharing Hernandez's obsessiveness, Tomiyama was known to practice suturing techniques in his spare time at home. Having worked in Canada and the US, he appreciated both the meticulous approach to surgical techniques that he had learned in

Kevin Demoskoff and his wife, Rachelle.

COURTESY OF KEVIN DEMOSKOFF

50%

of colorectal cancer patients ultimately develop liver metastases.

How Rare Is It Really?

Colon cancers with liver metastases are growing more common, especially among the young.

After Kevin Demoskoff was diagnosed with stage IV colon cancer with liver metastases in 2022 at age 36, his doctor warned him: *Don't go on WebMD. Don't Google it.* He would find plenty of worst-case scenarios and very little context.

But Demoskoff just wanted to be part of a community of people who were walking the same path. Even online, the landscape felt bare. "I remember trying to find young adult stage IV colorectal cancer survivors, and there were none," he says, then pauses. "Well, one."

Actually, statistics suggest that the number of patients in his position number in the thousands: More than 150,000 people are diagnosed with colorectal cancer every year, with rates rising among people under the age of 55. Some 50 percent of these patients ultimately develop liver metastases. Roberto Hernandez-Alejandro estimates that up to 1,500 patients every year might be candidates for a living donor liver transplant procedure.

Ultimately, Demoskoff was able to track down the one young survivor he found on YouTube, who pointed him to a community that connected him to Hernandez; he underwent a successful living donor liver transplant in 2023.

Demoskoff, the father of three young children, has had clear scans since his procedure, and he has made it a priority to share his own story. "In some ways, it's hard to be tied to cancer," he says about revealing one of the most difficult chapters of his life. But he credits his experience at URochester for saving his life. "How much time did it save? I don't know. But if I can bring a little bit of visibility to this, that's important to me."

Japan and the sense of urgency that moves medicine in America. "The great thing about the US," Tomiyama says, "is that we try to make things happen as fast as possible."

Tomiyama would eventually become indispensable for Hernandez's next big swing: living donor liver transplants for colon cancer patients whose disease had spread to their liver.

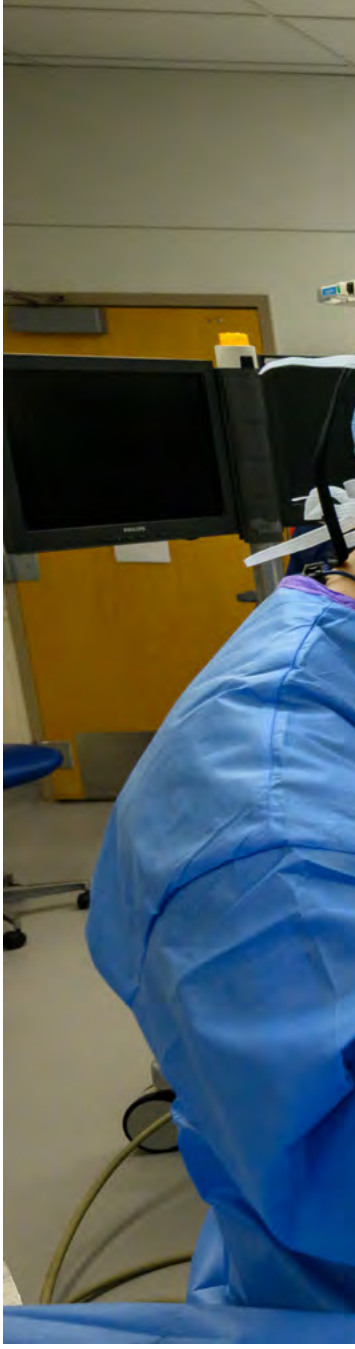
A paper by a Norwegian medical team that Hernandez had reviewed for a journal convinced him that such transplants could be part of a cure, despite previous discouraging outcomes that had squelched the practice in the 1990s. With both donor and patient surgeries happening simultaneously, he knew he'd need Tomiyama, a trusted, highly skilled surgical partner, to make the work possible.

To help care for patients before and after a living donor liver transplant, Hernandez has also leaned on the skills of one of his most recent hires, **Benyam Addissie**. The Ethiopia-born hepatologist is particularly focused on selecting the right patients for this care: "Are they fit enough to undergo liver transplant? Is their cancer too aggressive to be treated safely and adequately with transplant?" He susses out the answers through a range of factors, including a patient's response to chemotherapy and a series of biomarkers. Addissie's goal is to prevent a worst-case scenario: a healthy donor who undergoes major surgery for a recipient who dies during or soon after the transplant.

Medical expertise alone will not guarantee a successful transplant. Leaders like **Nancy Metzler**, executive director of Transplant Services, ensure that the transplant team has the resources, systems, and institutional support for one of the most complex areas in healthcare. While the work of Metzler and her team often gets overlooked, it constitutes an indispensable part of the process. A seemingly trivial misstep—the late signing of a consent form, say—can delay or derail the entire process.

What's more, ensuring that a patient has a confirmed ride home, or that a nurse is available for a full day to field 70 calls from potential donors, is about more than checking boxes. It's about creating a larger sense of trust that allows a patient to feel truly cared for. While there are four surgeons in the operating room, Metzler notes, "there are 36 people back here" who have helped get the patient to that point.

The strength of these visible and behind-the-scenes systems leads to extraordinary outcomes. While only a handful of hospitals nationwide have completed even one successful living donor liver transplant for patients with colon cancer that has spread to the liver, Hernandez and his team have completed 26. Data compiled in 2024 of the first 23 patients who have undergone the procedure show that every single one survived at least one year. Ninety-one percent have survived beyond three years. No other institution has come even close.



Hernandez, center, confers with a member of the transplant team, which includes not only those working in the two operating rooms but also a range of specialists, nurses, and administrative and support staff.

91%

of the first 23 patients treated by Hernandez and his team have survived beyond three years.

Talent magnet

Hernandez is clearly competitive, a mindset he frames around leadership and excellence. "Everyone remembers the first person who reached the moon. Neil Armstrong. But who was the second? We want to be the first at Rochester," he says. "And we want to be the best." Being a leader requires more than just the technical skills and insight of an individual or even of a highly skilled team like the one Hernandez has strategically helped build. It requires systems and institutional structures that can sustain complexity, support high-stakes care, and turn innovation into standard practice.

One example of this broader, amplifying infrastructure: URochester's Wilmot Cancer Institute. It was recently named a National Cancer Institute–designated cancer center, placing it among the top 4 percent of cancer centers nationwide. The designation acts as a magnet for talent. "It allows us to recruit the best and brightest people from across the country," says Jonathan Friedberg, director of the institute. "Under Dr. Daniel Mulkerin's leadership of our cancer service line, Dr. Hernandez's colleagues, gastrointestinal experts, pathologists, radiation oncologists, medical oncologists, and many others demonstrate incredible transdisciplinary collaboration, which is an essential characteristic of an NCI-designated center."

Among many other functions, the institute helps connect specialists across disciplines to support the development of clinical trials and to streamline patient care. The structure enables deep expertise and cross-field collaboration, which in turn allows treatment of complex cancers.

Wilmot also plays a foundational role in research, where advancing a single discovery often requires the expertise of dozens of scientists. For example, under the guidance of Hernandez, fifth-year surgical resident **Matthew Byrne** recently authored a research paper about patient selection, insurance approval, and outcomes of living donor liver transplant for those with liver metastases. (The paper includes data from Delaney-Sloper's procedure.) The 16 authors included 15 from the Medical Center, in areas ranging from surgery to pharmacy. All had links to the Wilmot Cancer Institute.

Beyond the Medical Center, Hernandez can tap into the full depth and breadth of URochester's research expertise, which goes well beyond traditional boundaries of medicine. That might mean partnering with an engineer interested in robotic surgery or a biologist studying tissue regeneration—insights that could further advance his work.

Hernandez believes that it may be possible to double or even triple URochester's current rate of these highly specialized procedures, currently about 10 per year. He imagines a future URochester that's synonymous not just with living donor liver transplants but with other innovative liver surgeries as well.

"Everyone remembers the first person who reached the moon. But who was the second? We want to be the first at Rochester. And we want to be the best."

— ROBERTO HERNANDEZ-ALEJANDRO

Still, the goal is not innovation for its own sake. It's about what that innovation makes possible. For Delaney-Sloper, innovation has meant extra years with her husband and her daughters (now 12, 14, and 16). It has meant more experiences and more milestones. And it has meant a profound connection with her younger brother, who gave her the liver that saved her life.

When she talks about the experience at URochester, she describes it as both "a warm hug" and "a well-oiled machine." The phrases might seem at odds with each other. Yet together they capture what made her care extraordinary: the kindness and skill of the individuals who provided it, and the precision and power of the system behind them. "I went there for a reason," she says on a Zoom call a day before she and her family left for a vacation to Zion National Park.

"And I'm still here." ⁎

Stars & Planets

175

URochester researchers and alumni have boldly gone ...

34

To future discovery of alien life.

When we eventually find life on another planet, Wolf Vishniac deserves some credit. Funded in 1959 by NASA's first exobiology research award, the **"Wolf Trap"** was the first working prototype of an instrument that could remotely detect extraterrestrial biota. Astronomer Carl Sagan named a crater on Mars for the URochester biology professor after he died on an expedition to Antarctica. You'll find the Vishniac Crater in the Giant Footprint, at the exact longitude and latitude of the professor's demise on Earth. *MC*

35

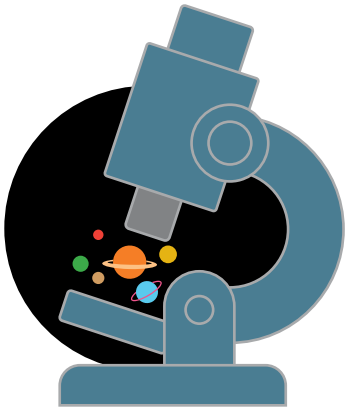
To a star named for guess what.

Morton Kaplon '51 (PhD) codiscovered the R-Star (R for Rochester) while he was a graduate student. Kaplon, who later became a physics professor and department chair at URochester, used a balloon to lift Kodak photographic plates to 100,000 feet to capture a specific particle collision that was theorized to occur in the upper atmosphere. The pattern of star-like images left on the plates (hence **"R-Star"**) provided evidence for a new particle called the neutral pi-meson (now called the neutral pion). Kaplon was also the first to measure the life of a neutral meson, which was the shortest of any elementary nuclear particle observed at the time. *JL*

36

To the language used by famous blue aliens.

Linguist Paul Frommer '65 built **Na'vi**, the language spoken by the natives of Pandora in the film *Avatar*. Na'vi now stands among Klingon, Elvish, and Dothraki as popular fictional languages that are actually learnable. (You can master Na'vi for yourself by going to learnnavi.org.) *Ayoel ayngati kameie nìwotx!* We see you all! *MC*



37

To exoplanets and their inner workings.

Hosted at URochester, the **Center for Matter at Atomic Pressures** is an NSF-designated Physics Frontiers Center that brings together scientists from around the country to explore new worlds, stars, and revolutionary states of matter. Their work involves not only researching the thousands of exoplanets outside our solar system but also replicating the extreme conditions found in the interiors of those planets within a laboratory setting. The findings could have monumental implications for life as we know it on Earth. *TML*

The Na'vi species—and a legion of human *Avatar* fans—speak a language, also called Na'vi, created by URochester alumnus Paul Frommer.

38

To dazzling observations of our universe.

When NASA launched the Hubble Space Telescope in 1990, the project seemed on the verge of failure: The first pictures came back foggy. Duncan Moore, then the director of the Institute of Optics, stepped up to lead a panel investigating the problem.

A year later, they announced a solution: The main mirror had not been ground perfectly, creating a slight distortion. A series of repair missions then brought the Hubble back to life and enabled it to deliver the images that continue to change our fundamental understanding of the universe.

Rochester scientists also contributed to Hubble's successor, the James Webb Space Telescope. Optics professor James Fienup and his PhD students developed the phase retrieval algorithms that tune the primary telescope's 18 hexagonal mirrors, allowing it to capture accurate data from as far back in time as 13 billion years. *LA*

An image captured by the James Webb Space Telescope shows newborn stars forming in a region called Pismis 24, giving scientists rare insight into the properties of hot young stars and how they evolve.

39

Deep into the final frontier.

Physics professor Nicholas Bigelow helped develop quantum-based experiments for NASA's Cold Atom Lab aboard the International Space Station. Broadscale, it could help solve mysteries of the universe and deepen our understanding of the fundamental laws of nature. In the short term, the knowledge gained will be essential in developing new space-based quantum technologies.

Kevin Righter, an earth and environmental sciences professor, served as the curation lead on the NASA mission OSIRIS-Rex. Righter helped keep space rocks collected from the Bennu asteroid free of contaminants, allowing scientists on Earth to determine what was truly extraterrestrial.

Edward Gibson '59, '74 (Honorary), James Pawelczyk '82, and Josh Cassada '00 (PhD) have all ventured into the great unknown. Gibson was part of a record-setting 84-day stint aboard *Skylab 3*. Pawelczyk served as *Columbia*'s payload specialist on a 16-day mission. And Cassada spent 157 days as part of the NASA SpaceX Crew-5 mission on the ISS. *MC*

America's first space station, Skylab laid the foundations for the space science program on the International Space Station and for future missions to the moon and Mars.

NASA

40

To the matter of dark matter.

URochester researchers are contributing to the world's most sensitive dark matter detector. Located nearly a mile underground in South Dakota, the **LUX-ZEPLIN** collaboration leads the hunt for weakly interacting massive particles, or WIMPs. Scientists believe these hypothetical particles make up the dark matter that holds together galaxies. The URochester team developed the data acquisition electronics and firmware used in the detector, supporting efforts to uncover the nature of the invisible matter shaping our universe. *LV*

41

To the reason the universe exists.

Carl Richard Hagen, a professor emeritus of physics who joined the URochester faculty in 1962, played a key role in the 1964 **discovery of the Higgs mechanism** and the prediction of a new particle—the Higgs boson—that scientists would spend the next half-century chasing. In a landmark paper now referred to as "GHK," Hagen and coauthors Gerald Guralnik and Tom Kibble provided the most complete theoretical proof of how particles gain mass and, by extension, an explanation of why the universe as we know it exists. *TML*

***Gravity*, one of three space-related movies George Clooney has starred in, won seven Oscars—including for directing, visual effects, and cinematography—in 2014.**

42

To the stars among us.

It seems impossible, but there was a time when George Clooney *wasn't* famous. John Levey '69, as vice president of casting and talent for Warner Bros. Television, cast Clooney in *ER*—the role that skyrocketed him to fame and ultimately gave us *Ocean's Eleven*, *Batman & Robin*, *Syriana*, and, yes, *Gravity*. *JL*

43

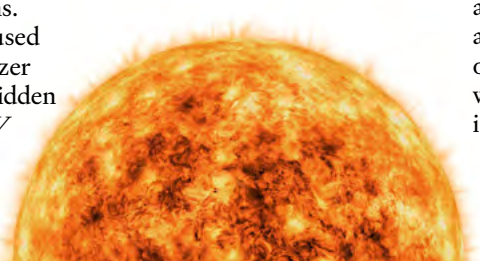
To the formation of stars and galaxies.

Long before the James Webb Space Telescope made headlines, URochester professor Judith Pipher was making it possible to peer through clouds of cosmic gas and dust to uncover the formations of stars and galaxies. Widely considered the **"mother of infrared astronomy,"** Pipher led the development of ultrasensitive detectors that use infrared light to reveal celestial objects invisible at other wavelengths. Her groundbreaking work, used on missions like NASA's Spitzer Space Telescope, opened a hidden window into the universe. *LV*

44

To mysterious ghost particles.

Our modern understanding of the building blocks of matter would be incomplete without Masatoshi Koshiba '55 (PhD), who received a share of the 2002 Nobel Prize in Physics for **detecting and measuring cosmic neutrinos**—tiny subatomic particles often called "ghost particles" because they rarely interact with matter. In the 1980s, Koshiba led the development of a massive underground facility built within the Kamioka mine in Japan that catches neutrinos as they are emitted from the sun. *LV*



45

To the rocks beneath us.

Herman LeRoy Fairchild, a professor of geology and natural history at URochester from 1888 until his retirement in 1920, cofounded the **Geological Society of America**. He devoted much of his life to studying the geology of the Finger Lakes, taking countless photographs that he then projected in his classroom. He is said to have used the same lantern slide projector for his entire 32-year career, modifying the source of light as technology advanced. (In 1934, Fairchild also weighed in on the centuries-old "Seneca Drums" mystery—which you should Google immediately.) *JL*

46

To humanity's understanding of science.

As a self-described "science evangelist," URochester astrophysicist **Adam Frank** isn't afraid to broach a wide variety of subjects—from intelligent life forms in the universe to climate change to high-energy-density physics to the importance of science and its funding. A regular on NPR's *All Things Considered* and a frequent contributor to *The New York Times*, Frank combines passion with deep authority—all while conducting computational astrophysics research into how stars form. *JL*

47

To the starship *Enterprise*.

URochester faculty and alumni created music and sound, penned episodes, and otherwise expanded the cultural reach of a show that boldly went where no show had gone before.

The second pilot episode of *Star Trek: The Original Series*, marked the first time audiences heard the iconic theme music. That arresting fanfare was composed by Alexander Courage '41E. It wasn't his only gift to the show.

***The Original Series* crew struggled to produce the proper sound effect for the USS *Enterprise* flying across the screen during the opening credits. Courage, using only his voice, produced the *whoosh* sound that became an indelible part of the show's history.**

Another URochesterian, English Professor Sarah Higley, created the character of Lieutenant Reginald Endicott Barclay III in *Star Trek: The Next Generation*. Writing under the pseudonym "Sally Caves," Higley wrote the episode "Hollow Pursuits" in which Barclay is introduced as a character. She went on to cowrite another episode, "Babel," for *Star Trek: Deep Space Nine*.

Thomas Perry '74 (PhD) also wrote for *The Next Generation*. His episode, "Reunion," has Worf, the Klingon captain of the *Enterprise*, meeting his son and tragically losing his would-be wife.

Heading into dangerously nerdy depths now with one of the earliest networked computer games, the *Star Trek*–inspired *Alto Trek*. Codeveloped by Gene Ball '83 (PhD) and Rick Rashid '80 (PhD), '15 (Honorary) in 1978, *Alto Trek*, designed for the Xerox Alto, gave players the option of controlling a starship as a Klingon, Romulan, or Terran (all races taken from the show). *MC*

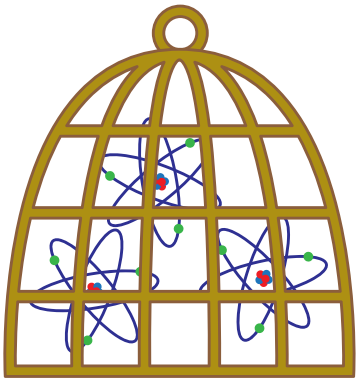
With its multiracial cast and one of the first interracial kisses on American TV, *Star Trek*'s influence extended far beyond the small screen.

J. ADAM FENSTER (STAR TREK)

48

To the planet we stand on.

A native Rochesterian, Grove Karl Gilbert, Class of 1862, helped launch the **US Geological Survey** to advance the study of geomorphology and planetary science. He served as chief geologist under renowned explorer John Wesley Powell. In addition to three peaks on Earth, craters on the moon and Mars are named in his honor. *JL*



49

To the affairs of our world.

Vera Micheles Dean, an authority on international affairs who taught at URochester from 1954 to 1961, got America talking about the world. During her tenure, she maintained her longtime role as editor and research director at the Foreign Policy Association and launched the organization's **Great Decisions** program. It remains the broadest public engagement initiative on world affairs in the country. *DA*

50

To the math behind quantum physics.

One of the earliest faculty members of the Institute of Optics was an expert in the emerging discipline of **quantum mechanics**. Appointed by President Rush Rhees, Jane Dewey joined the institute in 1929, its founding year. She went on to author landmark papers and to develop several important scientific equations and concepts—including the Slade-Dewey equation in ballistic science and the Dewey-McKenzie estimate in materials science. *LA*

51

To the behavior of atoms while they hold still.

Steven Chu '70, '98 (Honorary) may be known to Americans as Secretary of Energy under President Barack Obama. But physicists laud him for developing **a technique to cool and trap atoms using laser light**. This revolutionary method slowed atoms to nearly absolute zero, allowing scientists to study atomic behavior with unprecedented accuracy. The invention opened new doors in quantum mechanics and quantum computing and won Chu—along with Claude Cohen-Tannoudji and William Phillips—the Nobel Prize. *LV*

52

To the very heaviest quark.

In 1995, physicists confirmed the **existence of the top quark**—the heaviest of the six known types of quarks, which are the building blocks of matter—by identifying its telltale decay patterns during high-energy collisions at Fermilab. URochester researchers helped design and operate the detectors that caught the top quark's fleeting "footprints" and analyzed the data leading to its big reveal. *LV*

53

To the first confirmed black hole.

In 1971, British astronomer Paul Murdin ’71 (PhD), along with Australian astronomer Louise Webster at England’s Royal Greenwich Observatory, made the first clear identification of a black hole. Cygnus X-1, discovered using the Isaac Newton Telescope, remains among the most studied astronomical objects in its class. Murdin was also on the team that observed the Vela pulsar from Australia’s Siding Spring Observatory in 1977, the faintest star ever measured at the time. ***TML***

This computer-simulated image shows a supermassive black hole, which can weigh up to 21 billion suns and be observed by space telescopes.

NASA, ESA, AND D. COE, J. ANDERSON, AND R. VAN DER MAREL/SPACE TELESCOPE SCIENCE INSTITUTE

Stage & Screen 175

As a center for music, optics, and artistry, URochester presents ...

54

A better, brighter picture.

Thank Professor Emeritus Ching Tang for helping develop the thin-film, light-emitting technology now widely used in computers, smartphones, and televisions. While working at Eastman Kodak, Tang and his colleague, Steven Van Slyke, created **the first practical OLEDs**.

Unlike liquid-crystal displays that rely on a backlight, organic light-emitting diode screens use luminescent organic materials to make their own light. The result: more efficient use of power, longer battery life, and improved display quality. OLEDs are thinner and lighter, provide superior brightness and color, and offer ultrafast response time for refreshing and on-off switching.

Tang is also credited with several key innovations leading to the commercialization of the new technology. The first OLED product appeared in 1997, and the first television featuring an OLED display, produced by Sony, entered the market in 2008. By 2023, the global OLED market was valued at $50.8 billion.

Tang joined the URochester faculty in 2006 and has since earned numerous honors, including the Kyoto Prize. *LA*

55

America's top pop conductor.

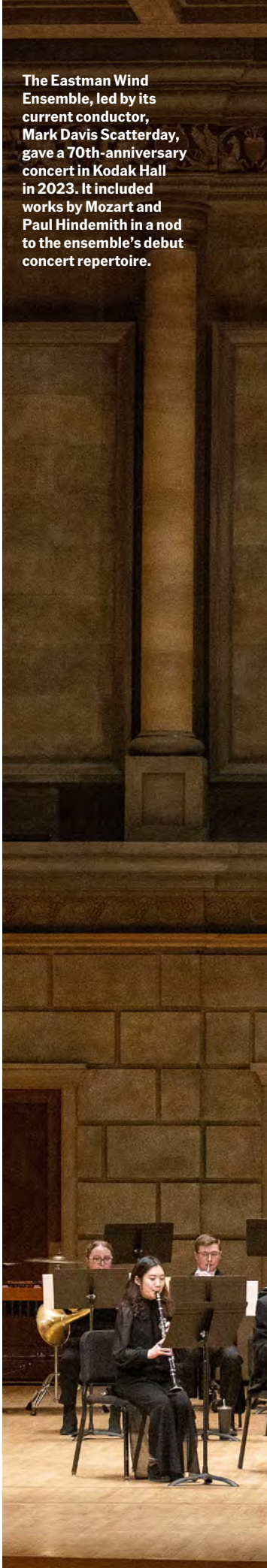
Mitch Miller '32E—renowned bandleader, record producer, and host of the hugely popular *Sing Along with Mitch*—knew a hit and how to make one. His 1955 recording of "The Yellow Rose of Texas" sat at number one on the *Billboard* retail chart for six weeks. It's still the most popular version of the roughly 175-year-old song. *JL*

56

The very best Ol' Man River.

If you've never listened to a recording of **William Warfield** '42E, '88 (Honorary) singing "Ol' Man River," please go do so now. We'll wait. A renowned bass-baritone concert singer, Warfield played the role of "Joe" in the 1951 film *Showboat*, performing what would become his signature song. He would go on to sing the song across the globe, in several languages, for the next four decades. *JL*

JOHN KISCH ARCHIVE VIA GETTY IMAGES (WARFIELD); JOHN SCHLIA (WIND ENSEMBLE)



The Eastman Wind Ensemble, led by its current conductor, Mark Davis Scatterday, gave a 70th-anniversary concert in Kodak Hall in 2023. It included works by Mozart and Paul Hindemith in a nod to the ensemble's debut concert repertoire.

57

The revolutionary wind ensemble.

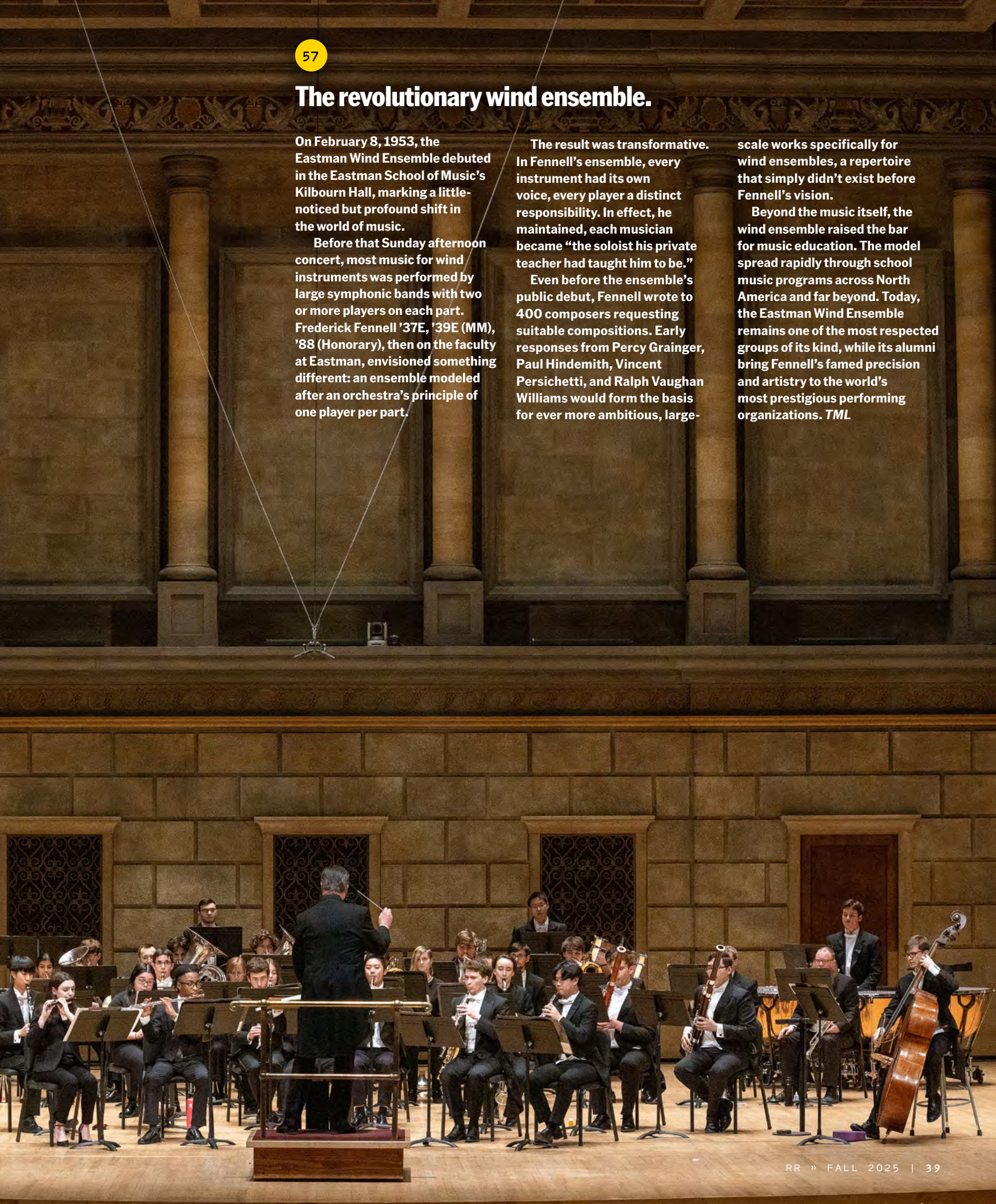
On February 8, 1953, the Eastman Wind Ensemble debuted in the Eastman School of Music's Kilbourn Hall, marking a little-noticed but profound shift in the world of music.

Before that Sunday afternoon concert, most music for wind instruments was performed by large symphonic bands with two or more players on each part. Frederick Fennell '37E, '39E (MM), '88 (Honorary), then on the faculty at Eastman, envisioned something different: an ensemble modeled after an orchestra's principle of one player per part.

The result was transformative. In Fennell's ensemble, every instrument had its own voice, every player a distinct responsibility. In effect, he maintained, each musician became "the soloist his private teacher had taught him to be."

Even before the ensemble's public debut, Fennell wrote to 400 composers requesting suitable compositions. Early responses from Percy Grainger, Paul Hindemith, Vincent Persichetti, and Ralph Vaughan Williams would form the basis for ever more ambitious, large-scale works specifically for wind ensembles, a repertoire that simply didn't exist before Fennell's vision.

Beyond the music itself, the wind ensemble raised the bar for music education. The model spread rapidly through school music programs across North America and far beyond. Today, the Eastman Wind Ensemble remains one of the most respected groups of its kind, while its alumni bring Fennell's famed precision and artistry to the world's most prestigious performing organizations. *TML*



The Eastman Community Music School has evolved since 1921 from a preparatory department to a center for enrichment open to everyone.

58

Music for a whole community.

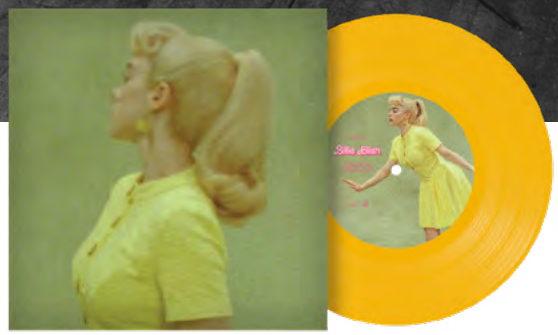
George Eastman intended the music school that bears his name as a resource for all Rochesterians, not only college students. In 1966, Eastman faculty member Milford Fargo established the acclaimed Eastman Children's Chorus, the first such ensemble at the school. In the 1980s, a newly envisioned Community Education Division began adding more educational opportunities for the community, including a program of preschool music classes developed by faculty member Donna Brink Fox. The Community Education Division has more recently evolved into the Eastman Community Music School, which continues to expand upon the vision of offering music to everyone in the community, regardless of age. *TML*

59

America's longest-suffering mother.

Aspiring actress **Debra Jo Rupp** '74 arrived at URochester just as we launched our theater department. From campus stages to Hollywood sets, she's built a career of scene-stealing turns—most memorably as Kitty Forman, the beloved but beleaguered mom on *That '70s Show* and *That '90s Show*. *ST*

Debra Jo Rupp, who also appeared on *Friends* and *Seinfeld*, made her film debut in *Big*.



Besides an Oscar, "What Was I Made For?" won Song of the Year and Best Song Written for Visual Media at the 2024 Grammys.

60

Music by our elders.

Giving new meaning to "an oldie but a goodie," Professor Emeritus of Music Education Roy Ernst created **New Horizons** to give senior adults a supportive, noncompetitive space to learn to play music or to return to making music after years of building careers and raising children. The original chapter, now part of the Eastman Community Music School, is one of more than 180 members of the New Horizons International Music Association, which includes bands, orchestras, choruses, and other music groups. *TML*

61

The old-school sound of that *Barbie* song.

Even before "What Was I Made For?" won the Oscar for Best Original Song at the 2024 Academy Awards, fans and critics hailed the *Barbie* single for its wistful, melancholy sound. Billie Eilish's brother and producer, Finneas O'Connell, gives credit to a digital plug-in created by two former Hajim School students for their senior design project. Daniel Fine '19 and Ben Schmitz '19 developed **SketchCassette** to enable users to add lo-fi effects typical of four-track cassette tapes to their musical tracks. It's now the signature product of their five-year-old company, Aberrant DSP. *TML*

SIBLEY MUSIC LIBRARY/EASTMAN SCHOOL OF MUSIC (ECMS); INTERSCOPE RECORDS (BARBIE SONG); PICTURELUX/THE HOLLYWOOD ARCHIVE VIA ALAMY (RUPP)

Ron Carter has been honored by France and Japan for his artistic contributions.

62

Jazz's best bass lines.

Ron Carter '59E, '10 (Honorary), one of the most original and prolific figures in modern jazz, contributed to groundbreaking albums such as *E.S.P., Miles Smiles, Nefertiti,* and *Seven Steps to Heaven*, helping to define post-bop with Miles Davis, Herbie Hancock, Wayne Shorter, and Tony Williams. With more than 2,200 recordings to his name, Carter holds the Guinness World Record as the most-recorded jazz bassist—which he set way back in 2015. *JL*

63

A trophy case that's running out of room.

Move over, Beyoncé. Eastman boasts a total of **76 Grammy wins** among its faculty and alumni—that's 41 more than Queen Bey, if you're counting—not to mention dozens more nominations. And that doesn't include the Hajim School's Stephen Roessner '23 (PhD), an assistant professor of electrical and computer engineering who took home a gold-plated gramophone for his engineering work on *Messiaen: Livre Du Saint-Sacrement* in 2010. *TML*

64

Songs that fill a void.

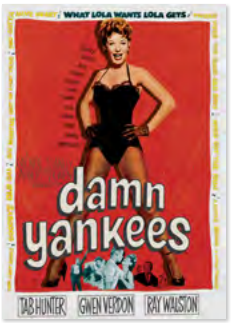
When artists started coming to Timothy Long '92E (MM) during the height of the Black Lives Matter movement to find works by Native American composers, there wasn't much he could offer. So the artistic and music director of opera at Eastman—whose mother belongs to the Choctaw Nation and father was from the Muscogee Creek Nation—decided to rectify the situation with the ***North American Indigenous Songbook***. Together with Anna Martin '23E (MM) and Peggy Monastra '92E (MA)—and through the Plimpton Foundation, which he conceived with his father-in-law Randy Plimpton—Long commissioned and secured Native American and Indigenous composers for a new collection of vocal works. A selection of songs premiered at National Sawdust in Brooklyn in 2024. *JL*

65

A place for musicians of African descent to come together.

Founded by classical pianist Armenta (Adams) Hummings Dumisani in 1993 and now held in association with Eastman, **Gateways Music Festival** is the only festival in the country dedicated to connecting and supporting professional classical musicians of African descent. URochester started hosting the festival in 1995, a year after Dumisani joined the Eastman faculty. In 2022, the Gateways Orchestra became the first all-Black symphony orchestra to perform at Carnegie Hall. *TML*

***Damn Yankees* producer George Abbott wrote his first-ever play for the University Dramatic Club.**



66

Damn Yankees and *The Pajama Game*.

George Abbott, Class of 1911, '61 (Honorary), created hits on the stage and screen almost too numerous to count. The writer, producer, and director's body of work includes *Three Men on a Horse*, *Wonderful Town*, *The Pajama Game*, *Damn Yankees*, and *A Funny Thing Happened on the Way to the Forum*. Along the way, he accumulated six Tony Awards, a Pulitzer Prize, and a National Medal of Arts. *JL*

Timothy Long first connected with his roots through music as conductor of the opera *Missing*.

GELFAND-PIPER PHOTOGRAPHY (CARTER); RICH PAPROCKI (LONG); ALBUM VIA ALAMY (DAMN YANKEES)

The first 16mm movie cameras, including this Ciné-Kodak Model B, were manufactured in Rochester.

67

The original home movie.

Paving the way for *America's Funniest Home Videos*, Marion Norris Gleason '62 (Honorary)—who went on to become a research assistant in the Department of Pharmacology and Toxicology—was recruited by the Eastman Kodak Company in 1921 to film what is thought to be the first home (or amateur) movie. Titled ***The Picnic Party***, it features Gleason's 10-month-old son at a birthday party in which he and another boy eat marshmallows and throw mud. (As with many of the best films, cats and dogs also play a part.) *JL*

68

The big behind 'big screen.'

Robert Hopkins and Brian O'Brien, who both served as director of the Institute of Optics, helped design and develop the **Todd-AO** widescreen film process first used for the 1955 movie *Oklahoma!* By delivering sharper images using a single camera with an oversize bugeye lens, the Todd-AO not only dazzled moviegoers but also offered a cheaper, simpler alternative to the prevailing Cinerama system that required three cameras and projectors. *JL*

After its hugely successful Broadway run, ***Annie*** got made into a movie that was released in 1982.

Feels So Good peaked at No. 2 on the ***Billboard*** albums chart, while its title track made the top of the adult contemporary chart.

69

Music that feels so good.

Even if you don't frequent jazz festivals or groove out to smooth jazz in the car, chances are you've heard the trumpet and flugelhorn stylings of the late **Chuck Mangione** '63E, '85E (Honorary). The Grammy-winning Rochester native—and fedora devotee—is credited with bringing jazz into the mainstream with hits like the title track of his 1977 double-platinum album *Feels So Good*. Mangione, who was the first director of the Eastman Jazz Orchestra, also composed and performed the official theme song of the 1980 Winter Olympics in Lake Placid, "Give It All You Got." *TML*

70

A little redhead promising tomorrow.

If you've gotten this far in the world without knowing the tune to any of the songs from *Annie*, color us shocked. It's just one of more than a dozen musicals composed by Eastman alumnus **Charles Strouse** '47E. His decades-long career also included such hits as *Applause* and *Bye Bye Birdie*—both of which, along with *Annie*, earned him Tony Awards. *JL*

71

Our favorite movie and TV scores.

George Eastman not only made capturing moving images possible; his generosity also contributed to some of **the most memorable music written for big and small screens** alike. The unmistakable piano chords from *All in the Family*? Another masterpiece by Charles Strouse '47E. The brooding score behind *House of Cards*? That's the work of Jeff Beal '85E, who with his wife Joan Beal '84E built on Eastman's legacy with the 2016 founding of the school's Beal Institute for Film Music & Contemporary Media. Oh, and lest we forget the nostalgia-inducing *My Little Pony* and *Winnie the Pooh* movies? Beal Institute Director Mark Watters had a hand in those as well as dozens of projects with Disney and Pixar. *TML*

72

A historic Pulitzer Prize.

URochester boasts 13 Pulitzer Prizes among its faculty and alumni—awards that span history, poetry, music, and drama. But one stands out in the nation's cultural memory: In 1996, George Walker '56E (DMA), '12 (Honorary) became **the first Black composer to win the prize for music**, honored for *Lilacs for Voice and Orchestra*. One of the most prolific and accomplished American composers of the 20th century, he is remembered at the George Walker Center, which provides a space for building community among Eastman faculty, staff, and students. *TML*

Pulitzer Prize winner George Walker was the first African American to earn a doctorate from Eastman.

73

An ever better IMAX.

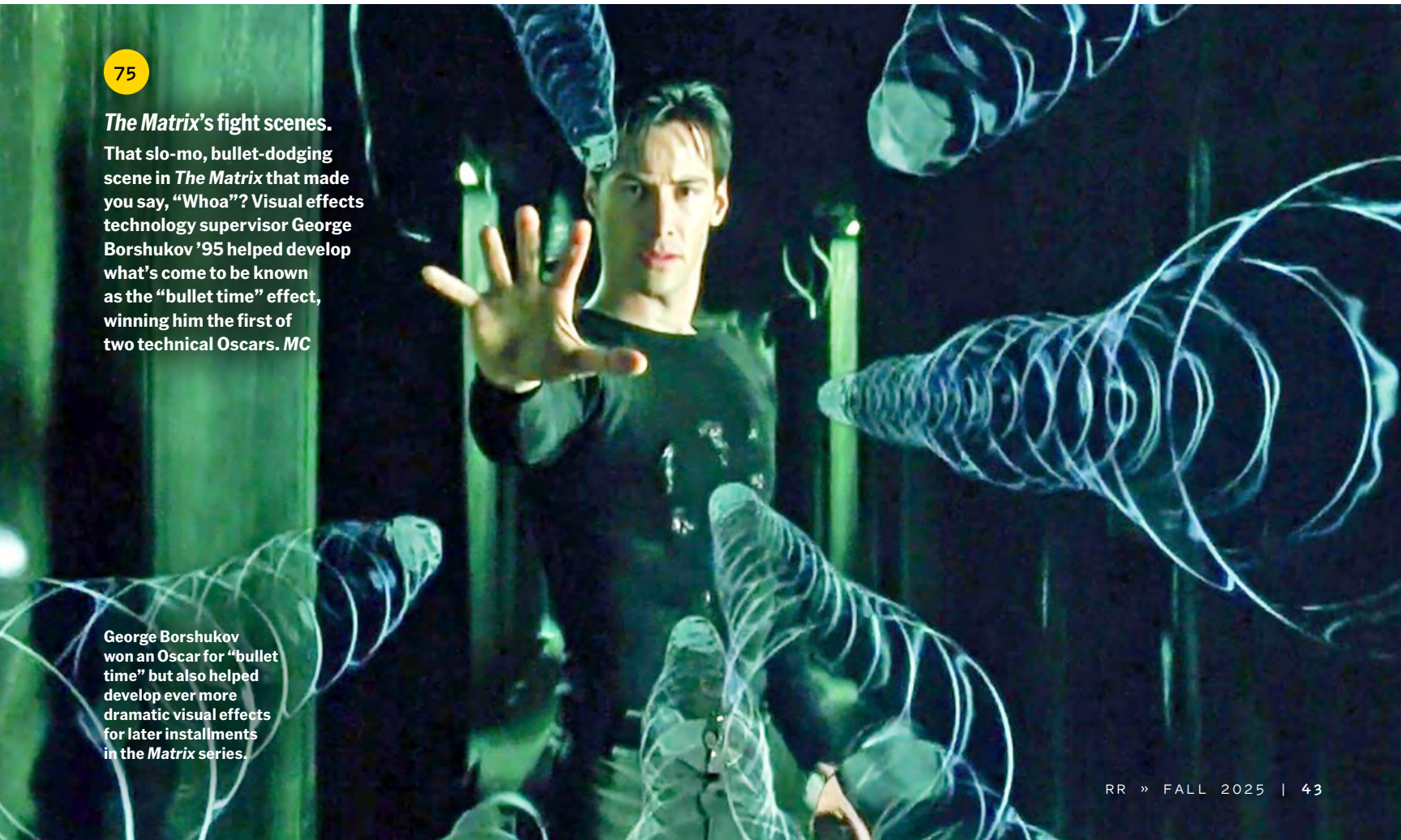
First came Todd-AO (see opposite page). Then came IMAX. Now the **IMAX Prismless Laser Projector** is pushing the limits of the big screen even further. Barry Silverstein '84, who will soon return to join the faculty at the Institute of Optics, helped spearhead the design and development of the 2024 Oscar-winning innovation that uses optical mirrors in place of prisms to enhance brightness, clarity, and contrast. *TML*

As Betty Crocker, Adelaide Fish Cumming was the most recognizable woman in America besides Eleanor Roosevelt.

74

A real live Betty Crocker.

As the slogan goes, all good things start with a Betty Crocker cake mix. And from 1950 to 1965, the face on that cake mix was **Adelaide Fish Cumming**, a 1926 Eastman graduate. During her tenure as one of history's only "living trademarks," Cumming made television, radio, and trade show appearances and showed celebrities of the day how to "bake like a Betty." *JL*



75

The Matrix's fight scenes.

That slo-mo, bullet-dodging scene in *The Matrix* that made you say, "Whoa"? Visual effects technology supervisor George Borshukov '95 helped develop what's come to be known as the "bullet time" effect, winning him the first of two technical Oscars. *MC*

George Borshukov won an Oscar for "bullet time" but also helped develop ever more dramatic visual effects for later installments in the *Matrix* series.

Body & Mind

175

URochester asks just what makes us tick. Such as ...

The naked mole rat benefits from high molecular weight hyaluronic acid at 10x human levels.

76

Why do naked mole rats live so long?

Only their mothers would find naked mole rats adorable. But when it comes to aging, they're the stars of the show. URochester biologists Vera Gorbunova and Andrei Seluanov discovered a **"fountain of youth" gene** in the animals that enables them to live a long life free of cancer, heart disease, neurological diseases, and arthritis. The team transferred the gene to mice, extending their lifespan and opening up new possibilities to slow aging and fight inflammation-related diseases in humans. *JL*

77

Can the placebo effect make us healthy?

If you've ever gotten sick under stress or observed the placebo effect, you're giving props to Robert Ader, the URochester professor of psychiatry who **proved the link between the brain's perceptions and the body's immune system**. Though first greeted with skepticism, his theories that our mind could impact our ability to fight disease are now embraced worldwide. *MP*

Masters and Johnson merged science and sex, pioneering the new discipline of sexology.

78

Exactly what arouses us?

In 1966, William Masters '43M (MD), '87 (Honorary), then part of the faculty at Washington University in St. Louis, and his research assistant, Virginia Johnson, were the first to study human sexual response through direct observation and physiological measurement. Their findings, published in the breakthrough text ***Human Sexual Response***, thus helped launch the sexual revolution. *JL*

79

How does testosterone spark big muscles?

Pioneering endocrinology researcher Charles Kochakian '36M (PhD), who also taught physiology at URochester, discovered the connection between testosterone and muscle mass, which helped lead to the development of **anabolic steroids**. While Kochakian focused on the application of steroids for cancer and other medical issues, he should be beloved by every pumped-up gym rat. *TML*

The Austrian Oak has admitted to using steroids before they were banned.

J. ADAM FENSTER (RAT); BEN MARTIN FOR GETTY IMAGES (MASTERS AND JOHNSON); MICHAEL OCHS ARCHIVES/HANDOUT VIA GETTY IMAGES (STEROIDS); PANTHER MEDIA GLOBAL VIA ALAMY (FRUIT FLY); LIBRARY OF CONGRESS/CORBIS/GETTY (SEX EDUCATION)

Mary Calderone transformed American sex education, making scenes like this from a 1948 film possible.

To date, scientists have cataloged 139,255 neurons in the fruit fly brain.

80

How does a fruit fly compute?

A fruit fly's brain may be minuscule, but it can form memories, solve problems, and even get drunk. All of which makes the **FlyWire Connectome**—a map of all the connections among neurons in a fruit fly's brain—a groundbreaking resource for understanding what's happening inside our own heads. Researchers from URochester's Del Monte Institute for Neuroscience helped create the connectome, which was published in October 2024. *TML*

81

How much heat can we can really take?

When the US Army wanted to ascertain the physiological limits of military ground troops fighting Nazis in the deserts of North Africa, they turned to URochester physiology professor Edward Adolph. The **human body's tolerance to extreme heat** was just one of many research projects Adolph pursued in his 62 years at the University; others included the effects of cold, conveniently conducted on Rochester rooftops. He also authored more than 150 articles and four books and was awarded the Presidential Certificate of Merit. *TML*

82

Does sexuality lie beyond the bedroom?

As the medical director of Planned Parenthood from 1953 to 1964, Mary Calderone '39M (MD) helped convince the American Medical Association and the American Public Health Association to declare family planning part of comprehensive healthcare. And as cofounder, executive director, and president of the Sex Information and Education Council, she encouraged open conversations about sexuality and offered resources to develop sex education programs.

***People* magazine noted that what Rachel Carson did for the environment and Margaret Sanger did for birth control, Calderone did for sex education. She was inducted into the National Women's Hall of Fame in 1998.**

"Most people, of course, think that sex is something you do," she said in 1985. "It is not. It's something you are. Your sexuality is yourself, as the total person you are." *JL*

Eye

83

Can space photography help us explore the eye?

URochester has long been at the forefront of adaptive optics, with faculty from across the Flaum Eye Institute, the Center for Visual Science, and the Institute of Optics working together to improve eyesight for people who are legally blind and those with 20/20 vision alike. Employing the same technique used by astronomers to take clear pictures of the sky, a team led by ophthalmology professor David Williams transformed our understanding of the structure and function of the human eye by developing the first instruments able to capture high-resolution images of the living retina. *TML*

84

Can a 3D model help cure blindness?

Age-related macular degeneration (AMD), which leads to a loss of central vision, is the most frequent cause of blindness in adults 50 years of age or older. While there is still no cure for AMD, URochester researchers made an important breakthrough in 2021 with the first three-dimensional lab eye model that mimics the part of the human retina affected in macular degeneration. The model is being used to find treatments and possible cures for AMD and the wet form of macular degeneration, which is the more debilitating and blinding form of the disease. *TML*

Brain

86

Is there hope for the most terrible brain diseases?

URochester is a global leader in bringing life-changing neurological drugs to patients worldwide. The Medical Center houses the world's largest Parkinson's and Huntington's clinical trial data repositories. Our researchers have contributed to 12 FDA-approved treatments for Parkinson's and Huntington's diseases, periodic paralysis, and Friedreich's ataxia. And, in 2023, we played a critical role in the FDA approval of valbenazine for Huntington's disease. The Center for Health + Technology carries on this important work, which started with Ira Shoulson '71M (MD), '73M (Res), '77M (Res) in the mid-1980s. *MM*

87

How do teen brains work?

The Adolescent Brain Cognitive Development Study, commonly called the ABCD study, is the largest long-term investigation of brain development and child health. URochester is one of 21 research institutions nationwide that recruited families to participate and collect data. Funded by the NIH, the study tracks biological and behavioral development from adolescence into young adulthood, enabling the creation of baseline standards for brain development. *JL*

Muscle

85

Can drugs treat muscular dystrophy?

URochester reached a significant milestone in its trailblazing muscular dystrophy research with the FDA's 2023 approval of the first gene therapy for Duchenne muscular dystrophy (DMD). Neurology and pediatrics professor Emma Ciafaloni played a leading role in the clinical trials, and the University was among the first sites to treat patients. The drugs have significantly improved outcomes for children with DMD and laid the groundwork for next-generation gene and RNA therapies for myotonic dystrophy, facioscapulohumeral muscular dystrophy, and beyond. *MM*

Lung

88

If we target cancer cells, can radiation cause less damage?

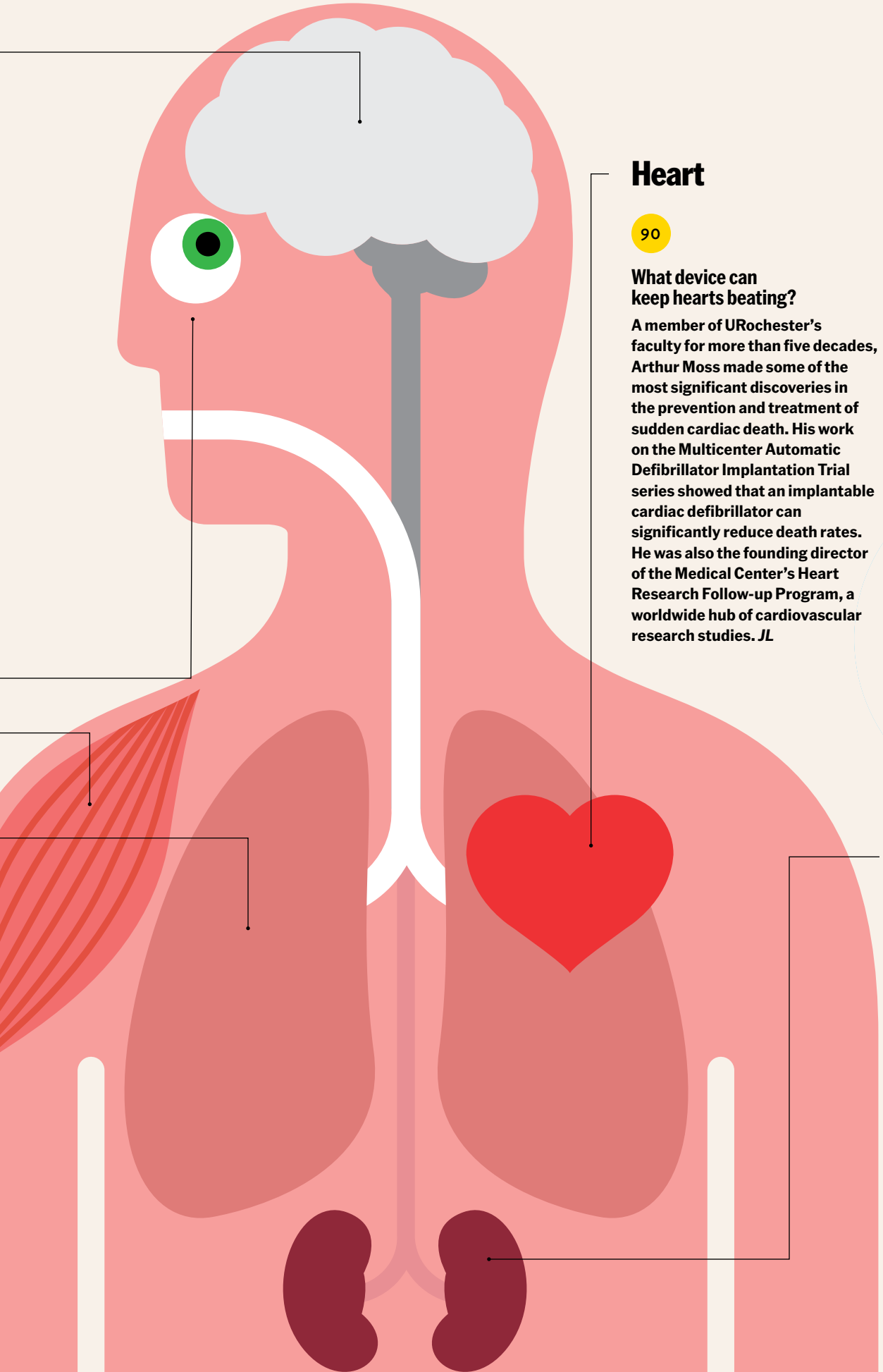
Having laid the groundwork for using radiation to destroy cancer cells—a treatment now used routinely in more than 80 percent of cancer cases—researchers at the Wilmot Cancer Institute became the first to apply shaped-beam radiosurgery to patients suffering from cancer that had spread to the lungs and other organs. The targeted approach, first used as a lifesaving brain cancer treatment, causes limited damage to healthy tissue. As a result, patients experience minimal side effects and can live much longer than they would with conventional treatment. *TML*

89

How can doctors help preemies take their first breaths?

From its first gulp of air, a baby needs surfactant to coat its tiny air sacs, allowing oxygen to enter the blood and preventing the lungs from collapsing. But babies born prematurely often lack this substance, with fatal results. Led by medical professor Robert Notter '80M (MD), URochester researchers derived a surfactant drug from calf lungs that dramatically improved preemie survival rates. Notter built on his research to advance surfactant therapy for many breathing disorders. *MP*

ILLUSTRATION BY JAMES JOYCE



Heart

90

What device can keep hearts beating?

A member of URochester's faculty for more than five decades, Arthur Moss made some of the most significant discoveries in the prevention and treatment of sudden cardiac death. His work on the Multicenter Automatic Defibrillator Implantation Trial series showed that an implantable cardiac defibrillator can significantly reduce death rates. He was also the founding director of the Medical Center's Heart Research Follow-up Program, a worldwide hub of cardiovascular research studies. ***JL***

91

Do organ transplants really save patients' lives?

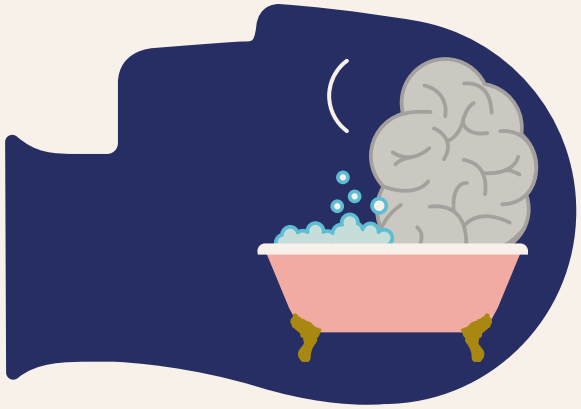
The living donor liver transplant program (see page 24) isn't the only URochester initiative saving lives through organ transplantation. The Medical Center performed its first heart transplant in 2001 and by the end of 2023 had carried out 354 of the lifesaving surgeries. In 2023 alone, a record 40 people received heart transplants at the University—an 82 percent increase over the previous record. This placed us among an elite group of transplant centers along with Columbia, Mass General, and Emory. ***TML***

Kidney

92

Which genes cause kidney disease?

While an estimated 37 million people in the US have kidney disease, few new therapeutics have been registered to treat or cure it over the last 40 years. Hoping to change that is Hongbo Liu, an assistant professor of biomedical genetics, who co-led a recent study to identify the genes that cause kidney disease. By relating different types of genomic data to each other, the team was able to create a "Kidney Disease Genetic Scorecard" that highlights particular genes and cell types and opens up new possibilities for therapies. ***TML***



93

Q: What does sleep do besides just give us rest?

A: It allows our brain to clear toxic waste that left alone could lead to neurological disorders.

With her discovery of the glymphatic system, URochester neuroscientist Maiken Nedergaard fundamentally reshaped our understanding of brain physiology and the biological purpose of sleep.

First described by her team in 2012, this previously hidden network of channels parallels blood vessels to pump cerebrospinal fluid (CSF) through brain tissue, clearing toxic waste such as beta-amyloid and tau proteins associated with neurodegenerative diseases. Waste clearance is most active during non-REM sleep, when the glymphatic system synchronizes oscillations of norepinephrine, cerebral blood volume, and CSF flow.

Nedergaard codirects the Center for Translational Neuromedicine, which maintains research facilities at URochester and the University of Copenhagen. She has received numerous accolades, including the 2024 Nakasone Award from the International Human Frontier Science Program Organization. Her lab's contributions offer new insights into how glymphatic function slows with age and gets impaired by disrupted sleep, high blood pressure, and traumatic brain injury. Ongoing research also includes how the glymphatic system influences the progression of Alzheimer's, Parkinson's, and Huntington's diseases.

The significance of this research extends to clinical concerns about sleep aids. In a study published in February in the journal *Cell*, her team demonstrated that the common sedative zolpidem (sold under the brand name Ambien, among others) suppresses the glymphatic system in mice. This might hinder the brain's natural waste-clearing processes, setting the stage for neurological disorders. By establishing a mechanistic link among norepinephrine dynamics, vascular activity, and glymphatic clearance, Nedergaard's work underscores the importance of preserving natural sleep architecture for optimal brain health.

Building on these foundational insights, in 2022 Nedergaard secured a $15 million NIH grant to dissect the mechanics controlling CSF movement, involving multidisciplinary teams from URochester, Penn State, Boston University, and Copenhagen. Recent collaborations with mechanical engineers in the Hajim School demonstrated that a hormone-like compound, prostaglandin $F_2\alpha$—currently used to induce labor—can revive age-related declines in cervical lymphatic vessel contractions in mice, restoring CSF clearance to youthful levels.

Globally, Nedergaard's research has catalyzed new avenues for therapeutic development, from enhancing drug delivery to the central nervous system to designing sleep interventions that bolster brain waste removal. Her discoveries continue to influence neuroscience, biomedical engineering, and clinical practice around the world, offering hope for preventive and restorative strategies against age-related neurological disorders. *MM*

94

Does a hormone lie behind a mother's love?

In 1953, Vincent du Vigneaud '27M (PhD), '65 (Honorary) isolated **oxytocin** and determined its chemical composition. This "love hormone," critical to childbirth and social bonding, thus became the first peptide hormone to have its sequence of amino acids determined. He went on to win the Nobel Prize for synthesizing oxytocin. *JL*

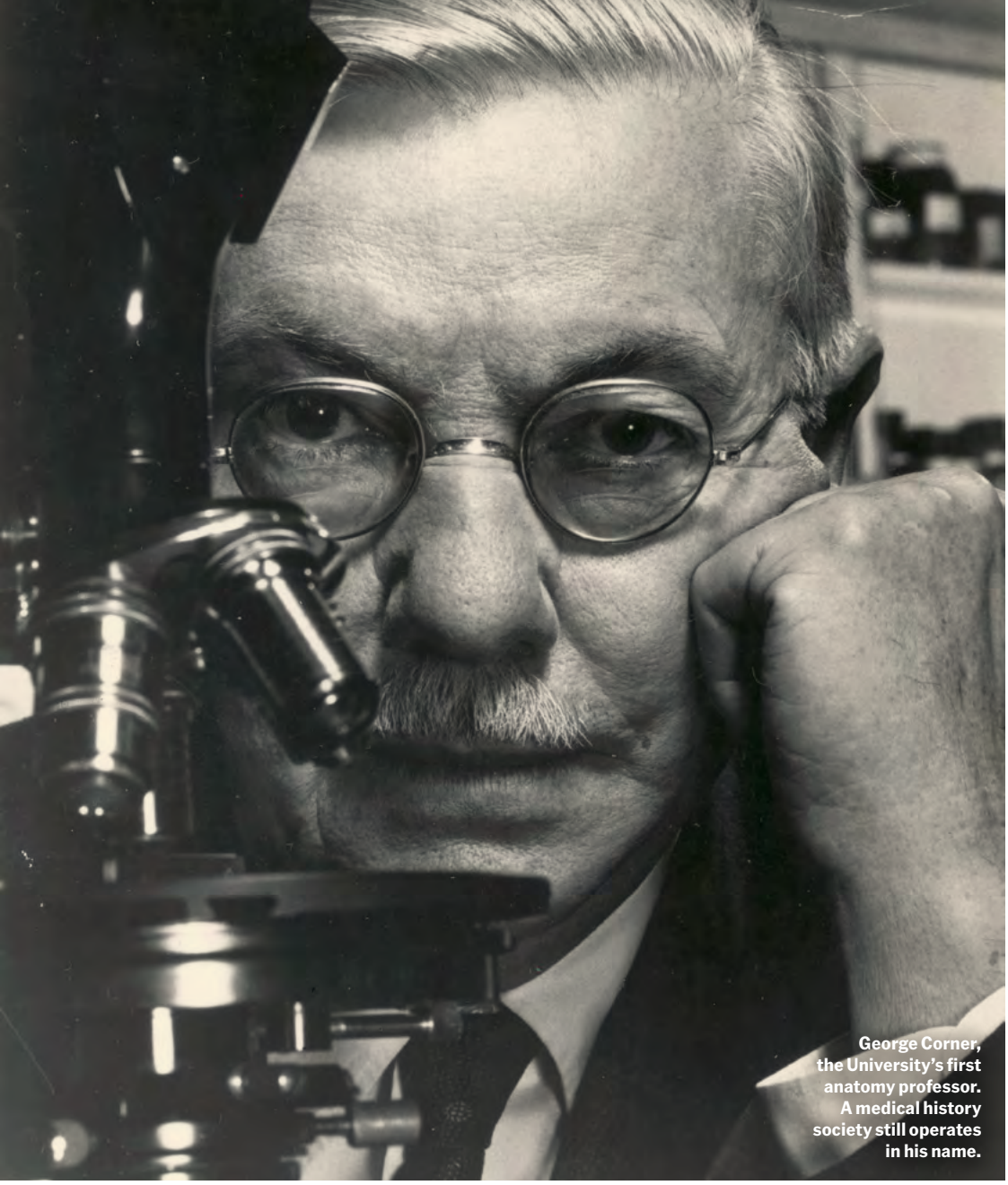
95

Can the arts change the brain and body?

Critics widely consider Renée Fleming '83E (MM), '11 (Honorary) one of the greatest sopranos alive today. The first woman to solo headline an opening night gala at the Met, she also became the first classical artist to sing the national anthem at the Super Bowl. When she's not wowing audiences with her vocal artistry, Fleming is an advocate for the emerging field of **neuroarts**: the study of how the arts measurably change the brain, body, and behavior. A WHO Goodwill Ambassador, Fleming edited the 2024 anthology *Music and Mind: Harnessing the Arts for Health and Wellness. TML*

Super Bowl XLVIII, at which Renée Fleming sang, broke the record for most-watched TV event in US history.

KEVIN MAZUR FOR GETTY IMAGES (FLEMING); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (CORNER); IMAGE PROFESSIONALS GMBH VIA ALAMY (FISH); UNIVERSITY OF ROCHESTER MEDICAL CENTER PHOTOGRAPH COLLECTION (DENTISTRY)



George Corner, the University's first anatomy professor. A medical history society still operates in his name.

96

Should we avoid eating fish during pregnancy?

Nearly four decades of research in Seychelles has found no evidence of neurodevelopmental harm linked to fish consumption during pregnancy. The **Seychelles Child Development Study**, led by Medical Center researchers since 1986, suggests that the omega-3 fatty acids and other micronutrients found in fish—which are critical for brain development—may in fact counteract any potential adverse effects of mercury. *JL*

97

What hormone could prevent pregnancy?

In 1928, George Corner and Willard Allen of the School of Medicine & Dentistry isolated **progesterone**—the "other" ovarian hormone—after an arduous process of high-vacuum distillation and crystallization. Their collaboration, sparked by a chance encounter at URochester, transformed endocrinology and ultimately led to the development of the birth control pill. *JL*

98

How does DNA reproduce?

Arthur Kornberg '41M (MD), '62 (Honorary) received the Nobel Prize in 1959 for discovering DNA polymerase, an enzyme that's instrumental to the formation and replication of DNA. Kornberg's wife, Sylvy Kornberg '38, '40M (MS), made her own breakthroughs to advance her husband's synthesis of DNA strands. Their findings **laid the groundwork for genetic engineering**. Their union, meanwhile, produced yet another Nobel laureate—son Roger won the prize for chemistry in 2006. *MP*

URochester's Eastman Institute for Oral Health not only conducts pioneering research but also provides essential care.

99

What can help dentists to keep fillings intact?

In 1955, Michael Buonocore introduced acid etching of enamel, a breakthrough technique to improve adhesive bonding during dental procedures and that remains integral to modern dental practices. It was his first of many advances in the field of **restorative dentistry**.

As chair of the department of dental materials at the Eastman Institute for Oral Health (previously Eastman Dental Center), Buonocore went on to advance the understanding and application of pit-and-fissure sealants. This work laid the foundation for the development of white composite resin fillings that bond directly to the tooth structure.

Buonocore's research also paved the way for a broad range of restorative and esthetic dental procedures, including composite bridges and veneers. These contributions continue to advance global dental practices, making him a pivotal figure in the evolution of restorative dentistry worldwide. *KB*

Tools & Tech

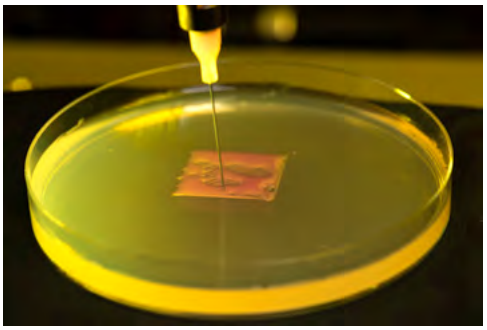
175

URochester ingenuity launches devices that ...

100

Print bacteria that eat plastic.

URochester biologist Anne S. Meyer and her team use 3D printers to print bacteria. By combining synthetic biology with materials science, they create **sustainable, living materials** with applications in medicine, clean energy, and advanced technologies. Her team's innovations include microbial systems that break down ocean plastics and living optical devices for advanced imaging. Meyer also mentors URochester's award-winning iGEM team, guiding undergraduates to produce a noninvasive test for endometriosis, biosensors that instantly detect sepsis, and a device that harnesses bacteria to generate clean energy. *LV*



The Meyer Lab has synthetically engineered and studied biofilms.

As a scientist at the Laboratory for Laser Energetics, Gérard Mourou helped shape the direction of research in high-powered lasers.

101

Formed the lifeblood of Silicon Valley.

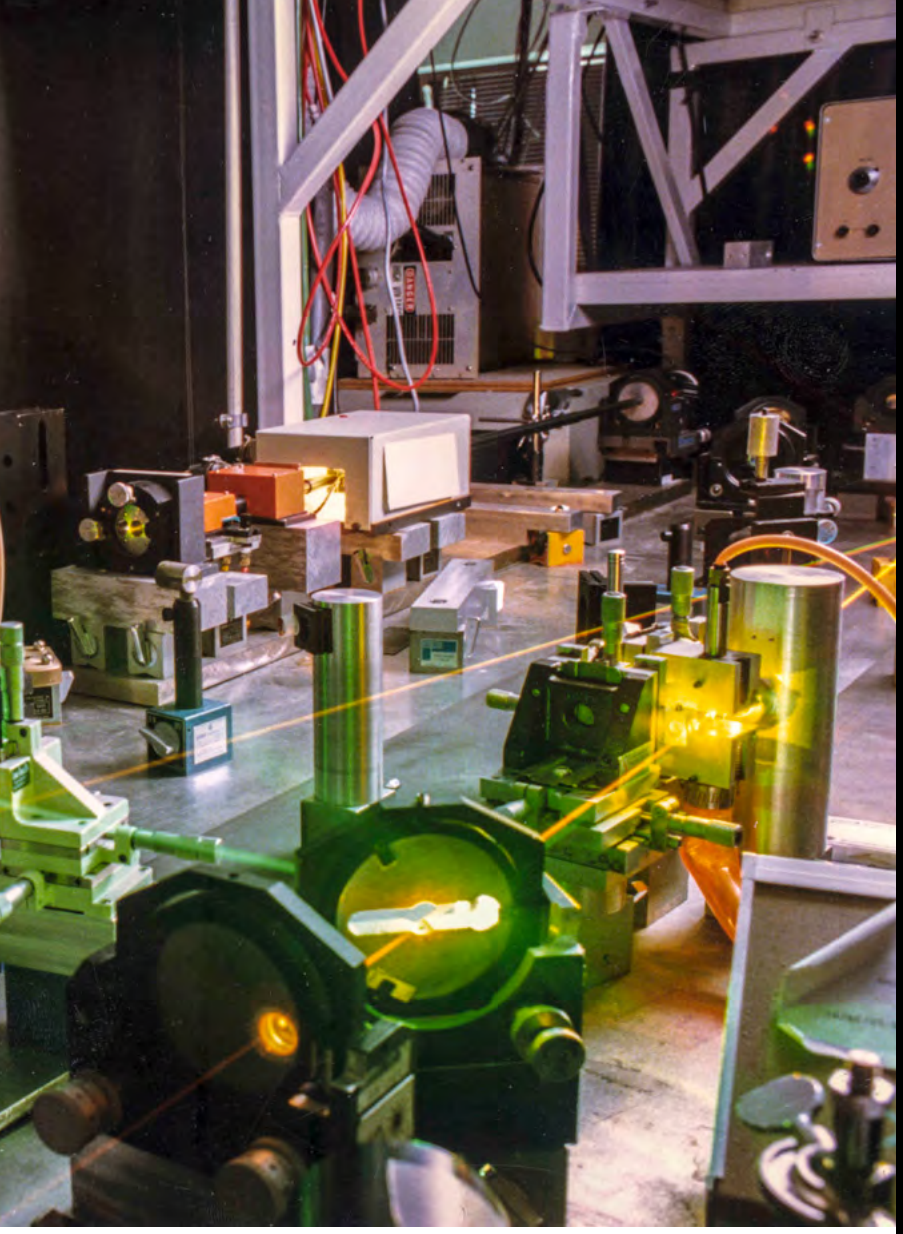
In 1957, Jay Last '51, '11 (Honorary) became one of the eight legendary—or, as some said, "traitorous"—founders of the **Fairchild Semiconductor Corporation**. There, he directed the R&D group that invented the first commercial silicon planar transistors and the first integrated circuit chips—the lifeblood of the modern computer. More than any other company, Fairchild established Silicon Valley as the center of the computer industry. Last, meanwhile, will always be remembered as one of the high-tech hub's original fathers. *LA*

102

Will let your phone detect tooth decay.

Upwards of 70 million Americans lack dental coverage, threatening devastating harm to their oral health and overall well-being. Children are the most vulnerable to this lack of care. To support them, the Eastman Institute for Oral Health is in the final stages of developing a smartphone app that can detect tooth decay in its early reversible stage. The app is **the first known use of AI imaging technology outside the dental clinic and through a smartphone.** It will also provide information on diet and oral hygiene to prevent further decay while connecting users with available dentists and insurance. *TML*

J. ADAM FENSTER (MEYER LAB); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (MOUROU)



J. ADAM FENSTER (STRICKLAND)

103

Put optical devices on a single chip.

While serving as a professor and later director of the Institute of Optics in the 1980s and '90s, Dennis Hall laid important foundations for **integrated photonics**, which incorporates miniaturized optical devices onto a single chip. Just as electronic integrated circuits use electricity, integrated photonics uses light signals to transmit information. Hall's lab created an all-silicon-based platform for integrated photonics, leading to chips with greater speed and reduced power demand. *LA*

104

Support Parkinson's patients wherever they are.

Over the past decade, URochester computer scientists led by Professor Ehsan Hoque have developed an **AI-powered screening tool for Parkinson's**, the world's fastest-growing neurological disability. Because the disease can present itself differently in patients, the researchers have developed short, simple online tests to analyze speech, motor skills, and facial expressions. URochester researchers see the method as a fast, low-barrier, and accessible way to flag warning signs in people, particularly those in remote areas. The tool might encourage them to seek more thorough clinical evaluations. *LA*

105

Treat cancer, replace contact lenses, and revolutionize physics. The tool: chirped-pulse amplification.

Chirped-pulse amplification (CPA) creates ultrashort, extremely high-intensity laser pulses without damaging the material used to amplify the pulses. Developed in the 1980s by then graduate student Donna Strickland '89 (PhD) and her advisor, senior scientist Gérard Mourou at URochester's Laboratory for Laser Energetics, CPA was a monumental achievement and earned Strickland and Mourou the 2018 Nobel Prize in Physics.

The technique stretches a laser pulse in time to lower its peak power, amplifying the pulse and then compressing it again. By packing vast energy into shorter bursts, the laser becomes considerably more intense, producing pulses that are both ultrafast and extremely powerful.

CPA revolutionized laser science and dramatically expanded what lasers can do across a variety of fields. It is the foundation behind many high-precision technologies: In medicine, CPA enables laser-based cancer treatments, such as proton therapies for deep-tissue tumors. In manufacturing, CPA powers the precise machining of a wide range of materials, including the cover glass used in smartphones.

In research, scientists use CPA to study fundamental physics principles: By generating intense bursts of charged particles and light, scientists can replicate extreme conditions found in space. In addition, biologists, chemists, and physicists use CPA to take ultrafast images of split-second molecular processes, allowing them to study atomic behavior and fusion, and to develop new materials.

CPA, however, is perhaps best known for its role in vision correction, enabling Lasik procedures that precisely reshape the cornea by cutting tissue without damaging surrounding areas, and helping millions of patients improve their vision. *LV*

Donna Strickland, who based her doctoral thesis on CPA, became the third woman ever to receive a Nobel Prize in Physics.

Chunlei Guo uses femtosecond bursts of lasers to "etch" the surfaces of metals so they won't sink.

106

Enable AI deep learning.

In the early 1980s, a team of researchers at the University rekindled excitement in the branch of artificial intelligence known as **connectionism**. This approach studied human mental processes and cognition using artificial neural networks. The interdisciplinary work of URochester researchers, including computer science professors Christopher Brown and Dana Ballard and students like Rajesh Rao '98 (PhD), helped to fuel a revival in the connectionist approach that ultimately led to today's deep learning dominance. *LA*

107

Save ships and blast kidney stones.

URochester electrical engineer Hugh Flynn's research on **acoustic cavitation** paved the way for applications ranging from biomedical ultrasound to nuclear fusion. When struck by intense sound waves, air bubbles in liquids undergo a series of violent compressions and expansions. The force exerted by these bubbles can easily damage surfaces such as ships' propellers. Flynn's contributions included a 1972 Environmental Protection Agency report to Congress and the president on the effects of sonic booms on structures. And he increased our understanding of lithotripsy, which uses rapid ultrasonic pulses to destroy kidney stones. *LA*

108

Keep metal objects from sinking.

In 2019, inspired by diving bell spiders and rafts of fire ants, researchers in the lab of Chunlei Guo, a professor of optics and of physics and a senior scientist at the Laboratory for Laser Energetics, created a metallic structure so water repellent—or **superhydrophobic**—it refuses to sink. If only the builders of the *Titanic* had waited another hundred years or so. *JL*

110

Customize Lasik surgery.

For centuries, glasses and contacts corrected just three common flaws: nearsightedness, farsightedness, and astigmatism. Then in 1997, URochester scientists helped change the game with **wavefront sensing**—a technology that detects dozens of subtle visual imperfections known as higher-order aberrations. Working with the Flaum Eye Institute's Refractive Surgery Center, optics professor David Williams and his team used this data to pioneer customized Lasik surgery. Their innovations improved surgical outcomes and pushed laser vision correction to new levels of precision. *LV*

111

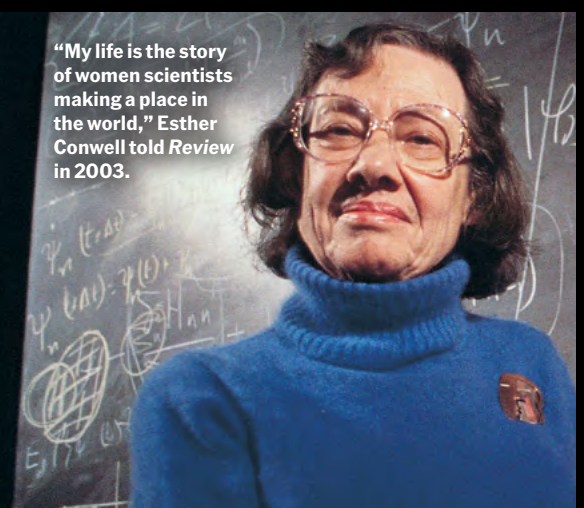
Enhance life after cataracts.

Each year more than 30 million people globally receive surgery to correct cataracts. While the vast majority opt to have a monofocal intraocular lens implanted, allowing for clear distance vision, more and more patients are choosing to toss their contacts and reading glasses in favor of a **trifocal intraocular lens** developed by Jim Schwiegerling '90, '91 (MS). The URochester optics alumnus's innovation, approved by the FDA in 2019, not only represents the cutting edge of lens replacement; it also better meets the needs of our modern, multitasking lives. *TML*

109

Removed the stumbling blocks from semiconductors.

A leading chemist and physicist, Esther Conwell '44 (MS), '11 (Honorary) helped launch the computer age with her groundbreaking work on how electrons move through semiconductors. Her research laid the foundation for modern electronics.



"My life is the story of women scientists making a place in the world," Esther Conwell told *Review* in 2003.

Early in her career, Conwell contributed to the development of transistors. Meanwhile, she codeveloped the Conwell-Weisskopf theory, which explains how "impurity ions" impede the flow of electrons in semiconductors. The theory remains a cornerstone in physics.

Conwell returned to URochester as a professor in the 1990s, shifting her focus to studying the flow of electrons through DNA—research that opened new doors in molecular electronics and biophysics. Over the course of her career, she held four patents, published more than 270 scientific papers, and broke countless barriers for women in STEM fields.

Among her many accolades: memberships in the National Academy of Sciences and the American Academy of Arts and Sciences; the National Medal of Science awarded by President Barack Obama in 2009; and a place on *Discover* magazine's list of the 50 most important women in science. *LV*

Kevin Parker and Theophona Mitsa's blue noise mask transformed imagery around the world.

GUY BELL VIA ALAMY (THE BLUE BOY); IMAGE COURTESY OF THE ADVERTISING ARCHIVES (XEROX)

112

Level up macOS, Linux, and Windows.

Computer science professor Michael Scott and his research group have developed several algorithms in software running on billions of devices, including macOS, Linux, and Windows operating systems. The **Michael-Scott (MS) queue** (or its variants), incorporated into the standard library of the Java programming language, is noted for its "lock-free," scalable design. *LA*

113

Transformed color printing.

In the early 1990s, ink-jet and laser printers showed promise, but they consumed gobs of computing power and their images were uninspiring. Theophano Mitsa '91 (PhD) and engineering professor Kevin Parker created a deceptively elegant solution. Their **blue noise mask** shifted otherwise distracting errors in the printing process to higher wavelengths where, because of a quirk of the human eye, they would be less visible. The technology became one of the most lucrative inventions in URochester's history. *LA*

114

Made "xerox" a verb.

The world's first plain-paper photocopier transformed offices around the world.

If you've spent any time at all on—or even driven through—URochester's River Campus, then the names Joseph C. Wilson '31 and Chester Carlson will sound familiar. They're kind of a big deal.

In 1906, the Haloid Photographic Company was founded in Rochester to manufacture photographic paper and equipment. (Its name would metamorphize to Haloid Xerox in 1958 and Xerox Corporation in 1961.) In 1938, Carlson, a physicist working independently, invented a process for printing images using an electrically charged photoconductor-coated metal plate and dry powder "toner."

Wilson, who had taken over Haloid from his father and is credited as the founder of Xerox, saw the promise of Carlson's invention after Haloid chemical engineer John Dessauer brought it to his attention. In 1946, he signed an agreement to develop it as a commercial product. And, in 1959, Carlson created the Xerox 914, the world's first plain paper photocopier. (The "914" came from the machine's ability to handle copy originals up to 9 x 14 inches.) With a price tag of $27,500, the copier could be rented for just $25 a month plus 10 cents per copy.

Demonstrated on live television, the 914 has been widely hailed as "the most successful single product of all time." ***JL***

Xerox made a cameo in *Mad Men* to impress a client.

115

Flag hidden heart attacks.

Chest pain sends more than six million Americans to the emergency room each year, but diagnosing its cause drains vital time and resources. At the School of Nursing, Salah Al-Zaiti is implementing an **AI-based tool** he designed to identify hidden heart attacks. Crunching data from a 10-second electrocardiogram, the algorithm helps providers make diagnoses more quickly and accurately. *MP*

116

Enable large-scale AI.

In the 1990s, Robert Jacobs, a professor of brain and cognitive sciences and of computer science, led the development of a machine learning technique called **"mixture of experts"** that made large-scale AI possible. The technique takes a divide-and-conquer approach, using specialized sub-networks or "experts" to split up a problem. This made deep-learning models, especially large language models, more scalable and cost-effective. *LA*

117

Let computers work together.

Parallel computing breaks large, complex problems into smaller groups of calculations that run simultaneously across multiple processors with shared memory. The Department of Computer Science had long studied the field when, in 1984, it acquired a 128-node **BBN Butterfly Parallel Processor**—the world's largest shared-memory multiprocessor. Faculty including Thomas LeBlanc, Michael Scott, and Christopher Brown used it to pioneer innovations in parallel algorithms, memory management, synchronization, and operating system design. *LA*

118

Detect roadblocks in supply chains.

Need a near real-time view of global trade activity? There's a tool for that. A cross-university team of economists—including Yukun Liu, an associate professor of finance at Simon Business School—has created the **Blue Center Index of Critical Supply Chain Disruptions**. It helps firms and policymakers identify breakdowns in the flow of essential goods with unprecedented speed and precision. *JL*

119

Revolutionized computer printing.

Gary Starkweather '66 (MS) deserves credit for the laser printer. After devising a crude prototype, he went to Xerox and created SLOT, his "scanning laser output terminal," using a Xerox 7000 copier as his base. In 1977, Xerox launched the **9700 laser printer**, which made billions of dollars for the company. *JL*

The Xerox 9700 ushered in an era of computer-driven automation.

XEROX (LASER PRINTER); UNIVERSITY OF ROCHESTER LABORATORY FOR LASER ENERGETICS PHOTO/JAKE DEATS (LLE)

120

Made laser vision correction a reality.

Before Lasik became a household name, Charles Munnerlyn '69 (PhD) was laying the scientific groundwork that made it possible. As the head of research and development at Tropel Inc. in Rochester, he designed the first digital device to measure refractive errors, which allowed optometrists to pinpoint patients' vision needs with unprecedented accuracy.

In the 1980s, Munnerlyn began exploring how lasers could be used to improve eyesight. He built the first working excimer laser system—an ultraviolet laser that reshapes the cornea with extreme precision without heating tissue—for laser eye surgery. He also developed the Munnerlyn formula, a calculation that is still used today to guide these procedures. The formula tells ophthalmologists exactly how much corneal tissue to remove to correct vision disorders like myopia and astigmatism.

In 1987 Munnerlyn cofounded VISX, which went on to become the world's largest manufacturer of laser-based vision correction systems. By 2002, it was estimated that nearly two-thirds of all laser eye surgeries in the US used VISX technology. The company, based in Santa Clara, California, was acquired by Advanced Medical Optics in 2004 in a $1.27 billion deal and later became part of Johnson & Johnson.

Munnerlyn's trailblazing work helped make laser vision correction a reality—quite literally changing how many of us see the world. *LV*

As a center of gravity for the fusion ecosystem, LLE serves as a hub for national laboratories, international laser facilities, and 70 institutions across the globe.

121

Advance lasers like no other.

Home to the world's largest university-based laser facilities, URochester's Laboratory for Laser Energetics (LLE) has been at the forefront of laser-driven inertial confinement fusion, high-energy-density science, and laser-based science and technology for more than 50 years.

At the heart of LLE is the Omega Laser Facility, where two football-field-sized laser systems drive targets smaller than one millimeter in diameter to pressures found in the cores of planets and temperatures hotter than the surface of the sun. Omega's unique capabilities make LLE indispensable to the National Nuclear Security Administration's stockpile stewardship program.

But LLE's strengths extend well beyond its lasers. With its dedication to developing cutting-edge diagnostics, optics, and computational tools, the laboratory drives regional innovation while training the next generation of scientists and engineers. Each year, LLE produces more than 100 peer-reviewed papers in scientific journals and trains some 20 PhD students.

More than a laboratory, LLE is a vital national resource for science, security, and energy resilience, serving as a center of collaboration with industry, national laboratories, and academia. *AA*

122

Foiled library catalog thieves.

Otis Hall Robinson, Class of 1861, **brought order to chaos** for librarians everywhere when he devised a system to keep patrons from being able to remove individual cards from the library card catalog. The solution: Punch holes at the bottom of each card and run a wire (and later a rod) through them to keep the cards in place. *JL*

123

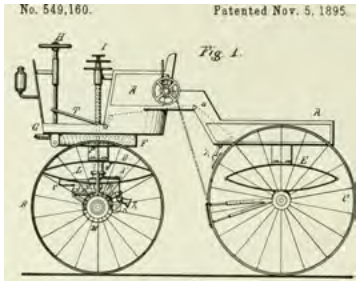
Electrify the Vette.

A member of Chevrolet's Corvette team since 1993 and executive chief engineer since 2006, Tadge Juechter '79 has helped **reimagine "America's sports car"** many times over. From a test model of the C5 Corvette in the 1990s to the new E-Ray—the first electrified vehicle in the model's history—Juechter has been instrumental in nearly every Vette evolution. *JL*

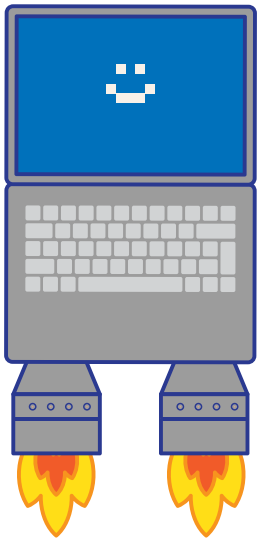
124

Eliminated the horse and buggy.

"Inventor of the automobile" is a much-contested title, but patent lawyer George Selden, Class of 1865, has a hat in the ring. Selden filed a patent (No. 549,160) for the **"Road Engine"** in 1879, which made him the earliest to claim the conception of a gas-powered automobile. However, his patent wasn't granted until 1895, by which time Henry Ford and Karl Benz had turned automaking into an industry. *MC*



When filing his patent, George Selden asked George Eastman to be his witness.



125

Put computing's pedal to the metal.

By using ultrafast laser pulses to control electrons, URochester researchers helped create **the world's fastest logic gate**—a key building block of computers. The discovery opens the door to information processing at the petahertz limit, where nearly one quadrillion computational operations happen per second. That's almost a million times faster than your laptop. *LV*

126

Make a material for a whole new industry.

James C. M. Li found a way to produce **metallic glass** for the first time. By freezing molten metal so quickly that the atoms can't revert to a crystalline state, the research by the late materials science professor led to an entire industry. Engineers use glassy metals to create electrical transformers that transfer energy much more efficiently than conventional transformers. *LA*

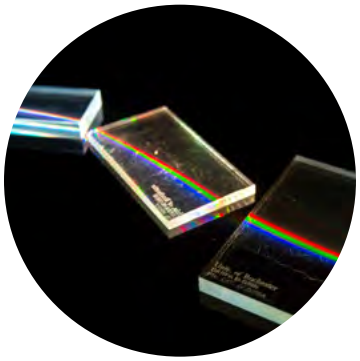
J. ADAM FENSTER (CORVETTE); BOOK WORM VIA ALAMY (ROAD ENGINE)

Tadge Juechter joined General Motors in 1979.

127

Make insect-like lenses to peer into cracks.

Duncan Moore, a professor emeritus in optical engineering science, championed the development of **gradient-index lenses**, which work much like insect eyes, using a single lens in place of several to bend light rays. This enabled smaller, less expensive endoscopes, both in medicine and in rifle scopes. Moore commercialized the technology by founding Gradient Lens Corp., a manufacturer of high-quality, low-cost Hawkeye borescopes—devices that allow users to peer into narrow, hard-to-reach cavities. *LA*



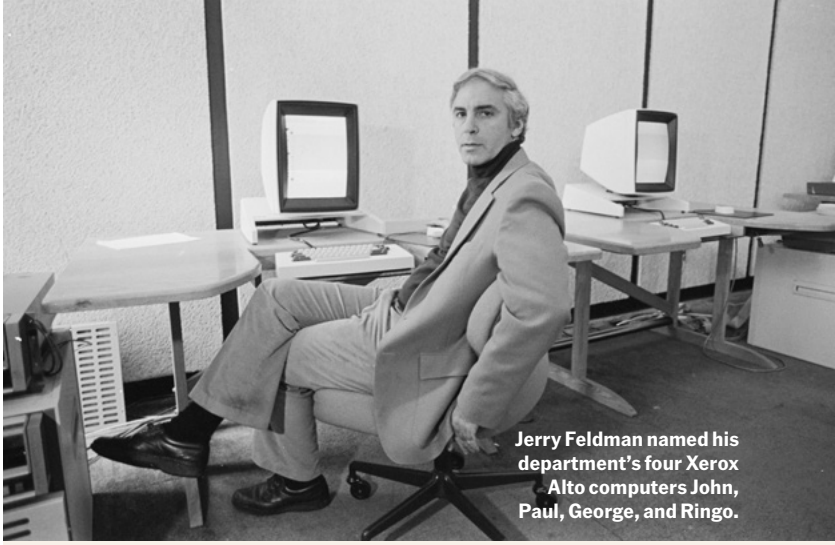
J. ADAM FENSTER (LENSES); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (FELDMAN)

Gradient-index lenses enable sensors as well as smartphones.

128

Allowed soldiers to see in the dark.

During World War II, the Institute of Optics developed an array of night vision devices, glare-resistant sun goggles, and gun sights along with fluorescent reflectors to safely illuminate roads and runways in combat zones. By war's end, about half of the country's university-based **military optics research projects** were conducted at URochester. The ceramic kilns of the Memorial Art Gallery were even made to mold aspheric lenses for aerial cameras. Brian O'Brien, then director of the institute, received the Medal for Merit, the nation's highest civilian award, for his work. *JL*



Jerry Feldman named his department's four Xerox Alto computers John, Paul, George, and Ringo.

129

Enabled the whole freaking internet.

Without this operating system, we wouldn't have laptops, smartphones, or a workable World Wide Web.

The operating systems that now power modern laptops, smartwatches, phones, and other devices have roots in the early days of URochester's Department of Computer Science.

In the late 1970s, founding department chair Jerry Feldman—with Rick Rashid '80 (PhD), '15 (Honorary) and technical operations manager Liudy Bukys, among others—created Rochester's Intelligent Gateway (RIG), providing a convenient way to connect and access various minicomputers, larger campus machines, and the ARPANET, a precursor to the internet.

RIG was a landmark in network architecture,"one of the earliest and most comprehensive attempts at designing a distributed operating system and supporting a network architecture from the ground up," according to a 1982 paper published in the journal *Computer*.

While he launched the computer science department at Carnegie Mellon University, Rashid began work on the operating system Accent. The next evolutionary step took place when Rashid and his PhD student, fellow URochester alumnus Avie Tevanian '83, developed the Mach operating system with an ingenious "microkernel" design that popularized concepts like virtual memory.

Steve Jobs's NeXT Computer company then hired Tevanian and used Mach as the basis for its operating system. When Apple acquired NeXT, Jobs brought Tevanian with him to redesign the system as Mac OS. Meanwhile, Bill Gates recruited Rashid to launch Microsoft Research in 1991. Rashid's teams collaborated with the world's foremost researchers on initiatives that expanded the state of the art across the breadth of computing.

Rashid and Tevanian's work remains at the heart of Apple iOS and macOS systems—and its influence can also be traced to operating systems such as GNU Hurd and UNIX systems OSF/1, Digital Unix, and Tru64 Unix. *LA*

Knowledge & Ideas

175

Why do we need innovative thinking? Let us count the ways.

130

Because ending the draft made us stronger.

When President Richard Nixon ended the Selective Service in 1973, he did so with the help of a roster of URochester faculty and administrators who served the **President's Commission on an All-Volunteer Armed Force**.

President W. Allen Wallis, an economist and statistician, was one of 15 members of the commission. William Meckling, dean of the Graduate School of Management (later to become Simon Business School), served as executive director of the staff, which included URochester economist Walter Oi and former senior associate dean for faculty and research Ron Hansen.

The argument that they—along with University of Chicago economist Milton Friedman and others—helped shape focused less on the unpopularity of the draft during the Vietnam War and more on labor economics. Raising the salaries of enlistees, they posited, would increase retention, reduce turnover, and lower the frequency of training personnel. *DA*

131

Because research and knowledge bring us wealth.

Before Paul Romer upended the study of economic growth, traditional models treated technological progress as an external, or exogenous, factor. The economist, who taught at URochester from 1982 to 1988, challenged that notion. He argued that technological innovation was instead driven by homegrown factors like people, innovation, knowledge, and companies' deliberate investments in research and human capital.

By modeling how incentives, market structures, and policy choices shaped innovation, he **provided a framework for government to promote long-term prosperity** through investments in education, research, and development along with intellectual property protections.

Romer's insights influenced policies worldwide, inspiring investments in knowledge incubators and technological hubs. He shared the Nobel Prize in Economic Sciences in 2018, and his endogenous growth theory continues to shape strategies for fostering innovation-driven economies in both developed and developing nations. *DA*

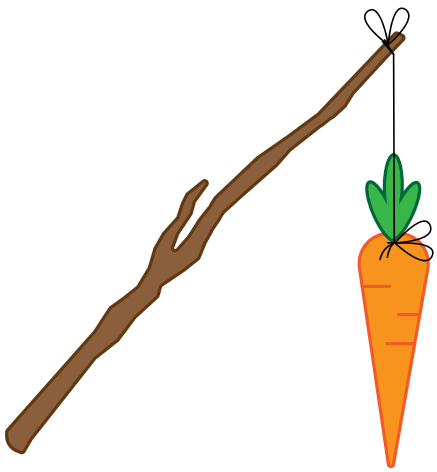
132

Because well-being comes from letting people rule themselves.

What really motivates us? Money and power? Or fear and punishment? Ultimately neither, at least not in a truly lasting and fulfilling way, according to URochester psychologists Edward Deci and Richard Ryan.

Their **self-determination theory** (SDT) shifted motivation research from control to support based on the idea that all humans have the natural—intrinsic—tendency to behave in effective and healthful ways. Deci and Ryan argue that humans need three fundamental psychological supports—autonomy, competence, and relatedness—to achieve growth, engagement, and well-being.

Formalized in their landmark 1985 book *Intrinsic Motivation and Self-Determination in Human Behavior*, SDT remains one of the most influential theories in motivation research, spawning thousands of clinical studies worldwide and garnering hundreds of thousands of citations for the duo's body of work. *SK*



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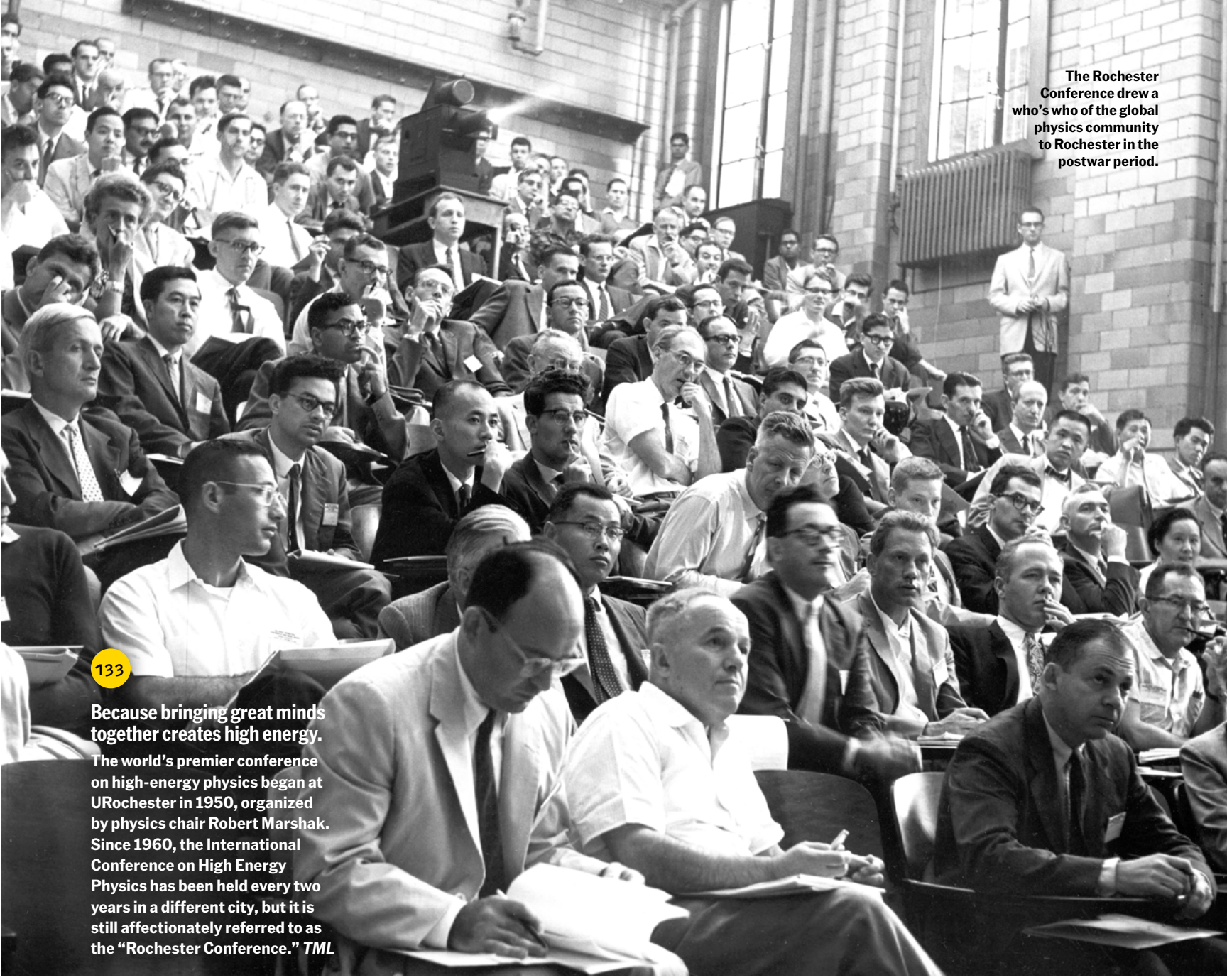


The Rochester Conference drew a who's who of the global physics community to Rochester in the postwar period.

133

Because bringing great minds together creates high energy.

The world's premier conference on high-energy physics began at URochester in 1950, organized by physics chair Robert Marshak. Since 1960, the International Conference on High Energy Physics has been held every two years in a different city, but it is still affectionately referred to as the "Rochester Conference." ***TML***

134

Because a STEM MBA opens doors.

While many top American business schools offer **STEM-designated MBA** programs, Simon Business School was the first. Administrators recognized early on that business degrees in science, technology, engineering, and math open doors. They signal to employers that Simon graduates have skills highly sought in today's job market—particularly in data and technology. *DA*

135

Because understanding Kant requires deft translation.

The complex philosophical concepts of the German thinker Immanuel Kant are notoriously difficult to grasp. But scholars the world over have an edge thanks to the translations of his writings by **Lewis White Beck**, the late URochester philosophy professor. His scholarship laid the foundation for a strong tradition of Kant studies. *DA*

136

Because visual arts cross disciplines.

Introduced in 1988, URochester's **graduate program in visual and cultural studies** was the first of its kind offered at a university in the US. Interdisciplinary coursework and individual research combine to elevate students in the program to analyze visual objects in a comprehensive and contextual way. Since its founding, the program has been copied at universities across the country. *JL*

137

Because reading benefits at-risk kids.

The Warner School of Education & Human Development's **Project READ** and **ROC Reading Partners** programs build a culture of literacy for at-risk students. Their interactive programming and emphasis on community building boost students' literacy skills, reading potential, and ability to approach any literacy task with confidence. *JL*

138

Because translation opens up the world to us.

One of only a handful of publishing houses dedicated to increasing access to world literature for English readers, URochester's **Open Letter** ranks among the best. Publishing 10 titles each year and running the website Three Percent, the nonprofit literary translation press searches the world for extraordinary and influential authors, helping readers discover imaginative, stunning works of fiction and poetry. Founded in 2008, it boasts several award-winning books, authors, and translators. *JL*

Open Letter has translated three books by National Book Award winner Elisa Shua Dusapin.

139

Because understanding slavery needed economic knowhow.

Stanley Engerman upended how scholars think about the economics of slavery. With coauthor Robert Fogel (a Nobel laureate and former fellow member of the URochester economics faculty), he crunched the data on plantation records, productivity, and profitability. The findings, published in 1974's ***Time on the Cross***, startled many. Slavery, they argued, was not economically doomed before the Civil War. *ST*

140

Because coherence is king.

Quantum optics, which explores how light interacts with atomic particles, has its roots at URochester. Leonard Mandel, who joined the faculty in 1964, became known for his groundbreaking experiments on the nature of light and was the first to actually observe certain remarkable phenomena predicted by quantum theory. His work gave rise to the "Mandel formula" addressing the topic of photon detection. He, along with Emil Wolf, also helped launch the influential Rochester Conference on Coherence and Quantum Optics. *LA*

Artist Sarah Rutherford painted a mural of a young and old Susan B. Anthony in the tunnels near Dewey Hall.

J. ADAM FENSTER (MURAL); OPEN LETTER (BOOK)

141

Because one woman's activism can change the course of history. Susan B. Anthony's legacy lives on with us.

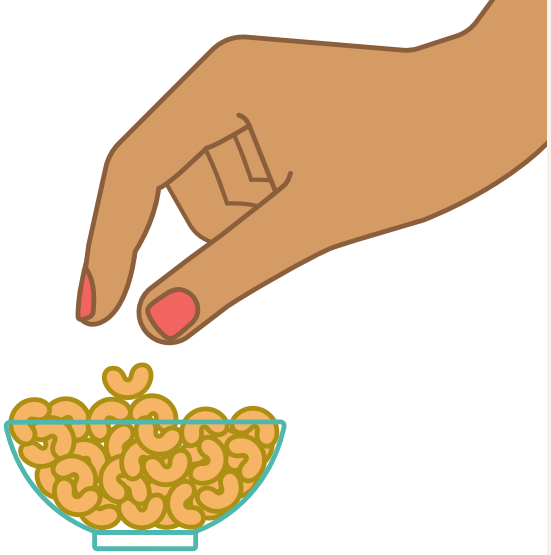
Rochester is synonymous with Susan B. Anthony—from her home on Madison Street to her gravesite in Mt. Hope Cemetery (an Election Day pilgrimage) to the bridge named for her and Frederick Douglass that carries I-490 over the Genesee River.

When it came to URochester, Anthony made her mark early on. In 1900, she led a successful campaign to have women admitted to the then all-male institution by raising $50,000 in pledges; she threw in the cash value of her own life insurance policy.

It seems only fitting, then, that URochester holds a special distinction for being a collector, curator, and steward of her legacy. The Department of Rare Books, Special Collections, and Preservation houses important holdings, including several collections of letters, personal items, and suffrage memorabilia.

But the University's care of her legacy extends beyond the library. The Susan B. Anthony Institute for Gender, Sexuality, and Women's Studies addresses curricular and scholarly issues throughout history and in contemporary society. The Susan B. Anthony Center works to foster social justice and equality by translating research into policy through community collaboration.

And a shout-out to the Susan B. Anthony Halls, which grace the River Campus. *JL*



142

Because multisensory learning makes knowledge accessible.

A prolific inventor, Edmund Lyon, Class of 1877, created a mechanism to enable the blind to write in a perfectly uniform style of modified script, a mechanical apparatus for teaching numbers, and a system to aid in the teaching of speech to the deaf. ***The Lyon Phonetic Manual*** built on Alexander Melville Bell's Visible Speech system by using hand positions to show how sound was produced in the mouth. It was developed at the Rochester School for the Deaf, where Lyon volunteered and met his wife, a teacher. *JL*

The Lyon Phonetic Manual **introduced multisensory learning.**

UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (LYON AND JENSEN)

143

Because something nuts can inspire a new field of human behavior.

The theory in a nutshell: Sometimes you feel like a nut; sometimes you don't. This thinking launched the groundbreaking work of economist Richard Thaler '74 (PhD), '10 (Honorary) who won the Nobel Prize in Economic Sciences in 2017 for **"contributions to behavioral economics."**

Thaler credits his career to a bowl of cashews at a dinner party he hosted in Rochester. He knew the main course was coming but recognized he was powerless to stop snacking on the cashews that had been put out for guests. The problem, he knew, was one of self-control and short-sightedness. So, he took the bowl and hid it in the kitchen.

"If the cashews aren't in front of you, you're less tempted to eat them," he told *The New York Times* upon receiving the Nobel. "If you have to get up and walk all the way to the kitchen—in this gigantic house I was living in as a graduate student in Rochester—you don't end up eating so much."

The episode set him on unprecedented research into why people fail to act the way economic theories suggest they should. Challenging the long-held belief of economists that humans are rational problem solvers, Thaler proved that people are, sometimes, just nuts. *DA*

144

Because executives needed skin in the game.

Michael Jensen's Theory of the Firm changed corporate management.

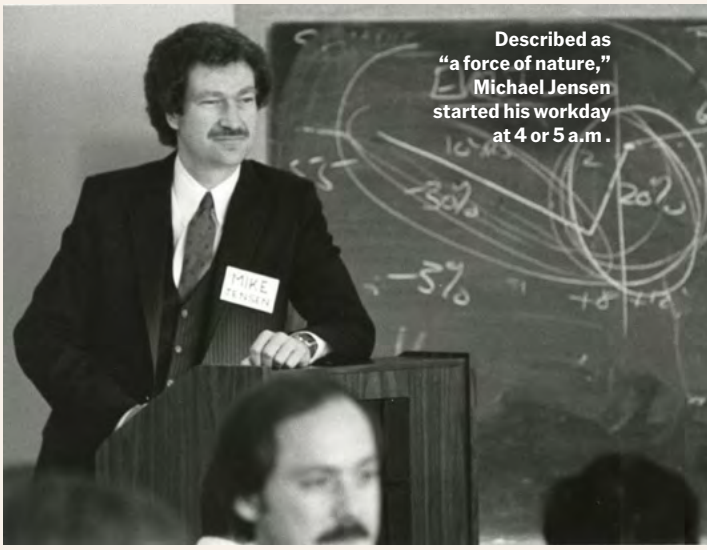
Michael Jensen not only reshaped how scholars and practitioners view the relationship between managers and corporate shareholders; he changed how companies are run. And so he became one of the most influential economists in corporate finance, organizational theory, and behavioral economics.

Jensen's breakthrough came in 1976 when he coauthored a seminal paper with William Meckling, then-dean of the graduate management school, where Jensen taught from 1967 to 1988. Published in the *Journal of Financial Economics*, "Theory of the firm: Managerial behavior, agency costs, and ownership structure" would become the single most-cited article in business academia.

Jensen and Meckling showed that conflicts naturally arise when company owners ("principals") hire executives ("agents") to steer the firm on their behalf. Their solution: Give top executives an equity stake so their interests align with shareholders'. (On the downside for employees, this also sometimes meant trimming the workforce.)

Jensen went on to develop his organizational theory, asserting that companies are not mere profit-maximizing black boxes but complex systems where governance, hierarchy, and incentives shape performance. His ideas revolutionized executive pay, making stock options and performance-based bonuses standard tools to align managers with shareholders.

Understandably, Jensen's work has both fans and detractors. According to *Bloomberg Opinion*, critics deemed him "the high priest of the greed-is-good era," while admirers saw "the surgeon who gave Anglo-Saxon capitalism a new lease of life." *SK*

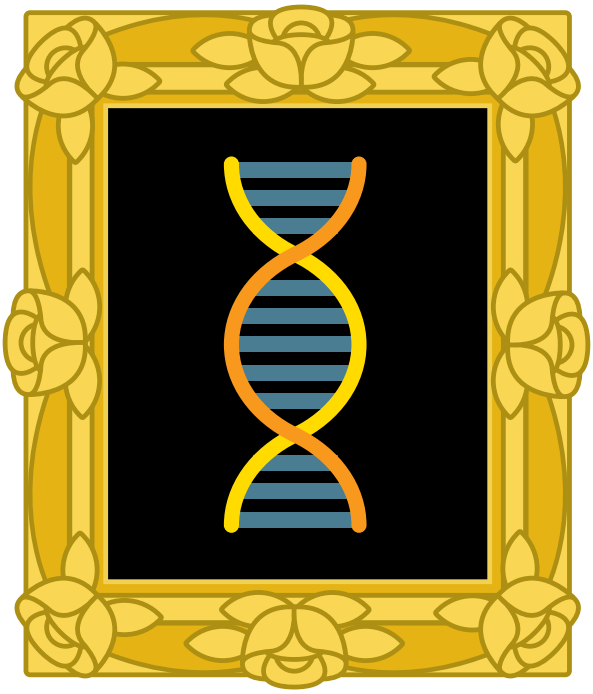


Described as "a force of nature," Michael Jensen started his workday at 4 or 5 a.m.

145

Because a single experiment can be beautiful.

In 1958, biologist Franklin Stahl '56 (PhD), '82 (Honorary) helped prove how DNA copies itself—an experiment so clear and elegant that many scientists call it **"the most beautiful experiment in biology."** Working with Matthew Meselson at Caltech, Stahl showed that when DNA replicates, each new DNA molecule contains one original strand and one new strand. His "beautiful experiment" left a lasting mark on our understanding of how genetic information gets passed on. *LV*



146

Because great literature should be read aloud.

"Out of my life I fashioned a fistful of words. When I opened my hand, they flew away." We beg to differ, Hyam Plutzik; your legacy endures. Ask Adrienne Rich, Ralph Ellison, Michael Ondaatje, Maureen N. McLane, or the other 300 literati who share their work in his name. For 62 years, URochester has honored the English professor and Pulitzer finalist through the **longest-running public reading series** on an American campus. *MP*

The Plutzik Reading Series has always been free and open to the public.

147

Because higher education can change lives—anywhere.

For nearly a decade, the Rochester Education Justice Initiative (REJI) has been breaking educational barriers. REJI delivers degree-granting college programs in three nearby state prisons—and, at **Attica Correctional Facility**, URochester is the first R1 university in New York state to offer a bachelor's degree for incarcerated students. The goals: transform lives, support successful reentry, and strengthen the greater Rochester community through the power of learning. *ST*

148

Because poetry can have a sense of humor.

When Anthony Hecht died in 2004, the former US Poet Laureate was remembered as a "formalist" poet best known for his searing chronicles of 20th-century terrors. Indeed, his second book, *The Hard Hours*, addressed his haunting memories as an infantryman during World War II. It earned him the Pulitzer Prize in 1968.

But Hecht, who spent 18 years on the faculty at URochester, had a playful side. That was most evident in the light verse form called **double dactyl** that he created with fellow poet Paul Pascal. Like a limerick, the double dactyl is rigid in its structure and usually humorous. It became popular on American college campuses in the 1960s for its irreverence and obligatory use of nonsense words. *DA*

149

Because organs are music's royalty.

With its unparalleled collection of new and historic organs, the **Eastman Rochester Organ Initiative**, established in 2002, has boosted Rochester's reputation as a leading center for organ study and performance. Housed at the Eastman School of Music and across the city, the instruments include the only full-size Italian Baroque organ in the Western Hemisphere, now taking pride of place in the Memorial Art Gallery's Fountain Court. Eastman students also have access to more than a dozen high-quality organs in the Rochester area, including the Opus 1416 Aeolian pipe organ that George Eastman installed in his East Avenue mansion so that he could enjoy live music with his breakfast. *TML*

150

Because voters know there's no place like home.

You know how voters say they dislike Congress but trust and re-elect their local member? Political scientists call it **"Fenno's paradox"** after the late Richard Fenno. Known for his startlingly original scholarship on Congress, he helped build the Department of Political Science into an influential powerhouse. Fenno, who died in 2020, spent his entire career at URochester. The American Political Science Association awards an annual prize that bears his name. *DA*

UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (PLUTZIK AND FENNO)

151

Because books contain the deepest wisdom.

Several URochester figures wrote the (actual) books that have become seminal texts in their respective fields.

Breastfeeding: A Guide for the Medical Profession **(Elsevier, 1979)**
Ruth Anderson Lawrence '49M (MD), '58M (Res), a professor emeritus of pediatrics, was an international expert in breastfeeding medicine, and her book continues to be the preeminent reference for clinicians worldwide.

Computer Vision **(Prentice Hall, 1982)**
URochester professors Christopher Brown and Dana Ballard, who developed the active vision paradigm, helped define the emerging field of computer science; their book is still referenced in academic settings.

Natural Language Understanding **(Benjamin/Cummings Publishing, 1987)**
This influential text from James Allen, a professor emeritus of computer science, delivers a synthesis of the major modern techniques and research in natural language processing.

Nonlinear Fiber Optics **(Academic Press, 1989)**
Optics professor Govind Agrawal has authored eight books, several of which are used at universities worldwide. Leading the list is this standard graduate textbook for training telecommunication engineers.

Nonlinear Optics **(Academic Press, 1992)**
Professor Robert Boyd is world-renowned for his studies of "slow" and "fast" light propagation and quantum imaging techniques. This textbook has become a standard reference work in the field.

Nursing Care for the Patient with Burns **(Mosby, 1972)**
Florence Jacoby, a registered nurse at Strong Memorial Hospital, set the standard for burn nursing worldwide after treating survivors of a plane crash in 1963.

Principles of Optics **(Elsevier, 1958)**
Longtime professor Emil Wolf was one of the most recognized optical scientists of his generation, and this work, cowritten with Nobel laureate Max Born, is the most cited textbook in physics.

Schwartz's Principles of Surgery **(McGraw-Hill, 1969)**
A nationally recognized "Icon of Surgery" and former chair of surgery at URochester, Seymour Schwartz edited and cowrote the "Surgeon's Bible" used to teach generations of young doctors. ***JL***

The first edition of *Principles of Surgery* had 1,805 pages, 51 chapters, and a single voice—that of founding editor-in-chief Seymour Schwartz.

J. ADAM FENSTER (BOOK AND FREEFORM OPTICS)

152

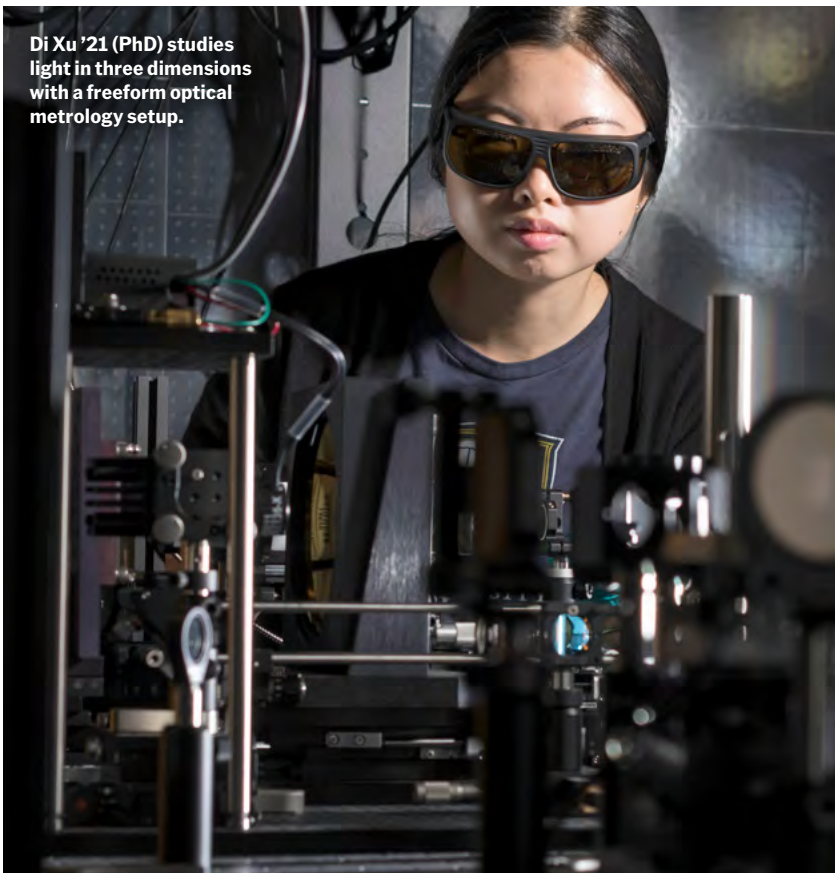
Because nursing needs research and care to go hand in hand.

When Loretta Ford became the inaugural dean of the School of Nursing in 1972, most schools designed nursing like a patchwork quilt: education in one corner, research in another, practice set apart from both. Ford drew them together into the **Unification Model**, an approach in which students learn from discovery, research grows from hands-on care, and patients benefit from the innovation that courses through classrooms, labs, and clinics. The Unification Model would become a guide for advanced practice nurses throughout the world. *MP*

153

Because optics innovation can start with the surface.

Lenses and mirrors had been mostly limited to spherical shapes until the 21st century, when optical engineering professor Jannick Rolland and her husband, the late Kevin Rolland-Thompson, a professor and visiting scientist at the Institute of Optics, pioneered the emerging area of **freeform optics**. The URochester team created the theoretical framework to understand how surfaces guide light in three dimensions. They made possible new mobile displays, LED lighting, remote sensing devices, and astronomical instrumentation. Rolland was inducted into the National Academy of Inventors in 2020. *LA*



Di Xu '21 (PhD) studies light in three dimensions with a freeform optical metrology setup.

154

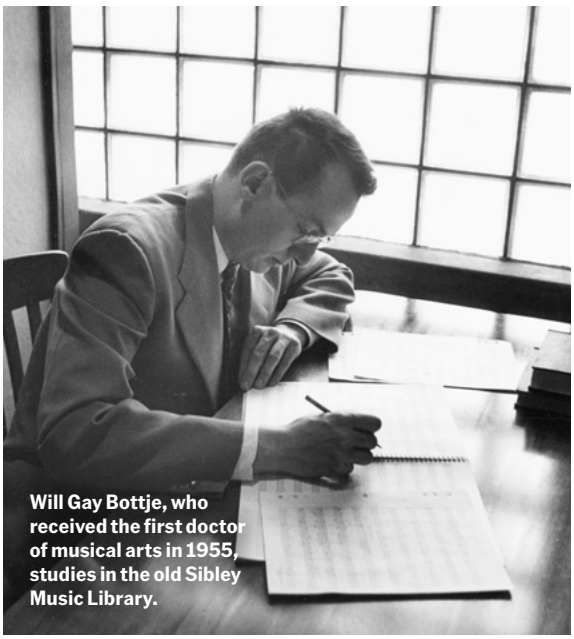
Because higher ed needs academic musicians.

Recognizing the growing demand for skilled musicians in American higher education, Eastman was the first school in the country to promote a **doctor of musical arts**, and one of the very first to offer it. Longtime school director Howard Hanson led efforts in the early 1950s to create the DMA as a pathway for performing musicians to enjoy a successful career in academia while offering students first-rate practical instruction. Demand for the degree proved so great that it has since been replicated worldwide. *TML*

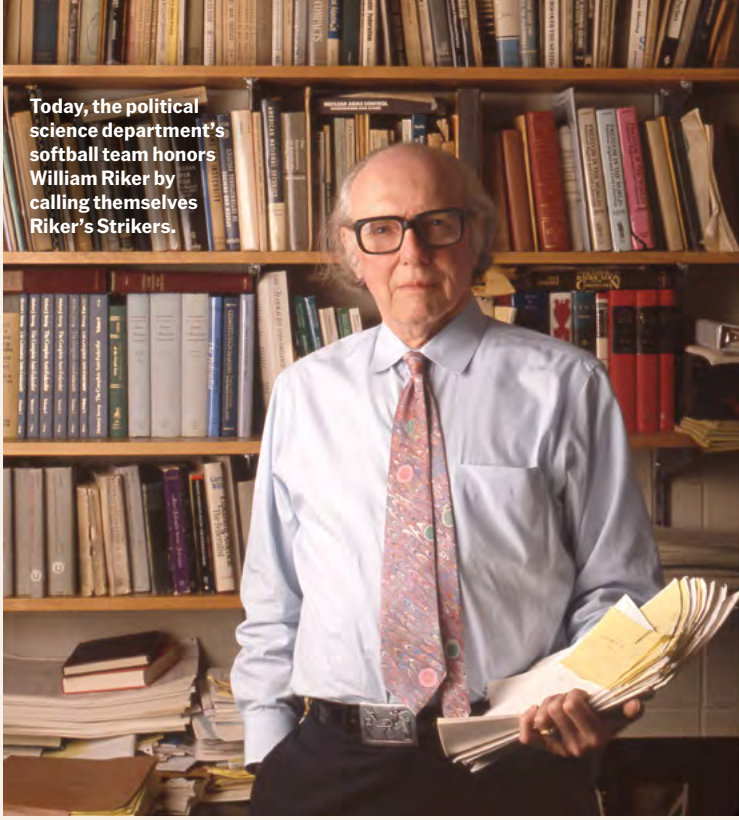
155

Because a pivotal moment in history can still be unearthed.

The **ancient city of Yodfat** in Israel, the first Jewish city to fall in the First Jewish-Roman War, was buried in a rocky hilltop for nearly 2,000 years before it was unearthed in an excavation led by URochester archaeologists in the 1990s. The dig uncovered dramatic evidence of the city's siege in 67 CE, offering proof of the carnage and events chronicled by Josephus and deepening global insight into a pivotal moment in history. *DA*



Will Gay Bottje, who received the first doctor of musical arts in 1955, studies in the old Sibley Music Library.



Today, the political science department's softball team honors William Riker by calling themselves Riker's Strikers.

156

Because political science can be Moneyballed.

William Riker transformed the discipline with math, models, and game theory.

***Moneyball*, the book and movie about the Oakland Athletics' pioneering of sabermetrics, teaches that a small-market team with the right analytics can change the game. That's URochester in political science.**

Starting in the 1960s, Professor William Riker pioneered the Rochester School, a quiet revolution that introduced positive political theory and transformed the study of power and policy.

Riker put politics on the same scientific footing as the hard sciences and economics. That meant using formal models, math and statistics, and game theory—not to argue what *should* happen but to better understand and predict what *does* happen. Positive political theory starts with individual decision-making and self-interest, then scales up to explain the collective outcomes we see in elections, legislatures, and diplomacy.

From there, Riker and his like-minded colleagues at URochester wrote the playbook others copied. Departments across the country began recruiting "Rochesterians" to build their own winning programs—proof that our small-but-mighty approach was both portable and powerful.

By turning intuition into models, models into predictions, and predictions into testable hypotheses, URochester established a new common language for the discipline—along with a vocabulary that has seeped into more mainstream political analysis as well. *ST*

SIBLEY MUSIC LIBRARY/EASTMAN SCHOOL OF MUSIC (DMA); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (RIKER)

157

Because scholars shouldn't wander for medieval texts.

Scholars of medieval literature who wanted to compare copies of specific texts had long faced the challenge of having to travel the world to far-flung archives. After all, the printing press was not around when most of the texts were written and copies were made by hand, complete with errors and mistranslations. All that changed when Russell Peck, who taught English at URochester for more than half a century, established the **Middle English Texts Series** (METS) in 1989. The series, a publication of the Rossell Hope Robbins Library, offers free digital and affordable print editions of a wide range of medieval writings.

"METS democratizes access," says Anna Siebach-Larsen, the executive director of the project, who oversees the Rossell Hope Robbins Library and Koller-Collins Center for English Studies. "It puts the literature out there for everybody." She adds that it has helped "transform our understanding and study of medieval culture." METS resources, including a new website and digital reader that launched in November 2024, get used by scholars about 750,000 times annually, according to project administrators. It is one of the longest-running Open Access initiatives in the world. Until 2025, the project had primarily been supported by grants from the National Endowment for the Humanities. *DA*

158

Because accountants should see the future.

At URochester, "positive" means progress. Just as political scientist William Riker launched positive political theory here—using math and models to explain how people actually make choices (see opposite page)—Simon Business School professors Ross Watts and Jerold Zimmerman did the same for accounting. Their **positive accounting theory** shifted the field from prescriptive rules to predictive science by showing why companies act the way they do. The result: Corporate finance policies worldwide, from taxes to executive pay, are now grounded in observations and evidence instead of bean-counting and guesswork. *ST*

William Blake created, printed, and painted his own book illustrations, many of which have a home in a digital archive cofounded by the late English professor Morris Eaves.

159

Because to see the world in a grain of sand, you want William Blake in the ether.

URochester and the University of North Carolina at Chapel Hill digitally safeguard poet and artist William Blake's blazing words and dazzling prints—including one with "The Tyger," one of the most anthologized poems in the English literary canon. For three decades, the **William Blake Archive** has captured the Romantic poet's masterpieces and released them into the wilds of the Internet. *ST*

160

Because lost stories can be brought back from the dead.

How do you read a sacred scroll whose text has been blurred by time? How do you see the contents of a manuscript so fragile that to open it more than a crack would destroy it? At URochester, you take it to Associate Professor of English and of Computer Science Gregory Heyworth. Founder of the discipline of textual science, Heyworth directs the **Lazarus Project**, an interdisciplinary effort to recover lost texts and images from damaged manuscripts, maps, and artifacts. Its stated mission: "To use science to see the invisible, read the illegible, visualize the obscure, conserve the past, and educate the present." *MC*

In 2019, members of the Lazarus Project used multispectral imaging to recover hidden text in this 15th-century Armenian prayer book.

J. ADAM FENSTER (LAZARUS); WILLIAM BLAKE ARCHIVE (BLAKE)

The Memorial Art Gallery has partnered with the Rochester City School District on free programs that foster creativity, curiosity, and connection with local students.

MATT WITTMEYER FOR THE UNIVERSITY OF ROCHESTER (MAG); SIBLEY MUSIC LIBRARY/EASTMAN SCHOOL OF MUSIC (SIBLEY)

161

Because it helps to be Thoreau.

Raymond Borst '33 never lived off the grid like the subject of his scholarship, naturalist Henry David Thoreau. But he scoured the country, amassing **the largest privately held collection of Thoreau's work** outside the archives of the Thoreau Society. His collection, housed in Rush Rhees Library, anchors URochester's impressive holdings of 19th-century American literature. *DA*

Ruth Watanabe headed the Sibley Music Library for 37 years.

162

Because great music should be held in your hand.

Searching for sheet music published during World War II? Interested in seeing an autograph manuscript of *La Mer*? Or perhaps you'd like to explore an 11th-century compilation of treatises on the medieval arts of arithmetic, geometry, music, and astronomy? With nearly 750,000 items, the **Sibley Music Library** offers all this—and much more. The largest music library affiliated with any college or university in the US, Sibley serves not only Eastman students and faculty but also music lovers throughout the greater Rochester area—fulfilling founder Hiram W. Sibley's original vision for the collection. *TML*

163

Because every great city needs an art museum.

Claude Monet in the morning, Rashid Johnson in the afternoon—no trip to New York City required. URochester's **Memorial Art Gallery** (MAG) packs 5,000 years of art, from ancient Egyptian treasures to bold contemporary works, into our region's very own "Mini Met." With blockbuster shows, community festivals, and days when the doors are flung open for free, MAG proves you don't need a big city to have big culture. *ST*

164

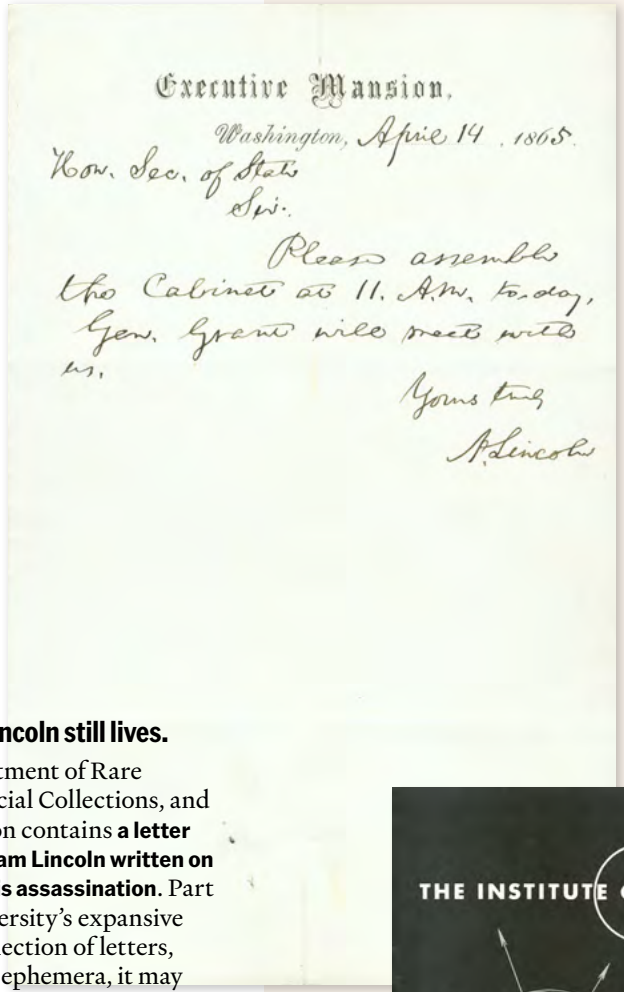
Because explorers eventually bring it all home.

For some of us, it's baseball cards or stamps. Maybe coins or even vinyl records. For Rochester native Henry Ward, it was **fascinating specimens from around the world**. The early explorer accumulated some 40,000 specimens in geology, mineralogy, petrography, and paleontology in the mid-1800s—the largest collection of its kind in the country at the time—with a mission to bring the natural sciences to a wider audience. He later formed a company, Ward's Natural Science Establishment, which exists to this day. Ward taught natural science at URochester from 1861 to 1875, and his papers are some of the most frequently accessed in the library's collection. *JL*

Specimens like this Old World Monkey skeleton are helping researchers learn how the natural sciences were taught in the 1800s.

J. ADAM FENSTER (WARD); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (LINCOLN AND OPTICS)

In what might be the last letter he ever wrote, Abraham Lincoln called for a Cabinet meeting.



Executive Mansion,
Washington, April 14, 1865.
Hon. Sec. of State
Sir.
Please assemble the Cabinet at 11. A.M. to-day, Gen. Grant will meet with us.
Yours truly
A. Lincoln

165

Because Lincoln still lives.

The Department of Rare Books, Special Collections, and Preservation contains **a letter from Abraham Lincoln written on the day of his assassination**. Part of the University's expansive Seward collection of letters, books, and ephemera, it may be the last he ever wrote. Also of note: William Stoddard, Lincoln's personal secretary, was a member of URochester's Class of 1858. *JL*

166

Because the best medicine requires people science.

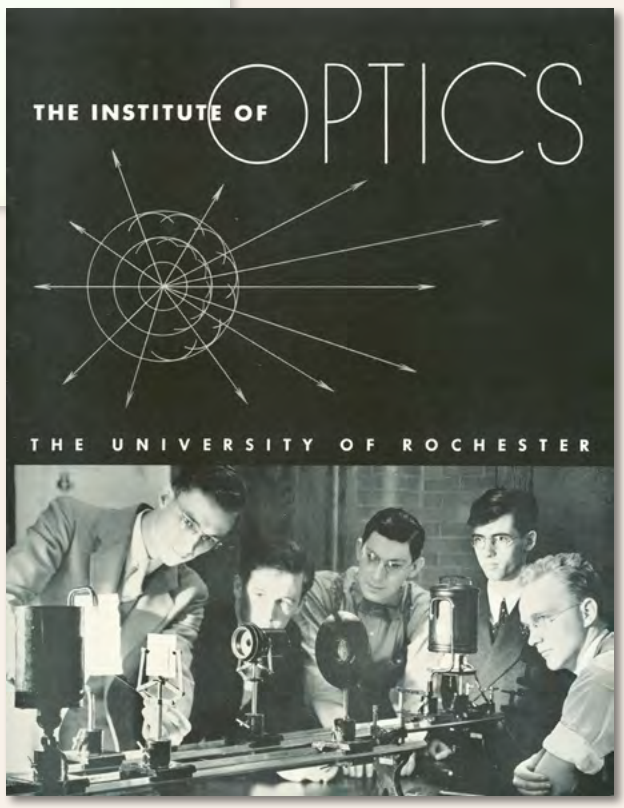
In 1977, medical faculty George Engel and John Romano developed the **biopsychosocial model** of medical education to describe the intricate web of patient care, from mental health to family dynamics to cultural tradition. (Engel called it "people science.") Touchpoints like patient histories have reshaped medicine to include the bigger picture. *MP*

167

Because optics are key to our vision.

The Institute of Optics is the cradle of scientists and entrepreneurs.

In 1929, with support from George Eastman and Edward Bausch, URochester founded the nation's first optical science, engineering, and design program to train American scientists in a field long dominated by Germany. Nearly a century later, the Institute of Optics has awarded roughly half of all optics degrees in the US—with alumni who include Nobel laureate Donna Strickland '89 (PhD) (see page 51)—and spurred a thriving local economy in the Rochester and Finger Lakes region that includes more than 150 optics, photonics, and imaging companies. *LA*



The Institute of Optics followed—and enabled—a boom in American optics industries.

Now & Next

175

Plastic waste from the Great Lakes may hold clues to protecting human health.

Here you find the leading edge and what lies beyond.

168

Next: Meeting the promise of safe, abundant energy.

Clean, limitless energy might seem like a pipe dream. But URochester scientists are working tirelessly to realize this goal. Not only did the Laboratory for Laser Energetics (LLE) play a significant role in the long-awaited achievement of **fusion ignition**, but it is also the leader of a national research hub dedicated to advancing inertial fusion energy science and technology. *TML*

169

Now: Advancing AI to heal us.

Empire AI, a consortium of public and private research institutions handpicked by New York Governor Kathy Hochul, is forging the future by accelerating the **responsible development of artificial intelligence**. URochester is the first integrated health system in the consortium, which launched in 2024 to establish a state-of-the-art computing center to be used for research, job creation, and advancing AI for the public good. *DA*

170

Now: A deep study into microplastics.

Food wrappers. Plastic bottles. Cigarette butts. Synthetic clothing. These sources of plastic waste produce microplastics—those frequently difficult to detect and mitigate particles that have been found in everything from human blood to breast milk.

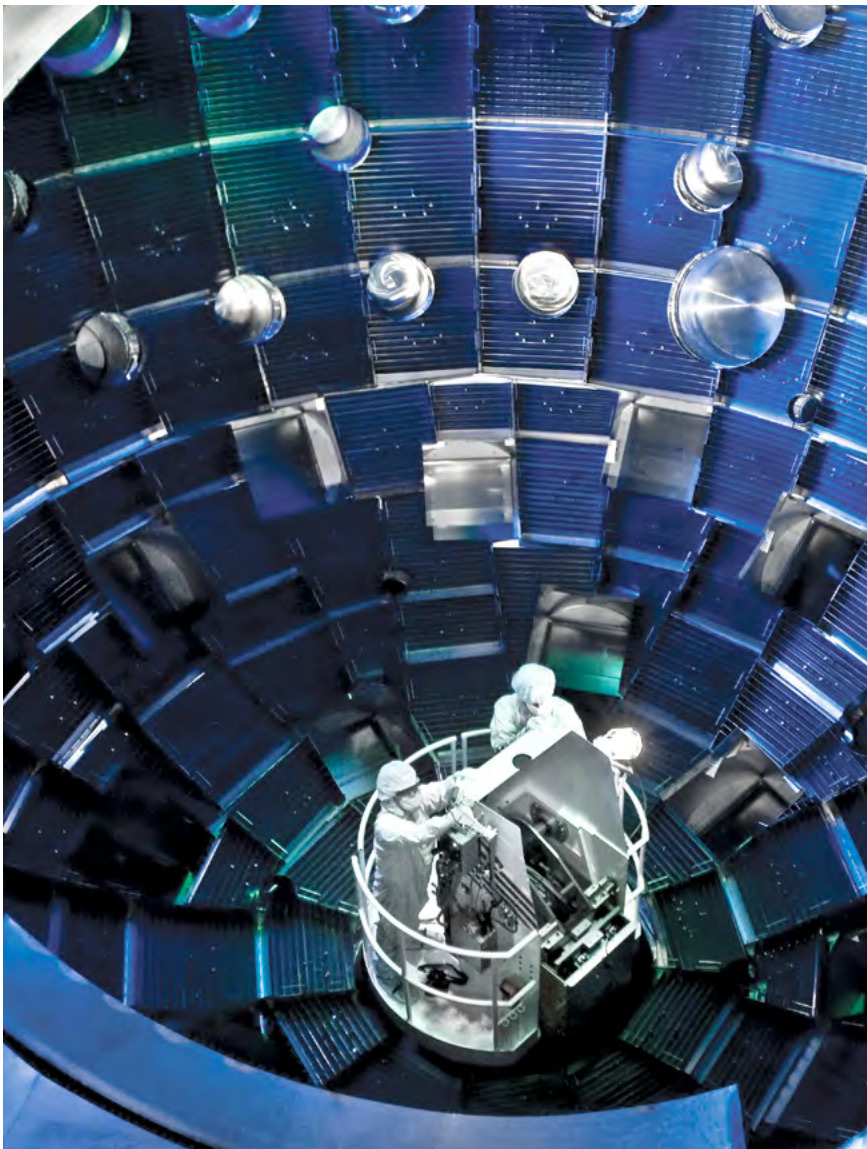
Scientists know little about their long-term impact on human health, but a new research center is looking to change that. A collaboration between URochester and the Rochester Institute of Technology, the **Lake Ontario MicroPlastics Center** will study the lifecycle of microplastics, including their movement in the Great Lakes, human exposure to the particles, and the resulting health impact. *JL*

171

Next: Transplanting animal organs into humans.

It may seem like the stuff of movies and science fiction, but **xenotransplantation**—transplanting animal organs into humans—is very real and quite possibly the future for the more than 100,000 people on US organ waitlists alone. In 2021, Robert Montgomery '87M (MD) performed the first investigational transplant of a genetically engineered nonhuman kidney (a pig's, to be exact) to a human body. *TML*

J. ADAM FENSTER (MICROPLASTICS); LAWRENCE LIVERMORE NATIONAL LABORATORY (FUSION IGNITION)



172

Next: Finding asteroids before they find us.

When it launches sometime after September 2027, NASA's **Near-Earth Object Surveyor** will be the first space telescope designed to find potential hazards before they find—and crash into—us. URochester scientists Judith Pipher (see page 35), William Forrest, and Craig McMurtry helped make this Earth-defending mission possible by developing a sensor that can collect infrared light emitted by dark asteroids and comets as they're heated by sunlight. No word on whether it can detect flying saucers too. *TML*

J. ADAM FENSTER (TISSUE-ON-CHIP)

Molly McCloskey '24 (PhD) holds a chip that could reduce the need for animal trials.

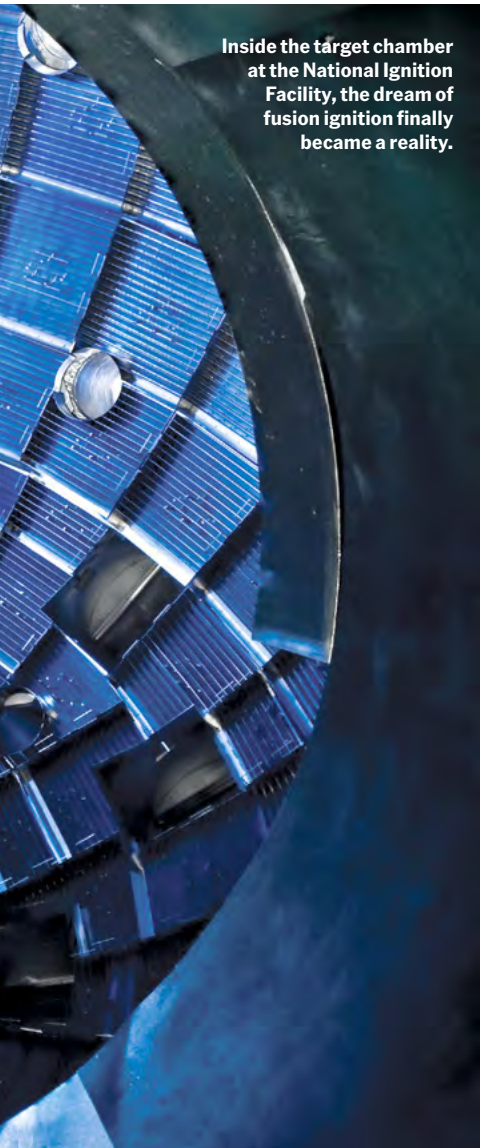
173

Now: Chips instead of animals to test medicines.

For centuries, researchers have used animals to test drugs and study disease—an approach that has saved lives but remains controversial and imperfect. One reason why: *Lab animals aren't human*. A promising alternative is **tissue-on-chip technology**, in which human cells are arranged in a microfluidic device that mimics real tissue responses.

URochester is home to one of four NIH-sponsored centers that aim to produce these devices as FDA-qualified drug development tools. Led by biomedical engineering professor James McGrath along with faculty members Hani Awad, Joan Adamo, and Ben Miller from the University of Rochester Medical Center, the Translational Center for Barrier Microphysiological Systems (TraCe-bMPS) focuses on barrier functions in disease—interfaces in tissue that are critical for the progression of infection, cancer, and many autoimmune disorders.

While McGrath predicts animal models will continue to be an important part of drug development processes for years, if not decades, this technology will reduce the use of such testing and increase the efficiency and accuracy of preclinical data. *LV*



Inside the target chamber at the National Ignition Facility, the dream of fusion ignition finally became a reality.

174

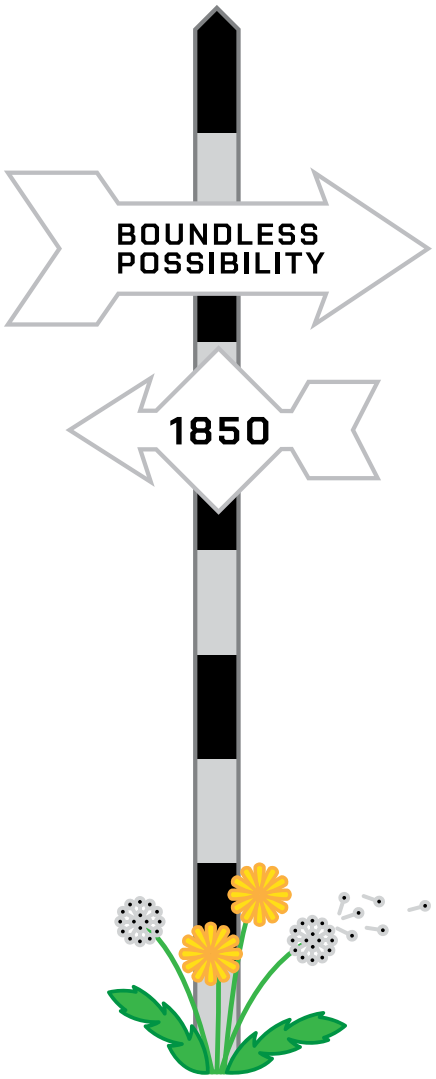
Next: The world's most powerful laser.

Because having the large university-based laser w enough, LLE is now desig the world's most powerfu Powered by funding fron National Science Founda and intended to serve res communities for decades come, **NSF OPAL** will com two new 25-petawatt lase located at URochester wl will enable experiments t study fundamental scien the cutting edge. It will h another URochester inn optical parametric chirpe amplification (see page 5

175

Next: A future of Boundless Possibility.

→ Don't believe us? Reread the preceding pages.



FOR EVER BETTER

LAUNCHES AT MELIORA WEEKEND

Comprehensive campaign seeks to raise $1.75 billion for Rochester's future while expanding alumni and community engagement

By Kristine Kappel Thompson

For 175 years, the University of Rochester has advanced discovery, supported communities, and educated the most exceptional students. This fall, as the University marked that milestone, it also launched *For Ever Better*: The Campaign for the University of Rochester—an effort to raise $1.75 billion to fund research, to expand access to education, healthcare, and the arts, and to engage alumni and friends around the world.

The announcement came during Meliora Weekend 2025, when more than 12,000 alumni, families, and friends returned for reunions, lectures, performances, and celebrations—linking Rochester's past to its future.

"The *For Ever Better* campaign will define our future and extend our legacy as a community that embraces opportunities and challenges with bold ideas and an optimistic vision," says President Sarah Mangelsdorf. "With this campaign, I look forward to advancing knowledge, enhancing care, and creating environments where everyone connected to Rochester can thrive."

The campaign comes at a time when higher education faces significant headwinds—from financial pressures and demographic shifts to challenges in effectively communicating its relevance and impact. In this environment, the *For Ever Better* campaign underscores the importance of collective effort. Through actions both large and small and contributions from individuals and groups, it advances a shared mission to improve humanity.

> With this campaign, I look forward to advancing knowledge, enhancing care, and creating environments *where everyone connected to Rochester can thrive."*
>
> **SARAH C. MANGELSDORF**
> President and G. Robert Witmer, Jr., University Professor

BUILDING FROM STRENGTH

The *For Ever Better* campaign enters its public phase with momentum. Leading up to the campaign's launch, Rochester secured more than $880 million in commitments supporting students, faculty, research, and facilities.

Thomas Farrell '88, '90W (MS), senior vice president for University Advancement, says the campaign is both purposeful and urgent. "We have made remarkable progress, with three record fundraising years in a row and the highest levels of engagement in our history," he says. "Now we're inviting the entire University community to help shape what comes next."

Campaign priorities include creating 150 endowed professorships, supporting more than 400 scholarships and fellowships, and making investments that reinforce Rochester's leadership in research, healthcare, and the arts. Farrell adds, "A cornerstone of this campaign is balancing philanthropy and engagement—we hope to raise significant funds for our priorities while strengthening the culture of ownership among our volunteers and all those who care about the University."

MORE THAN FUNDRAISING

While the $1.75 billion target is historic, leaders stress that *For Ever Better* is about people first. The campaign seeks to engage 250,000 alumni, parents, students, grateful patients, faculty, staff, and friends worldwide. It will inspire giving, energize volunteerism, bring people together at events—both

Campaign regional launch events

We're taking *For Ever Better* on the road in 2026. Full details online at everbetter.rochester.edu.

PALM BEACH January 20, 2026
NAPLES January 22, 2026
NEW YORK CITY February 26, 2026
SAN DIEGO March 4, 2026
LOS ANGELES March 5, 2026
WASHINGTON, D.C. April 29, 2026

Sponsored by the Office of Advancement

in person and virtual—and strengthen connections.

The campaign's co-chairs, University Trustees Joan Beal '84E and Juan Jones '88S (MBA), say taking a volunteer leadership role with the campaign is deeply personal.

"Rochester is where I discovered my voice," says Beal. "The brilliant professors and encouraging mentors, gifted classmates, soaring performances, intense rehearsals, and hours in the library or practice room—all were transformational."

Jones adds, "I stay involved and give back to ensure that students of limited means have the same opportunities I did—and to inspire others to do the same."

A MOMENT OF MEANING

Launching during Meliora Weekend carried special resonance: 2025 also marks the centennials of the School of Medicine & Dentistry, Strong Memorial Hospital, and the School of Nursing.

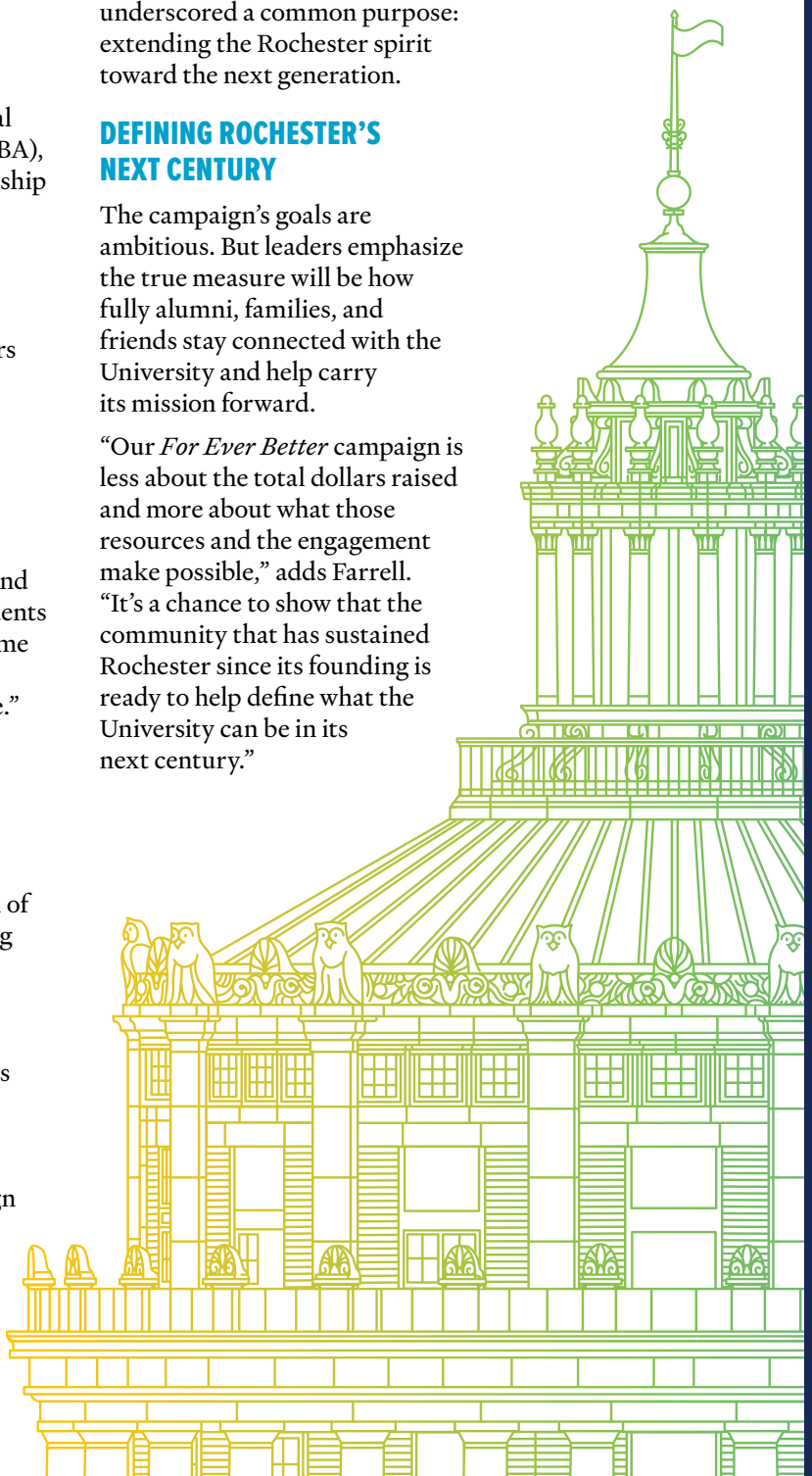
Together with the 175th anniversary, these milestones underscore how Rochester has always grown by seizing opportunities at the right time—and how this campaign represents the next step.

The weekend's energy—emanating from full lecture halls, reunion celebrations, and sporting events—underscored a common purpose: extending the Rochester spirit toward the next generation.

DEFINING ROCHESTER'S NEXT CENTURY

The campaign's goals are ambitious. But leaders emphasize the true measure will be how fully alumni, families, and friends stay connected with the University and help carry its mission forward.

"Our *For Ever Better* campaign is less about the total dollars raised and more about what those resources and the engagement make possible," adds Farrell. "It's a chance to show that the community that has sustained Rochester since its founding is ready to help define what the University can be in its next century."



CAMPAIGN *MOMENTUM*

UNPRECEDENTED SUPPORT:

In 2024, transformative gifts from two local Rochesterians made history for the University. A $50 million gift from Tom Golisano to build the Golisano Intellectual and Developmental Disabilities Institute was the University's single largest gift, ever. A $30 million gift from Trustee Emeritus Phil Saunders and the Saunders Foundation to support orthopaedics and nursing was the Medical Center's second-largest single gift of all time.

RECORD GIFT TO EASTMAN:

In September 2025, vocalist, education champion, and University Trustee Joan Beal '84E and Emmy-winning composer Jeff Beal '85E made a multimillion-dollar gift to expand Eastman's Beal Institute with new space, technology, programs, and student support.

STRENGTH IN BUSINESS:

A pivotal gift from University Trustee Evans Lam '83, '84S (MBA) made the Evans Lam Undergraduate Business Hub possible, which opened during Meliora Weekend 2025. The hub strengthens Simon Business School and Rochester's undergraduate business program, which will join Simon in 2026.

JOIN THE CAMPAIGN!

Support the people, ideas, and innovations that make our world ever better. There are so many ways to help: Make a gift, get involved, stay connected, and share your Rochester story.

Learn more at everbetter.rochester.edu.

for
EVER BETTER

THE CAMPAIGN
FOR THE UNIVERSITY
OF ROCHESTER

For the music that moves us all.

At the Eastman School of Music, we know music has the power to transform both the performer and the listener. Here, extraordinary students are mentored by world-class faculty in a nurturing environment where artistry meets innovation every day.

FROM LEGENDARY STAGES TO STANDING OVATIONS

Join us in a campaign that will help keep the music playing for generations to come.

everbetter.rochester.edu

MELIORA

University of Rochester

Beside the Genesee

Head in the Game

Football player Jake Adelmann '26 undergoes an EEG as part of a study by emergency medicine and neurology professor Jeffrey Bazarian looking at repetitive head hits. >P.83

PHOTOGRAPH BY J. ADAM FENSTER

Learn

OFFICE HOURS

Gretchen Helmke

The 2025 Guggenheim Fellow on turning a passion for reading and writing into solving our most vexing political puzzles.

INTERVIEW BY SANDRA KNISPEL

I didn't come from an academic family. I didn't really know what the job description for a professor of political science entailed. What I did know was that I loved reading and thinking about the world.

When I got to Berkeley in the late 1980s, things were shifting politically on a global scale. It was an optimistic period: The Berlin Wall came down, apartheid was ending, and Latin America's military dictatorships were collapsing. The "third wave" of democratization was really a triumph of liberal democracy, and I wanted to understand why, why now, and how long could it last?

I really didn't have a grand plan to become a professor. I just wanted to keep asking questions, keep reading, and keep learning about how to study politics. It wasn't obvious to me how any of these things worked professionally, but, luckily, I had great mentors. Being guided at the right moment can change the entire trajectory of a life.

The book that really shaped me as a graduate student was *Democracy and the Market* by Adam Przeworski. I still assign it in almost every class I teach. At Berkeley, where I started as a graduate student, the training had leaned more toward history, typologies, conceptualizing, path dependence, and critical junctures (the idea that past events and historical processes create conditions that set countries on certain paths and make certain outcomes more or less likely).

The professors at the University of Chicago, where I transferred in my second year of graduate school, showed me another way of thinking about how to study politics—to focus on how institutions shape individuals' incentives and the ways in which people interact strategically. That was exactly the approach that had originally been pioneered at URochester in the 1960s. By the '90s, it was being used by these phenomenal people who studied comparative politics at Chicago, including my mentor, Susan Stokes, who is this year's American Political Science Association president-elect. The approach she and others taught was much more intuitive to me, and I felt I could really build on that.

If I could redesign one US political institution, it would be the Electoral College, hands down. We're the only country in the world that still has one, and there's really no rhyme or reason for it. It can distort the popular vote, it's vulnerable to manipulation, and it gives the presidency—an office that over the last few decades has already seen a tremendous concentration

← **The Thomas H. Jackson Distinguished University Professor in the Department of Political Science, in her office at Harkness Hall.**

PHOTOGRAPH BY J. ADAM FENSTER

of power because of Congress's dysfunction—a shaky democratic foundation. It's rare that you have an institution that is so bad that there's no downside to reforming it. But this is definitely one of them. I'd replace it with a system where the candidate who wins the most votes nationally becomes president. That principle is really important for rebuilding trust in our democracy.

What keeps me passionate about my work is the chance to draw connections between ideas. I love taking a theoretical framework from one context and seeing how it can illuminate a completely different problem. Or noticing when something everyone assumes about politics has a neglected but important flip side. That kind of intellectual puzzle is deeply satisfying.

As I got older and became a tenured professor, I found that it's equally satisfying to teach that approach. Watching students light up when they see how these tools or models can unlock a political puzzle—that never gets old.

And then there's the other piece: balance. Academic life requires solitude and focus, but it also demands interaction and engagement. The trick is to have both. Fellowships and my work with Bright Line Watch and the Democracy Center are all attempts at balancing my inward, isolated academic work with the outward responsibility of sharing ideas beyond academic journals.

I feel lucky. Lucky to have had mentors who nudged me in the right direction. Lucky to be in a field where the questions never stop coming. And lucky that the things I loved as a child—reading, writing, asking why—are all part of my job description today.

Curious what Gretchen Helmke likes to read when she's not in the office? Learn more at rochester.edu/news/helmke.

UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION

ASK THE ARCHIVIST

Q

A question for Melissa Mead, the John M. and Barbara Keil University Archivist and Rochester Collections Librarian:

In your 13 years as University archivist, what's one question that's stumped you but that you remain determined to answer?

—Tama Miyake Lung, editor, *Rochester Review*

↑ **The University erected a memorial for "The Genesee" lyricist after he died by suicide by jumping into the river in 1926.**

A

My prize for "still looking for the answer" goes to the school song, "The Genesee." Why do we only sing two verses, when it was written with three? For me, determining *when* we dropped the middle verse has been the first step to the *why*. There are a lot of clues and some distracting anecdotes but no definitive answer yet to this admittedly low-stakes question.

A 1916 article in the student newspaper, the *Campus*, proclaims: "'The Genesee' as an Alma Mater is ideal, for it links our college to the river about which our city centers . . . its first notes are the signal for 'on your feet' and 'hats off.'"

We all know the words—and if you don't, you can find them at rochester.edu/news/genesee—written in 1891 by Thomas Thackeray Swinburne (Class of 1892), with music arranged by Herve Wilkins (Class of 1866).

"The Genesee" was embraced by students and within a decade became our alma mater. It's the first entry in a songbook used at the Commencement Week festivities of 1893. But Swinburne kept tinkering with it: A new version appeared in the *Campus* on December 14, 1898. The biggest changes were in verse three: Gone were the gathering force, the devious course, and forever loyal be, replaced by a mill-wheel, a grove, and vernal hours.

Was Swinburne more focused on improving the poem (in his view) than on lyrics? The revisions confused singers: Letters in the *Campus* urged upperclassmen to learn the new words so they would be in sync with the first-years. Luckily, the lyric reverted after a few years.

What evidence is there for when the switch to two verses occurred? A songbook pasted in the scrapbook of Raymond Ball (Class of 1914) may be the first printed indication, although freshman handbooks continued printing three verses.

In 1926, the annual Rochester-Hobart football match was filmed for the first time, and the marching band presented "The Genesee." The silent movie was screened in the Eastman Theatre, and as the intertitle cued "All up for Rochester's Alma Mater," the orchestra played the two-verse version, according to the College for Women's newspaper, the *Cloister Window*.

Later that fall, inconsolable after the death of his sister, Swinburne died by suicide in the river he honored with his lyrics and poems. Planning for a memorial boulder at the end of the Eastman Quadrangle to honor Swinburne began in 1930 with the instruction that it bear "a bronze tablet which shall incorporate two verses of the poem, 'The Genesee.'"

That leaves "why": Stylistically, the second verse is the least focused on student-university nostalgia. Its lines frequently tripped up singers because the words were too similar to the other verses. Other possible answers present themselves, including the need for brevity and even peer pressure: Yale and Columbia also have three-verse alma maters, of which only the first and third are traditionally sung.

And so research, like the river, continues.

Have a question about University history? Email rochrev@rochester.edu with "Ask the Archivist" in the subject line. For more on the mystery of "The Genesee," visit urexhibits.lib.rochester.edu/s/ata.

NEED TO KNOW

Chemical Reactions

URochester researchers shed light on PFAS, the synthetic compounds lurking in everyday life.

BY MELISSA PHETERSON

PFAS, so-called "forever chemicals," are as pervasive as they are persistent, raising urgent concerns about our health and environment. At URochester, researchers across disciplines strive to clarify how PFAS affect immunity, brain development, the economy, and even our daily decisions. Here, three experts share their insight on risks, solutions, and advocacy.

Astrid Müller, assistant professor, Department of Chemical and Sustainability Engineering: "Many people think PFAS are the devil. Of course they're harmful—but they're also everywhere, from laptops and lubricants to catheters, car engines, and cell phones. PFAS compounds have an exceptional resistance to water, oil, heat, grease, and stains thanks to the extreme stability of their carbon-fluorine (C-F) bonds, which makes them highly useful yet difficult to destroy. I envision a more circular PFAS economy in which we use them when they're necessary, then find safe ways to destroy them. My research focuses on scalable, cost-effective PFAS destruction—driven by renewable energy. Our platform achieves complete defluorination of many PFAS molecules, using industrial nickel-iron alloys instead of costly boron-doped diamond, incineration, or other 'brute-force' methods to break the C-F bonds. This technology can be deployed at the source of contamination and sites of discharge: industrial runoff, production sites, or airports that use PFAS-containing 'firefighting foam.' This gives us the potential to revolutionize remediation, generate economic opportunities, and improve public health."

Astrid Müller

Paige Lawrence

Paige Lawrence, professor of microbiology and immunology; director, NIEHS Environmental Health Sciences Center and the Institute for Human Health and the Environment: "In studying the environment's influence on our immune system, I grew interested in why some people become sicker than others after exposure to a virus, for example. Genetics are not enough to explain it; could PFAS exposure play a role? When mice get the flu, they recover; their immune systems learn and remember how to fight it. When they're exposed to PFAS, though, it dampens that protective immune response. We're using mice models to hone in on how PFAS may scramble the immune system and its ability to 'remember' an invader. I'm also working with [associate professor and co-leader of the research pillar at the Institute for Human Health and the Environment] Kristin Scheible to track T-cell development in newborns. Our research has found that levels of PFAS exposure in pregnancy may weaken the development of specialized T-cells in newborns that fight infections later in life. My advice is to really think about the products you buy and use. Don't panic, but do take steps to limit PFAS exposure in the ways we know how. For example: Avoid heating food in any kind of plastic container; use glass. Buy pots and pans that do not have a Teflon coating or a label of 'heat-resistant' or 'non-stick.' Stainless steel is best. And finally, drink plenty of water but use reusable, refillable receptacles. That way, you minimize exposure to the PFAS coating in kitchenware, plastic bottles, and other vessels."

Marissa Sobolewski, associate professor, Department of Environmental Medicine: "Most people are exposed to multiple PFAS—and other endocrine-disrupting chemicals—throughout their lives. We know these compounds can enter the brain, even during fetal development. Because they repel oils and water, they can have effects on immune and lipid-dependent brain development. We study the developing fetus to understand the influence of PFAS on brain and behavioral function, as well as on postpartum depression in mothers. My research also examines how PFAS can interfere with hormones, which are critical for both development and mental health. We need to study the 'curated chemical cocktails' that mimic real-life exposure to learn how to buffer or mitigate the effects of PFAS. We also need to support the institutions that help regulate both products and the environment, so that the burden shifts away from the individual. As in other areas, our environmental health data can inform public policy with dramatic impact."

Marissa Sobolewski

ILLUSTRATIONS BY SAM KERR

NUMBERS

URochester invests $8.5 million in a quartet of new transdisciplinary research centers.

SoundSpace
$4M
over five years

CXR
$2M
over five years

UR³C
$2M
over five years

CCQS
$500K
over two years

Fantastic Four

Transdisciplinary research is more than academic jargon—it's arguably URochester's superpower. In April 2024, the provost's office launched a first-of-its-kind process to identify teams to receive funding to establish such centers. More than a year later, four new centers emerged with potential to not only reshape existing fields but also create entirely new ones. **—Matt Cook**

Learn more about the new transdisciplinary research centers at rochester.edu/news/transdisciplinary.

SoundSpace

By combining strengths across multiple fields, SoundSpace aims to put URochester at the frontier of music and technology. Its team—drawn from biomedical and chemical engineering, composition, digital media studies, computer engineering, musicology, and more—will focus on developing a best-in-class hub for research, education, performance, and public engagement. "We have advantages no one else has," says the center's lead, Mark Bocko '84 (PhD), a distinguished professor of electrical and computer engineering.

University of Rochester Resilience Research Center

Why doesn't stress, trauma, and adversity affect everyone the same? Why are some people able to bounce back faster than others? UR³C's mission is to identify the factors that perpetuate stress-related health issues to develop ways to prevent and even reverse them. "We're injecting hope," says Jennie Noll, a professor of psychology and UR³C co-lead. "We'd like to build on existing research to provide optimism and sustainability that hasn't previously been available to communities facing dire circumstances or families with generations of adversity or trauma."

Center for Extended Reality

CXR seeks to awaken the potential of AR/VR by focusing on how we perceive and experience the world. This involves pulling from optics, engineering, natural sciences, humanities, and medicine to develop platforms that create a seamless connection between hardware and user. "The idea is that the person isn't using the device as much as the device becomes part of the user," says CXR co-lead Nick Vamivakas, the Marie C. Wilson and Joseph C. Wilson Professor of Optical Physics. "I don't know of any other places this is being done."

Center for Coherence and Quantum Science

URochester is the birthplace of quantum optics and key elements of quantum coherence. Soon, it may also become the birthplace of the first circuit boards for quantum computers. Combining experts in physics, optics, chemistry, and more, CCQS intends to make the University a major national player in this space. "This is a win-win proposition," says team lead and Associate Professor of Physics John Nichol. "The research we're proposing will have major implications for both understanding how the universe works and harnessing this knowledge for useful technology."

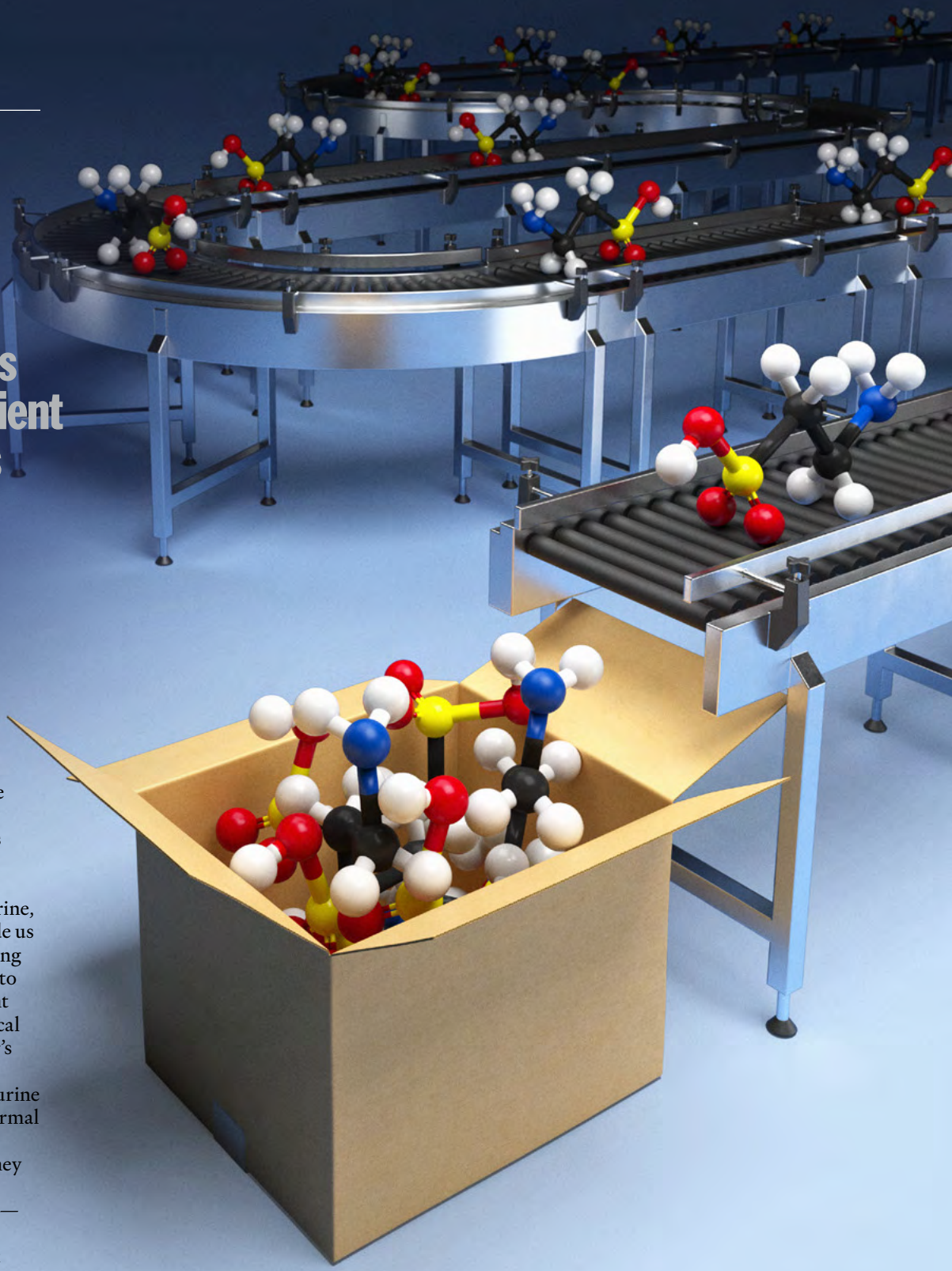
ILLUSTRATION BY JANNE IIVONEN

Discover

Fueling the Enemy

New research reveals how a common nutrient helps leukemia cells grow—and opens the door to new treatment options.

BY LINDSEY VALICH



When Jeevisha Bajaj set out to study how leukemia cells use cues from their surroundings to grow in bone marrow, she didn't expect to discover that taurine—an amino acid made in the body and commonly added to energy drinks—was a hidden accomplice "feeding" existing leukemia cells and fueling their growth.

"We weren't specifically studying taurine, but the leukemia cells' reliance on it made us realize that blocking taurine from entering these cells may be a completely new way to target this cancer," says Bajaj, an assistant professor in the Department of Biomedical Genetics and a researcher at URochester's Wilmot Cancer Institute.

Bajaj and her team discovered that taurine is produced in the body by a subset of normal cells in bone marrow. Leukemia cells are unable to make taurine themselves, so they rely on a taurine transporter—produced with instructions from the SLC6A6 gene—to grab taurine from the bone marrow.

Prior to this study, researchers hadn't linked taurine to the growth of existing cancer cells. In fact, earlier research suggested that taurine supplements might actually help some gastric cancer patients by boosting their immune systems.

As they reported in *Nature*, however, Bajaj and her team were able to block the growth of leukemia in mice models and in human leukemia cell samples by using genetic tools to prevent taurine from entering cancer cells. The discovery means scientists are one step closer to finding new ways to target leukemia, one of the most aggressive blood cancers.

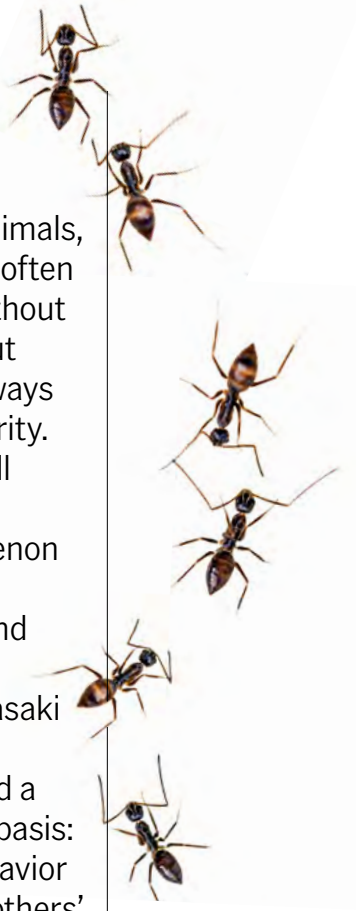
"The prior focus has been on genetic changes, but the focus is expanding to understanding how leukemia cells are able to hijack various metabolic pathways for their own survival," says Jane Liesveld, a Wilmot oncologist and coauthor of the *Nature* paper.

Scientists still have a lot to learn about how leukemia cells are reprogrammed and draw energy to thrive and resist treatments. Future studies should investigate levels of taurine in people with leukemia, Bajaj says. But most importantly: "Our current data suggest that it would be helpful to develop stable and effective ways to block taurine from entering leukemia cells."

ILLUSTRATION BY SMLXL COMPANY

Minority Report

Groups of social animals, including humans, often make decisions without a central leader. But consensus isn't always driven by the majority. Sometimes, a small number steers the whole—a phenomenon called "minority influence." Brain and cognitive sciences professor Takao Sasaki studied this in fire ants and uncovered a surprising genetic basis: An individual's behavior can be shaped by others' genes. In some colonies, a small group of worker ants carries a selfish genetic element—DNA that helps itself spread, even if it doesn't help the host. These ants can convince a single-queen colony to accept multiple queens carrying the same element. Remarkably, as few as 10 percent can reshape the entire colony's structure.



↑ **The red imported fire ant, *Solenopsis invicta* ("invincible"), is a highly social insect and is well suited to the study of indirect genetic effects.**

Hot on the Case

Proteins in yeast hint at how organisms may adapt to rising temperatures.

BY LINDSEY VALICH

As global temperatures rise, scientists are turning to an unexpected ally—the yeast that makes bread rise and beer fizz—to learn how life adapts to extreme heat. In a study published in *Molecular Biology and Evolution*, biologist Justin Fay and colleagues compared two related yeast species to understand why one tolerates heat better than the other.

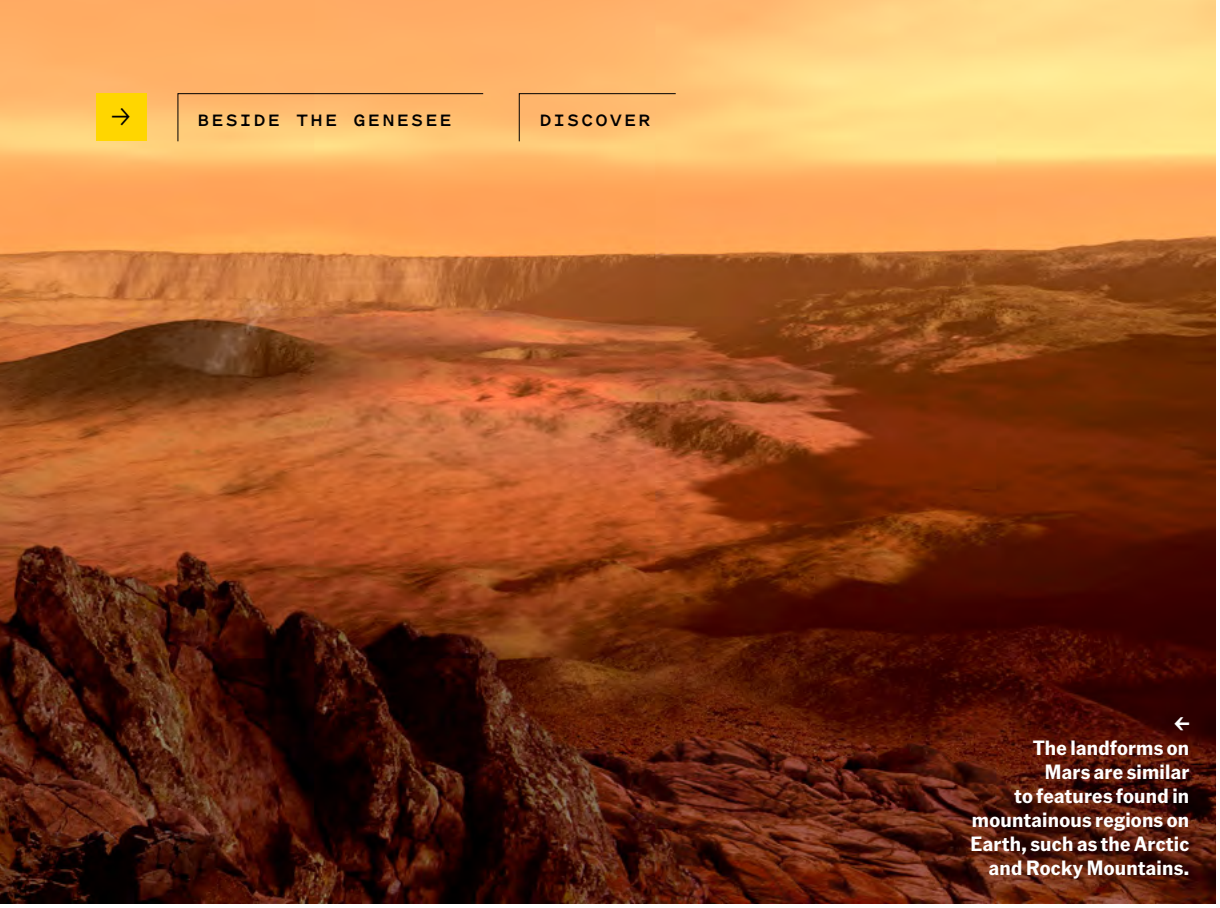
Proteins—the molecules responsible for most of a cell's essential tasks—are especially sensitive to heat. If they lose their shape, cells can fail. The researchers found that in *Saccharomyces cerevisiae* (baker's or brewer's yeast), 85 percent of proteins were more heat stable than their counterparts in *Saccharomyces uvarum*.

But survival wasn't just about protein design; the cellular environment also mattered. In hybrid yeast, even heat-sensitive proteins functioned better when supported by molecules and "chaperone proteins" that help keep their shape under stress.

The findings suggest organisms can adapt not only by altering protein structure but also by reshaping their cellular environments. Backed by a nearly $1.8 million grant from the National Institutes of Health, Fay's team will continue mapping the genetic basis of heat survival, offering clues to how yeast—and perhaps other organisms—may withstand a warming world.

"We find that awe can actually strengthen parental well-being more broadly and holistically compared to pride, making parents' lives feel happier, more meaningful, and richer in experiences." **—PRINCETON CHEE '22, '27 (PhD), LEAD AUTHOR OF A RECENT STUDY ON THE UNIQUE EMOTIONAL REWARDS OF PARENTING ON WELL-BEING**

J. ADAM FENSTER (YEAST); ADOBE STOCK (ANTS); COURTESY OF PRINCETON CHEE (CHEE)



The landforms on Mars are similar to features found in mountainous regions on Earth, such as the Arctic and Rocky Mountains.

Chasing Waves

Surface patterns on Mars provide a window into its past.

BY LINDSEY VALICH

Despite its dry surface and thin atmosphere, Mars may have more in common with Earth than scientists once thought.

Researchers including PhD student JohnPaul Sleiman '23 (MS) and Rachel Glade, an assistant professor in the Department of Earth and Environmental Sciences, found that wave-shaped soil patterns on Mars closely resemble features called solifluction lobes, which form in cold, mountainous regions on Earth when the ground freezes and thaws, loosening soil so that it slowly creeps downhill. On Mars, the team suspects a similar process occurs but is driven by sublimation, where ice turns directly into vapor rather than melting into liquid water.

Using high-resolution satellite images, the researchers analyzed nine crater sites on Mars and discovered that the Martian lobes have the same geometric patterns as those on Earth but are, on average, 2.6 times taller. Glade attributes the difference to Mars's weaker gravity, which allows the lobes to grow higher before collapsing.

The findings provide insights into the physics of granular materials and suggest Mars once experienced freeze-thaw cycles resembling Earth's, revealing clues about its past climate, the role of water, and potential habitats for life.

"Understanding how these patterns form offers valuable insight into Mars's climate history," Sleiman says. "Ultimately, this research could help identify signs of past or present environments on other planets that may support or limit potential life."

Keeping Time

Does listening to your favorite podcast at 2x speed mean your brain also ends up working twice as fast? New research led by Sam Norman-Haignere at the Del Monte Institute for Neuroscience says no. Published in *Nature Neuroscience*, the study used electrode recordings from epilepsy patients' brains to reveal that the auditory cortex—the brain area responsible for processing and interpreting sounds—maintains a fixed pace, regardless of the rate at which words are spoken. The findings could help scientists better model how the brain turns sound into speech and to understand why language processing sometimes goes awry.

RON MILLER/STOCKTREK IMAGES (MARS); COURTESY OF SONYA MARIA HADRIGAN (HADRIGAN)

Abstracts

Sonya Maria Hadrigan is URochester's first associate vice president for research integrity, overseeing compliance with federal regulatory requirements related to research.

The new Rochester Quantum Network allows researchers at URochester and RIT to transmit data via single photons, paving the way for ultra-secure communication.

ADOBE STOCK (BAT)

Spreading Their Wings

According to biology professors Vera Gorbunova and Andrei Seluanov, several common bat species can live up to 35 years, or roughly 180 human years, without developing cancer due to three key biological traits:

- **P53 gene.** The little brown bat has two copies of this gene, with stronger activity than in humans. The powerful tumor suppressor eliminates cancer cells while avoiding excess cell loss.
- **Telomerase enzyme.** Bats naturally produce active telomerase, which supports cell regeneration and healthy aging. Their elevated p53 activity prevents telomerase from fueling uncontrollable cell growth.
- **An efficient immune system.** Bats' extremely efficient immune defenses destroy pathogens and cancer cells while limiting inflammation, guarding against viruses and age-related diseases.

Bundle of Energy

Laser-etched tungsten could give a big boost to solar power generation.

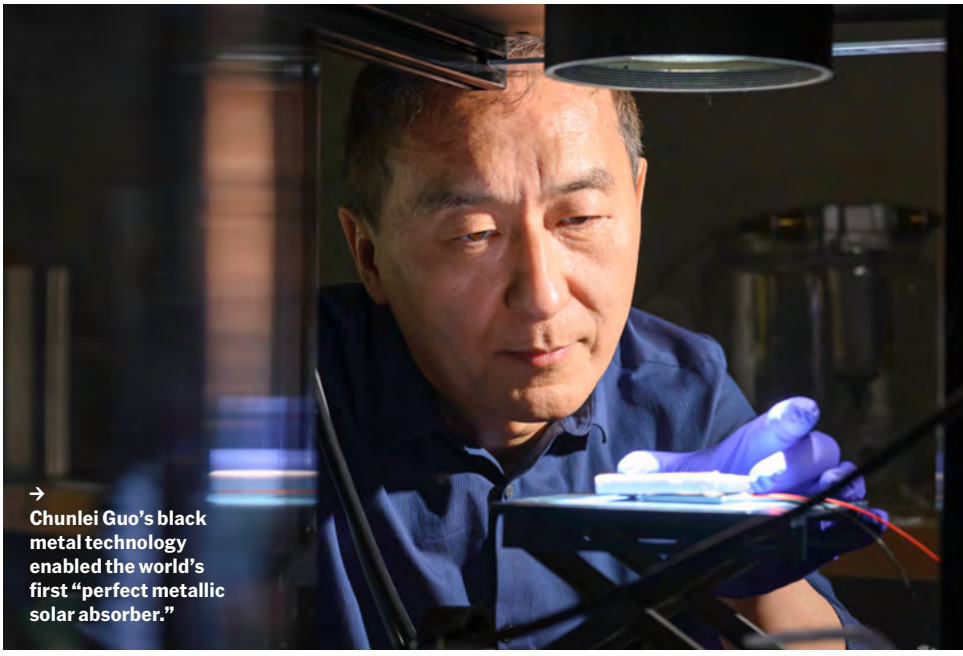
BY LUKE AUBURN

Optics professor Chunlei Guo and a team of researchers have developed a solar thermoelectric generator (STEG) 15 times more efficient than current devices.

Unlike traditional solar panels, STEGs can harness both sunlight and other forms of thermal energy. The devices have hot and cold sides with semiconductor materials in between. The difference in temperature between the sides generates electricity through a phenomenon called the Seebeck effect.

The researchers improved efficiency with three strategies: On the hot side, nanoscale laser etching transformed tungsten into a "black metal" that absorbs sunlight while minimizing heat loss; a plastic "mini greenhouse" trapped additional heat; and laser-structured aluminum on the cold side formed an enhanced heat sink, doubling cooling performance.

In demonstrations, the high-efficiency STEG powered LEDs much more effectively than conventional designs. Potential applications include off-grid energy systems, wearable devices, and wireless sensors for the Internet of Things.



→ **Chunlei Guo's black metal technology enabled the world's first "perfect metallic solar absorber."**

To improve drones and self-driving cars, a team of URochester engineers is developing energy-efficient AI hardware inspired by the human brain's visual system.

Backed by a $1.5 million Templeton grant, URochester scientists are exploring whether neurons can transmit light like fiber optics, potentially reshaping brain science.

A team including theoretical chemist Ignacio Franco discovered "the world's most electrically conductive organic molecule," a breakthrough for carbon-based computer chips.

A five-year NIH grant will allow the University to establish the Upstate NY Comparative Biology of Aging Nathan Shock Center to advance discoveries in longevity and aging.

PHOTOGRAPH BY J. ADAM FENSTER

Heal

Brenda Tesini

OPINION

This Pediatrician's Wish: For RSV to be a thing of the past. We're almost there.

BY BRENDA TESINI

Have you ever seen a baby struggle to breathe?

When they inhale, you hear a high-pitched squeal, and the skin between their tiny ribs and collarbones sinks inward. They grunt as they exhale. Their nostrils flare. They're lethargic and irritable. Sometimes, their lips turn blue.

It's a harrowing sight, even for a seasoned infectious disease physician like me, who has treated hundreds of such cases. For parents of infants in respiratory distress, it's terrifying.

The culprit in most of these scenes is respiratory syncytial virus, or RSV—a common seasonal infection that overwhelms pediatric wards across the US every fall and winter. The infection sends as many as 80,000 children under the age of five to the hospital each year and claims as many as 300 lives, according to the Centers for Disease Control and Prevention.

Last year, though, something extraordinary happened. As I donned a gown and gloves to visit a baby in the pediatric intensive care unit, I realized it was my first RSV case all week. Ordinarily during RSV season, I treat several children each day for weeks on end. Yet it was the middle of winter, and this little one was the only RSV patient in the unit.

What happened? Science intervened. In 2023, the Food and Drug Administration approved two preventive measures for RSV that were game changers. The first was a maternal vaccine, given to pregnant women in the third trimester to pass immunity to their newborns. The second was nirsevimab, a monoclonal antibody shot for infants under eight months who aren't protected by the vaccine and for certain high-risk babies entering their second RSV season.

The results have been dramatic. Within two years of introduction, RSV hospitalizations among infants under three months dropped by half nationwide. In New York, they declined by 70 percent last season.

That's no small success. Most people experience RSV as a mild cold, but for babies it can be deadly or leave lasting respiratory problems such as wheezing and asthma. Preventing even a fraction of these cases represents an enormous step forward in child health—and one that reminds me of another milestone in pediatric medicine.

When I was in training, older physicians described how, before the *Haemophilus influenzae* type b (HiB) vaccine, babies routinely came into the hospital with meningitis. Residents then performed spinal taps to diagnose the infection so often that the procedure was practically a rite of passage. By my time, the infection had become so rare that it was hard for residents to get experience performing the test.

That's my hope for RSV—that physicians in training today will speak of it only as a thing of the past.

We are close. In addition to the maternal vaccine and nirsevimab, a second monoclonal antibody, clesrovimab, has now received FDA approval and CDC recommendation. Nirsevimab itself has proven to be over 80 percent effective in preventing hospitalizations with no serious side effects. The challenge now is awareness. Families and clinicians must recognize that RSV is not just another cold and that these preventive options save lives.

"Families and clinicians must recognize that RSV is not just another cold and that these preventive options save lives."

By the end of last RSV season—the first when both products were widely available—just over half of all infants in the US had been protected through either maternal vaccination or antibody therapy. Full uptake could prevent an estimated 20,000 hospitalizations this season alone.

The science that made this possible didn't appear overnight. It represents decades of research at the University of Rochester and other institutions committed to understanding and combating respiratory viruses. Together, we've delivered solutions for the primary reason babies are hospitalized.

We can put RSV behind us by following the recommendations of the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics that pregnant women and babies get the vaccine and antibody therapy.

The economic benefits of keeping babies out of the hospital are nothing to sneeze at, either. Studies estimate the medical costs of hospitalizations for RSV to be more than $750 million each year. For me, the financial incentive is just a bonus. My prize would be never again having to watch a baby struggle to breathe.

Brenda Tesini is an associate professor of pediatrics and a pediatric infectious disease physician who treats patients at Golisano Children's Hospital.

ILLUSTRATION BY SAM KERR

A Revolution in Care

Two years ago, the Medical Center opened the nation's first clinic to weave ketamine-assisted psychotherapy into palliative care—and it's already transforming the lives of those with advanced cancer, heart failure, neurological disease, and other serious illnesses. At the Pal-KAP clinic, more than 20 patients have embarked on a three-phase journey that blends ketamine's mind-opening effects with expert therapeutic support. The results are striking. Participants describe a newfound peace with death, a release from fear and anxiety, and even a sense of self beyond pain and suffering. Backed by a $1 million philanthropic seed gift split between patient care and research, the program is now cataloging ketamine-assisted psychotherapy practices as well as training more clinicians—laying the groundwork for a future where psychospiritual distress is treated with the same seriousness as physical pain.

1,000

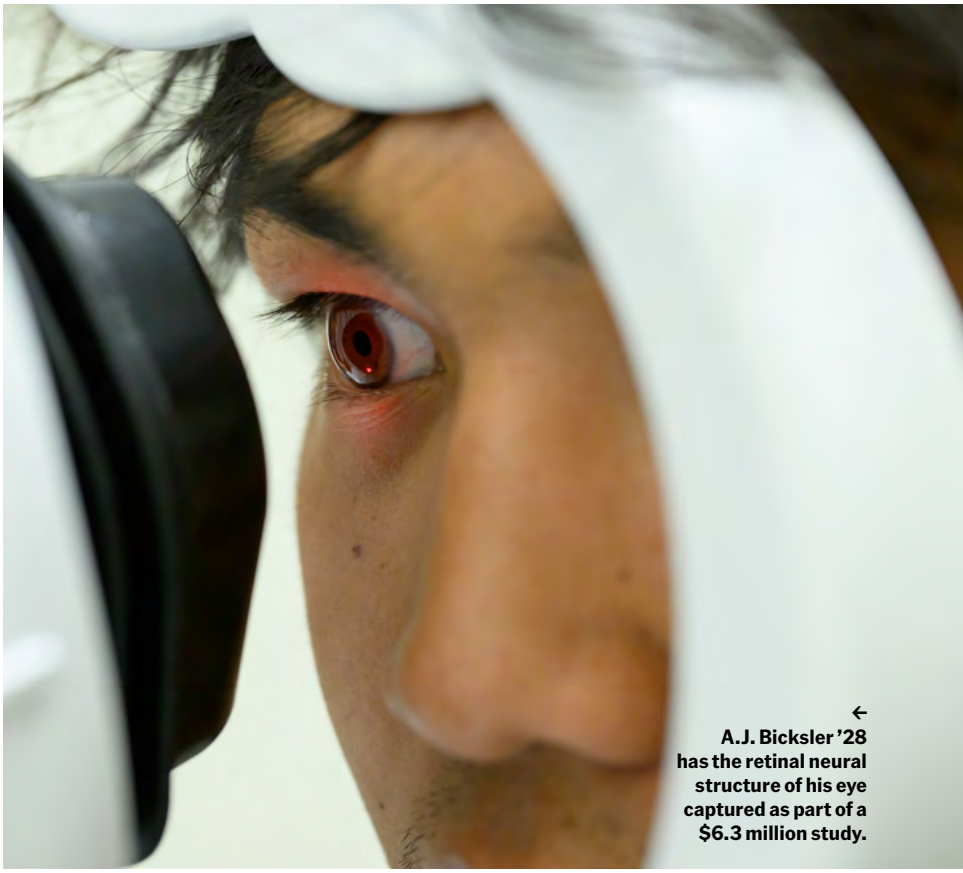
The Medical Center has implanted its thousandth heart pump—also known as a left ventricular assist device—making it one of only a handful of elite programs in the US to reach this milestone.

Head in the Game

Study aims to redefine how head hits are detected and treated.

BY KELSIE SMITH HAYDUK

From the sidelines to the front lines, URochester researchers—including Jeffrey Bazarian, '87M (MD), '90M (Res), '02 (MPH), a professor of emergency medicine and of neurology—are transforming what we know about how small repetitive hits to the head affect long-term brain health. When a person's occupation or activity exposes them to repeated head hits, they can experience subtle declines in neurologic function, such as balance, eye movements, and rapid decision-making. Collaborating with student-athletes, military personnel, and researchers, Bazarian and his colleagues aim to detect and mitigate the acute effects of exposure to these repeated hits on the brain in the hopes that they can lower the longer-term risk of neurodegeneration.



← **A.J. Bicksler '28 has the retinal neural structure of his eye captured as part of a $6.3 million study.**

"Hope doesn't follow the rules of rational medical thinking. Yet there is a place for it in medical decision-making." **—PEDIATRICS PROFESSOR DAVID KORONES ON CARING FOR 17-YEAR-OLD ZOHA IN "THE LAST DOSE," PUBLISHED IN *THE NEW ENGLAND JOURNAL OF MEDICINE***

PHOTOGRAPH BY J. ADAM FENSTER

Create

Jazz trumpeter Terence Blanchard composed the scores for several Spike Lee projects, including *Malcolm X.*

Lights, Camera, Music

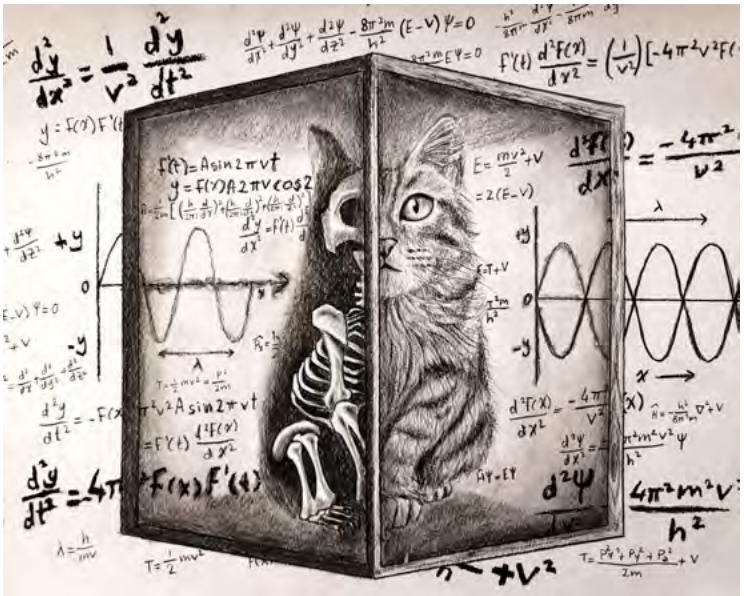
Soundtrax Film Music Festival marks its global premiere.

BY LAUREN SAGEER

Film, music, and technology converged in October as the Eastman School of Music and Hajim School of Engineering & Applied Sciences presented the inaugural Soundtrax Film Music Festival. The first festival of its kind in North America, the three-day event celebrated the art and science of sound in visual culture. Highlights included *Film Scores Live!*, featuring Terence Blanchard and Gateways Festival Orchestra, and a screening of *The Red Violin* conducted by Jeff Beal '85E. Audiences also experienced the American premiere of *John Williams Reimagined* and a performance by *Interstellar* organist Roger Sayer. Daytime panels and workshops brought together composers, scholars, and enthusiasts to explore topics from immersive audio to music for animation. By blending Eastman's musical artistry with the Hajim School's strengths in optics, imaging, and acoustics, Soundtrax established itself as a new hub for innovation in cinematic sound.

Top Cat

The winner of this year's Ed and Barbara Hajim Art of Science competition is mechanical engineering student Abdulwahab Sayes '26 for his charcoal and chalk drawing *Edge of Existence: Schrödinger's Cat*. Inspired by Edwin Schrödinger's famous quantum-mechanical thought experiment, the piece also claimed the 2025 People's Choice Award.



COURTESY OF TERENCE BLANCHARD (SOUNDTRAX); ABDULWAHAB SAYES (ART OF SCIENCE)

FACULTY WORKS

Shelf Life

The latest books and recordings from our esteemed educators.

BY TAMA MIYAKE LUNG

Across the Horizon
Professor of Guitar Nicholas Goluses's 10th album—recorded entirely at Eastman—features a rich collection of mostly solo works by 20th- and 21st-century composers from around the globe, including Bill Dobbins, a professor emeritus of jazz studies and contemporary media at Eastman. (PARMA Recordings)

Local Color: Reckoning with Blackness in the Port City of Veracruz
Assistant Professor of Black Studies Karma Frierson examines how Veracruzanos both internalize and externalize the centrality of Blackness in a place where it is an integral and celebrated part of local culture and history, but not of the individual self. (University of California Press)

New Story of the Stone
Liz Evans Weber, an assistant professor of instruction in Chinese who teaches Chinese literature, presents a full English translation of one of China's first works of science fiction, written by late Qing author Wu Jianren. (Columbia University Press)

Putting Plastic Surgery on Paper: How Art and Archives Defined Second World War Reconstructive Surgery in Britain
Assistant Professor of Health Humanities and Bioethics Christine Slobogin shows the key role that drawings and photographs had in shaping the material, professional, emotional, and aesthetic parameters of plastic surgery. (University of Rochester Press/Boydell & Brewer)

A Romantic Symphony: The Autobiography of Howard Hanson
Compiled and edited by Eastman School historian and Professor Emeritus of Piano Vincent Lenti '60E, '62E (MA) from manuscript sources, the book provides valuable insight into the life and work of an important American composer, conductor, and educator. (Meliora Press)

The Sewards of New York: A Biography of a Leading American Political Family
The Arthur R. Miller Professor Emeritus of History Thomas P. Slaughter unveils the inner lives of one of the most important political families of the 19th century. The book, centered on William Henry Seward, draws from recently discovered correspondence as well as research by generations of URochester students. (Three Hills)

Steering the Senate: The Emergence of Party Organization and Leadership, 1789–2024
Shedding new light on the invention of Senate floor leadership, Professor of Political Science and of History Gerald Gamm has coauthored the first-ever study to examine the development of the chamber's main governing institutions. This includes how the position of floor leader was invented in 1890 and strengthened over time. (Cambridge University Press)

Understanding Time and Space
Subtitled "an invitation to the theory of relativity for anyone who is now, or has ever been, an inquisitive high school student," economics professor Steven Landsburg's latest book illuminates and demystifies the theory through repeated analogies with familiar everyday experience. (World Scientific)

MUSIC CD BY ARIYANTO DENI FROM NOUN PROJECT

Compete

GOOD SPORT

En Garde

Jackie Hsiao '27 fences her way to the Junior Olympics.

BY JIM MANDELARO

Jackie Hsiao '27 took a stab at fencing during a summer camp before she entered eighth grade. She hated it. "It was hot and sweaty, and I didn't know what I was doing," the Milford, Connecticut, native says. "All the kids were beating me."

Reluctantly, she stuck with the sport when school started that fall. Her older brother, Timothy, was on the school team, so Jackie joined to make car pickup easier for her parents. "The environment was so much better than at camp," she recalls. "The team became my family, and I fell in love with the sport."

Fencing is a combat sport featuring sword fighting, where competitors try to score points by landing their sword on the opponent's "target area." It requires patience, balance, mental toughness, and physical stamina.

Hsiao (pronounced like the first syllable of "shower") says her skills improved greatly thanks to the coaches at Hopkins School, a college preparatory school in New Haven, Connecticut, and a personal coach. She improved so much that this past February, she was invited to compete at the Fencing Junior Olympics in Charlotte, North Carolina. While she didn't approach the winner's circle, it was a major accomplishment for someone whose sporting career was nearly derailed toward the end of her senior year of high school.

Hsiao was leading her opponent by one point in the waning seconds of a state championship match, and the opponent was desperate. "Her coach told her to charge at me, and I tried to back up defensively," she says. "I planted my right knee at the wrong angle and tore my ACL (anterior cruciate ligament)."

Hsiao won the match but lost nearly a year of competitive fencing. By the time she was cleared to compete, she was a first-year student at URochester, where she majors in anthropology and takes vocal lessons at Eastman. She joined the fencing club, attended practices, and eventually competed for the team. Last spring, Hsiao was elected club president and led a full men's and women's team to the United States Association of Collegiate Fencing Clubs Championships in State College, Pennsylvania—a first for the organization.

Hsiao is a student of the game. Her mother records all of her matches so that she can watch them and learn from her mistakes. She's interested in a career in medical law and believes fencing offers life lessons that have prepared her for the arduous journey ahead. "In fencing, you've got to be ready for anything, because every opponent has a different style and mentality."

While at the Junior Olympics, she met two fencing idols: three-time Olympic women's foil gold medalist Lee Kiefer and college All-American Maia Chamberlain of Princeton University. This summer, Hsiao competed at the Summer Nationals in Milwaukee, Wisconsin. Again, she didn't chase gold, but the experience whetted her appetite for the future.

"Persistence is the key, and losing is one of the best ways to learn," she says. "My goal is to earn a rating from the United States Fencing Association. To do that, I'll need to achieve victories in their competitions. I've set my mind to it." *Allez!*

PHOTOGRAPH BY J. ADAM FENSTER

Off to the Races

URochester's Baja Society of Automotive Engineers team hit the track twice this calendar year, taking their student-built, single-seater off-road vehicle to Arizona and South Carolina. In Marana, Arizona, they placed 14th in acceleration, 17th in design, and 28th in endurance against 68 teams. Months later, at the 50th Baja SAE Carolina competition, they showed marked improvement—finishing 14th in design, 14th in hill climb, and 22nd in endurance among 65 teams.

→ **The Baja SAE team, shown here in Arizona, built this single-seater off-road vehicle in just 15 weeks.**

Grand Slam

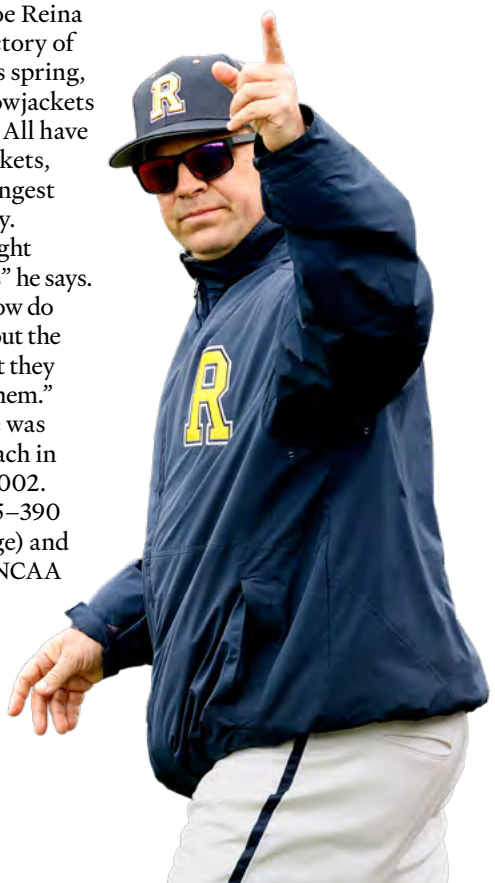
Joe Reina wins 500th game as URochester's varsity baseball coach.

BY JIM MANDELARO

Varsity baseball coach Joe Reina celebrated the 500th victory of his illustrious career this spring, at a game when the Yellowjackets beat Union College 6–3. All have come with the Yellowjackets, making Reina the winningest coach in program history.

"I've really never thought about the amount of wins" he says. "I've always focused on how do we win *this* game? It's about the student-athletes and what they mean to me. I love all of them."

The Rochester native was named the 18th head coach in URochester history in 2002. His teams have gone 505–390 (.564 winning percentage) and made three trips to the NCAA Division III Tournament. Two of his players have been selected in the Major League Baseball draft—pitchers John Ghyzel '24 and Nolan Sparks '24. Ghyzel was drafted after the 2017 season and pitched professionally through 2021. He earned his bachelor's degree from URochester in 2024.



→ **Joe Reina was a star shortstop in high school, earning a full Division I scholarship to Long Island University.**

"All of that success has been great," Reina says. "But what I'll remember most are the bus conversations, phone calls, and texts with players and watching these young men grow into leaders in the workforce and become great husbands and dads."

Reina's milestone win came in the same game that infielder Jackson Reed '24, '25S (MS) broke a team record by collecting his 202nd career hit. The California native played five seasons under Reina and finished with 221 hits. "Having Jackson accomplish that feat made the day truly special," Reina says. "It's been great watching him turn into the player he is."

When the milestone game ended, Reina congratulated Reed and flipped him the game ball. Reed caught it, then reached into his back pocket and pulled out another ball. He handed it to his mentor and said, "Right back at you, Coach! Congrats on win number 500!"

Reina says he has no plans to retire any time soon. "I love meeting families during the recruiting process, I love practice time and watching the kids get better, and I stink at golf. I love this school, and I love my boss (athletic director George VanderZwaag). So, as they say, 'If you love what you do, you'll never work a day in your life!' As long as that holds true, I'll keep trying to win the next game."

COURTESY OF UR BAJA SAE (BAJA SAE); ATHLETICS AND RECREATION (REINA)

Celebrate

Driver's Seat

Chris Boehning '87, '88 (MS) begins his first term as chair of the Board of Trustees.

BY SARA MILLER

URochester's governing body has elected a new chair to succeed Rich Handler '83, who completed his fourth and final term on the board in September. Chris Boehning '87, '88 (MS), who has served as a University trustee since 2017, aims to build on Handler's legacy "with the same integrity, dedication, and Meliora spirit to help enable our great university to reach new heights." As a partner at the law firm of Paul, Weiss, Rifkind, Wharton & Garrison LLP in New York City, Boehning represents clients in a variety of complex commercial and civil litigation matters; criminal, civil, and other regulatory inquiries; and international arbitrations. He is also a driving force behind Paul, Weiss's sports practice, while maintaining a robust pro bono practice with a particular focus on gun violence prevention. Boehning earned a bachelor's degree in political science and a master's degree in public policy analysis and was a standout member of URochester's men's varsity soccer team.

→ **The new chair established the Boehning Varsity House in 2017.**

100 Years of Excellence

The School of Medicine & Dentistry celebrated its 100th class in August with the 20th annual Dr. Robert L. & Lillian H. Brent White Coat Ceremony, officially marking the start of medical training for 104 students from across the US and beyond. That same month, 80 students from the School of Nursing's undergraduate programs crossed the stage at their pinning ceremony—bringing the total number of nursing school alumni to 10,000. The two ceremonies were just the latest in a century of defining moments for the University of Rochester Medical Center, which welcomed its first students in September 1925 and its first patients at Strong Memorial Hospital in January 1926.

J. ADAM FENSTER (WHITE COAT CEREMONY); JOHN SCHLIA (PINNING CEREMONY)

Kudos

Assistant Professor Wyatte Hall, who studies the influence of early childhood language experiences in deaf communities, was named to *Forbes*' inaugural Accessibility 100 list.

Ellie Prager, an assistant professor of economics at Simon Business School, won this year's CRESSE Best Young Researcher Paper Award for a piece she coauthored on collusion.

The Warner School's interim dean, Melissa Sturge-Apple, has been named a fellow of the American Psychological Association, the leading scientific and professional organization in its field.

PHOTOGRAPH BY J. ADAM FENSTER

Ever Connected

FLASHBACK

Peace of Mind

In a scene captured for the 1972 *Interpres*—the student yearbook from 1858 to 2015—two students snuggle up on the lawn between Morey and Lattimore Halls. Behind them is Morey Annex, a temporary building that was completed in 1962 and demolished in 1977, and which served as the inaugural home for the Center for Brain Research.

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Class Notes

'50s

Harold Schiffrin '52 died in July 2024, "just shy of his 102nd birthday," writes his daughter, Meira, and had "enjoyed reading *Rochester Review* till his last few weeks. [He] was very proud that he started his academic studies at Rochester (in his hometown). He continued his studies and had a very distinguished academic career."

Frank Tooze '53M (MD), '64 (Res) turned 100 in June! He served in WWII as an officer aboard the USS *Biscayne* while it was the flagship of the armada that participated in the Battle of Iwo Jima and at the Battle of Okinawa. Frank was the first board-certified plastic surgeon in Erie, Pennsylvania. While in Erie, he served as a staff liaison at Hamot Hospital, the same hospital where he had been born. He served as president of the Ohio Valley Plastic Surgery Society and of the Robert H. Ivy Pennsylvania Plastic Surgery Society and chaired the American Society of Plastic Surgeons' Ethics Committee. Frank also helped train future surgeons and served aboard the hospital ship SS *Hope* in Recife, Brazil.

Joan Coombs McKinley '57 writes that she and her husband, **Harry** '58, have a "great-grandson, Peter David, who turned one year old in January. Peter's dad, our grandson **Robert** '13, is a UR graduate and a science teacher in Portsmouth, Rhode Island. Our son **Philip** '84 is also a UR grad, as is his son, **Alex** '19." Joan remarks, "We seem to have started something here."

Thomas Rickert '58 writes, "Currently retired, I continue as guest editor of *Inclusive Transportation Around the World* (the Centre for Accessibility in Built Environment Foundation), an international newsletter published by an agency in New Delhi, India. Prior to my retirement in 2022, I served for 32 years as founder and executive director of Access Exchange International (AEI), an agency that promoted inclusive public transportation for persons with disabilities and other vulnerable groups in less wealthy countries. This work included presentations in 25 countries and publication by AEI of a range of guides in the field of accessible transport, plus guides on Bus Rapid Transit access and driver training published by the World Bank."

'60s

Michael Blumenfield '60 writes, "My wife, Susan, and I are enjoying our life near children and grandchildren in Los Angeles, where I have a part-time private practice of psychiatry."

Margaret Brown Carey '61 died last December. Her husband, Michael, mailed a copy of her obituary from the *Anchorage Daily News*, which can be read at bit.ly/442Wlsp. Michael writes, "I thought you would like to see what [this] Rochester sorority girl did with her life."

Retired physician **Ronald Karpick** '61 writes that three URochester 1961 graduates attended their 60th Yale medical school reunion in New Haven: **Carl Hunt** '61, **Carl Ellenberger** '61, and Ron. They were among the 12 Yale School of Medicine Class of 1965 graduates who returned for their medical school reunion weekend in May 2025.

Ronald Karpick '61 and friends at Yale

Gilbert Simon '62M (MD) died in January, writes his daughter **Lesley Simon** '83. She notes that he had five children and 10 grandchildren.

John Canning '63 died in February, reports **Linda Lewis Jaslow** '65, his former wife. She writes that John was "president of Delta Upsilon fraternity and captain of the basketball team."

Susan Happy Duda '63 died in January. "She was Susan Happy when she attended U of R, where she met my father, **John Duda** '70 (PhD)," writes her daughter Kathleen Washy. "She loved her time at U of R. In 2021, I did an oral history interview of her" about her experience as a Rochester student, a copy of which was donated to the University's archives. The family also donated Susan's freshman beanie and pin.

Svend Bruun '65M (MD) died in May, writes his son **Steve Bruun** '90. "Through my parents, UR has been part of my life since the beginning—my parents met [in Rochester] in 1965. I attended UR in the late 1980s and met my wife there, and our daughter graduated from UR in 2021. Thank you for being there throughout our story." Svend practiced medicine in the Fitchburg, Massachusetts, area from 1972 until his retirement in 2011.

Philip Morse '65, '73W (EdD) died in March, writes his daughter Julie. After attending Cornell for law school, Philip received a master's degree in English education from the State University of New York at Buffalo. For three years he taught high school English at Greece Olympia High School in Rochester and then returned to the University, where he received a doctorate in curriculum and instruction from the Warner School.

Phil Altus '67 writes, "**Mark Solomons** '67 and I joined our AEPi brothers **Alan Goldstein** '68, **Billy Goldstein** '68, **Matt Jacobs** '68, **Steve Skalet** '68, and **Ron Zeiger** '68 on a three-day cruise. Our group has been having Monday Zoom calls since Covid and had a great 'Face-to-Face' time." Phil adds that "any of our other 'Brothers' should feel free to join us on Zoom."

John "Jack" Hurley '67 remembers classmate, fraternity brother, and basketball teammate **Michael Werner** '67, who died in March: "Mike was the backbone of the successful Yellowjacket basketball teams of the mid-'60s. As a 6′7″ center, Mike set school rebounding records and 'hard picks,' enabling his teammates to score. In Mike's senior year, the U of R played in the NCAA tournament, winning one game and losing one game. After graduation, Mike attended Washington University School of Law in St. Louis. He practiced law in New Jersey until his retirement. Mike always had a good story to tell and a good laugh at life's quirks. Seeing adventure everywhere, he embraced it enthusiastically."

Diane Gillman Charney '68 reminds us that when she retired after 33 years of teaching at Yale, she wrote to the male authors she admires, both living and dead, and published the collection as *Letters to Men of Letters* (Ology Books). In *Letters to Men and Women of Letters* (Bloomsbury), Diane has fulfilled her dream to add letters to women writers: Colette, Edith Wharton, George Eliot, and contemporary authors Ann Patchett, Margaret Renkl, Susan Cain, and Donna Leon, among others.

Ken Steadman '68M (Res) died in May, writes his daughter-in-law Mimi Steadman. "He was an ob-gyn medical resident at Strong. His daughter, **Sharon Steadman** '92, '94 (MS), completed her bachelor's and master's at the U of R. His brother, **Stephen Steadman** '64, is a U of R alum, as was his late mother, **Elizabeth Genung Steadman** '27. Finally," adds Mimi, "his late father, Luville Steadman, was a member of the physics department and worked on the Manhattan Project." Ken was recognized by the University with a Medical Associates award, and, in 2024, the Steadman family received the University's John N. Wilder Alumni Award.

William Torch '68M (MS), '68M (MD) says he is "writing a historical review to be published

Abbreviations Your Class Notes cheat sheet **E:** Eastman School of Music **M:** School of Medicine & Dentistry **N:** School of Nursing **S:** Simon Business School **W:** Warner School of Education **Dpl:** Diploma **Flw:** Postdoctoral fellowship **Pdc:** Postdoctoral certificate **Res:** Medical Center residency

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and/or presented regarding 'A Grand Theory' of neurodegeneration in the limbic system as a general cause of a general syndrome of dementia and neuropsychiatric disturbance leading to Alzheimer's-like dementias in a variety of conditions (stroke, viral diseases, traumatic brain injury—including sports and blast injury) and metabolic, environmental, and genetic disorders in humans and animals." He's also writing a book on "the universal needs, best interests, and rights of all children."

John Martin '69 has published *Salt Train* (BookBaby), a book of poems that, he writes, "are notes from the soul's hunt for itself on a meander from the New York City subway to a North Beach bar to the confluence of the Mississippi and Missouri to the streets of Belfast, Frankfurt, and Hong Kong."

Richard Pugach '69 died in February 2025, writes his widow, **Leslie Kardon Pugach** '69. "He was a member of the local fraternity Beta Delta Gamma. I was a member of the local sorority Theta Eta. We met at the MDC (Men's Dining Center) in October 1965, in our freshman year, so we knew each other for more than 59 years. We married two weeks after our June 1969 graduation."

'70s

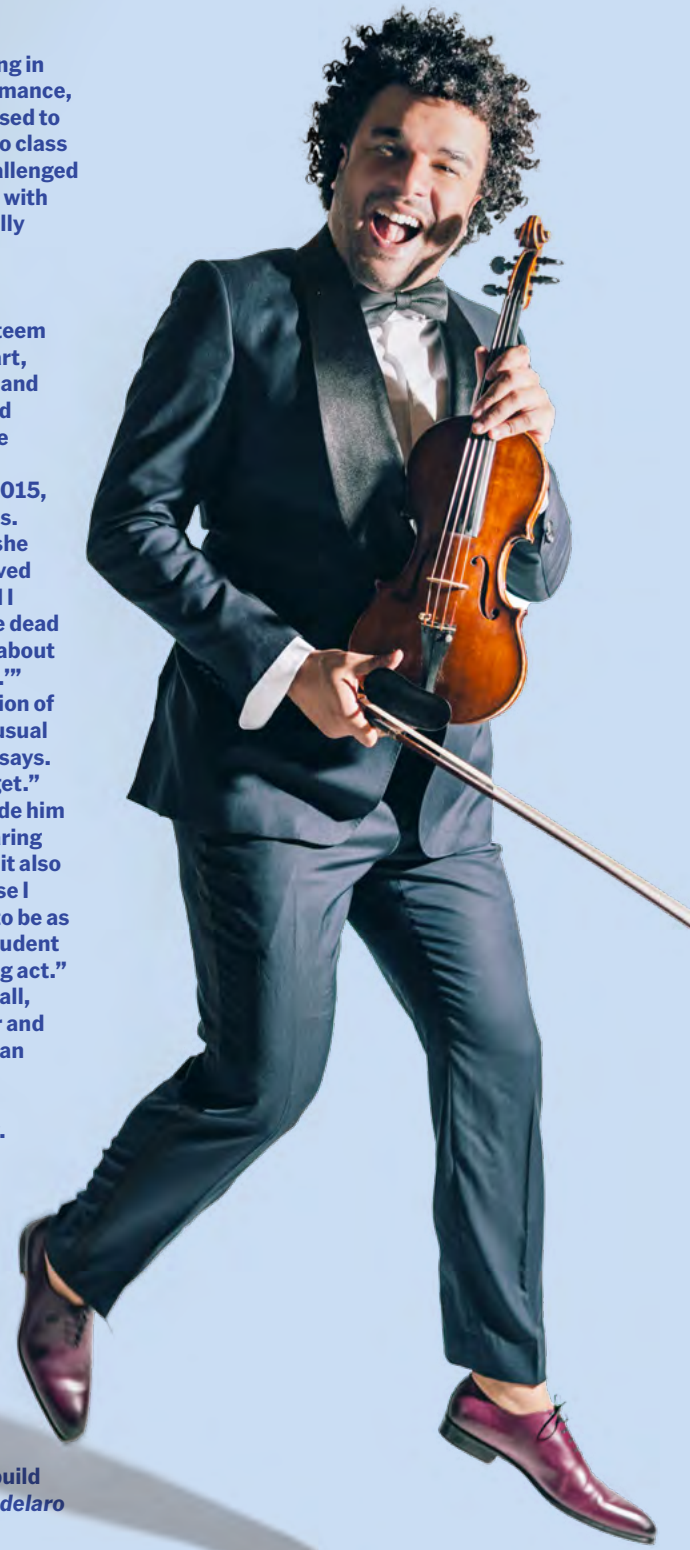
Humorist **Robert Skoglund** '70 (MA) died in November 2024 at age 88, writes his wife, Marsha. "I wanted to let you know that Robert died peacefully at home after six months of hospice care. He was a man who lived and died on his own terms and will be greatly missed by family, friends, neighbors, Facebook followers, radio listeners, B&B guests, and all the many others whose lives he touched." Adds Marsha, "He loved his time at and took pride as a student at the University of Rochester." Robert, a.k.a. "The humble Farmer of St. George," hosted a radio show on Maine Public Radio for 28 years. Before he died, Robert parodied his own obituary in a video that can be seen at bit.ly/4mLDDx3.

Frank Mamat '71, an attorney with more than 50 years of experience in labor and employment law, has been elected to serve a two-year term as a member of the council for the labor and employment law section of the State Bar of Michigan. Frank joined Plunkett Cooney, one of the Midwest's oldest law firms, in 2024 and has been named to the Best Lawyers in America list for 2025.

THE CLASS THAT CHANGED ME

Pulling Strings

Grammy nominee Curtis Stewart '08, '08E recalls the violin lessons at Eastman that at once terrified and inspired him



TITILAYO AYANGADE

As a dual degree student majoring in mathematics and violin performance, Curtis Stewart '08, '08E was used to challenging coursework. But no class at URochester impacted or challenged him more than his weekly violin lessons with the late Lynn Blakeslee, an internationally acclaimed soloist and violin professor at Eastman.

"Each week, you're one-on-one with this luminary violinist, and your self-esteem rides on her mood that day," says Stewart, a six-time Grammy-nominated violinist and composer and a professor at the Juilliard School in New York. "My hands would be trembling before every session."

Stewart says Blakeslee, who died in 2015, wasn't shy about expressing her feelings. "If she didn't like it, she told you. But if she loved it, she'd get very excited. She thrived on improvisation. One time, I suggested I couldn't be that creative. She looked me dead in the eye and said, 'Don't ever say that about yourself. You can do whatever you want.'"

Soon after, Stewart performed a version of an Astor Piazzolla tango instead of the usual classical piece. "Blakeslee loved it," he says. "It was the most excited I ever saw her get."

Stewart says the weekly sessions made him a better musician and teacher. "The searing feedback made me practice harder, but it also sometimes made me play worse, because I was so afraid. In my own teaching, I try to be as honest as I can while making sure the student doesn't want to run away. It's a balancing act."

Stewart has performed at Carnegie Hall, Lincoln Center, and the Kennedy Center and serves as artistic director of the American Composers Orchestra. He was also the featured speaker—and a performer—at Eastman's graduation ceremony in May. "Talk about surreal," he says. "I was playing at convocation, and all of my old teachers were sitting behind me."

His message to graduates mirrored Blakeslee's advice years before: Never sell yourself short. "I applied to so many things in college," he says, "and didn't get a lot of them. But that didn't define me. I feel like my career is meaningful. No matter what you feel [now], your future is in front of you. You came from a great school, and you can build a meaningful career as well." *—Jim Mandelaro*

BUZZWORTHY

Victory Lap

The Athletic Hall of Fame's newest members reflect on the spoils of their collegiate sporting careers.

The University of Rochester Athletic Hall of Fame welcomed six former student-athletes into its ranks over Meliora Weekend, recognizing their outstanding achievements in everything from tennis to track and field. "This class represents the very best of who we are and strive to be," says Terry Gurnett '77, associate director of athletics and director of the Hall of Fame committee. We talk to the new class about what they remember fondly and what shaped them during their time at URochester—and beyond. *—Jim Mandelaro*

Joanna Toke Brougher '04

The first women's tennis player to make the Hall of Fame, Brougher was a three-time Intercollegiate Tennis Association All-American and reached the singles final at the 2001 NCAA Division III championships. She's the owner and founder of BioPharma Law Group and lives in Fairport, New York.

"It's the in-between moments that have stuck with me. Traveling to new places with the team, sharing late-night conversations that had nothing to do with tennis, and supporting each other through highs and lows. Those experiences taught me the importance of connection, empathy, and being present for the people around me. They've shaped how I approach relationships, how I lead, and how I build community in personal and professional settings."

Andrew Evans '98

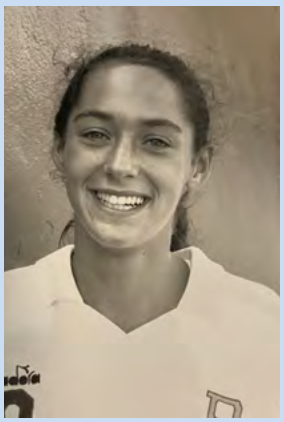
One of the most successful distance runners in URochester's history, the two-time All-American was an 11-time New York state champion in track and field and a standout cross-country runner. He lives in Barrington, Rhode Island, and is the codirector of the orthopedic trauma service at Brown University's Rhode Island Hospital and quality director for the Department of Orthopedics.

"Competing as a varsity athlete formed a huge part of my identity and helped develop the discipline, perseverance, and performance-level execution skills that shaped my personal and professional life. Early morning practices, double workouts, and running 80 to 100 miles per week—all while managing a demanding course load—taught me to be 'comfortable with being uncomfortable.' These skills prepared me for my professional role at Southern New England's busiest Level-1 trauma center. They've helped me to be the best friend, father, and husband that I can be to those who matter most in my life—my friends and family."

Susan Johnson '07

The only two-time All-American in women's volleyball at URochester, Johnson was New York state's Co-Offensive Player of the Year in 2006. The Yellowjackets won 98 matches in four seasons with her in the lineup, winning at least 23 in every season. She works for the federal government and lives in Vienna, Virginia.

"The work ethic that being a college student-athlete requires cannot be duplicated and has consistently set me up for success in my career and family life. Having hardworking and fun people around you is almost as important as talent and competence. We always had tight teams, and because of that, we were successful."



Jodie Lippman '98

The premier defender helped guide the Yellowjackets to one of the best seasons in team history in 1997. URochester qualified for the NCAA Division III Tournament three times, with Lippman anchoring the back line. She is now a pelvic floor physical therapist for Indigo Wellness and lives in Larchmont, New York.

"From my first practice, I felt the awe of belonging to something bigger than myself. As a team, we worked hard, we held each other accountable, and we built a family. My closest friends from college were all fellow athletes. Those relationships have carried me through some of the hardest moments in life. Playing on a team at Rochester showed me how to lead with integrity and follow with trust, and it taught me to push beyond limits I didn't know I could cross."

Six individuals with URochester ties are part of the first full class of the Richard A. Rasmussen University Athletic Association Hall of Fame: Josefa Benzoni ’88, ’92W (MA); Chris Fite ’92; Terry Gurnett ’77; Nate Micklos ’06, ’09S (MBA); Nick Palladino ’14; and President Emeritus G. Dennis O’Brien, one of the UAA’s founding administrators. The Hall of Fame is named after longtime UAA executive director Dick Rasmussen ’72, ’79W (MS), ’97W (EdD).

Gabe Perez ’05

A four-year starter and team captain on the winningest class in URochester men’s basketball history, Perez guided the Yellowjackets to a 97–17 record. The point guard ranks sixth all-time in assists (448) and fifth in steals (141). He lives in Austin, Texas, and is president of DimeTech, a tech consultancy he started five years ago, and vice president of Hydra Host, a software development and cloud infrastructure company.

“Some of the most meaningful memories I carry from my college athletic career aren’t tied to championships or stats but the in-between moments: early morning practices when it was freezing cold, just us and the silence of the gym. Bus rides after tough losses when we leaned on each other, cracked jokes, and reminded ourselves why we played in the first place. I miss the inside jokes, the pregame rituals, the grind of the offseason, moments that taught me about commitment and resilience. Being part of the Rochester team taught me how to be part of something bigger than myself.”

Lance Ramer ’01, ’02 (T5)

The linebacker is URochester’s all-time leader in career sacks (29), tackles for loss (246), yards from sacks (215), and fumble recoveries (9). He’s a math teacher and advisor at Springside Chestnut Hill Academy and an assistant football coach at Neumann Goretti High School, both in Philadelphia, where he lives.

“I got into teaching and coaching immediately after graduating, and my connections with my Rochester coaches certainly had a positive impact on launching my career as an educator. The magic of being on a team at a school like Rochester is in the balance of being a student-athlete, where you can work on being elite in both arenas. I’ve continued to push my children and student-athletes to always put their best foot forward and live by one fact: How you do one thing is how you do everything.”

Deborah Watkins Moncrieff ’71, an assistant professor at the University of Memphis, writes that she “received a patent for a protocol to identify and treat a common auditory deficit,” and she is “commercializing a device to make it available universally.” Deborah has an MS in audiology and a PhD in cognition and neuroscience from the University of Texas at Dallas and has studied auditory processing disorders in children across diverse populations. She joined the University of Memphis School of Communication Sciences and Disorders in 2018.

Bruce Watson ’71, ’75 died in March at age 76, writes Mark Seguin, his spouse of 36 years. “Bruce grew up with an insatiable passion for learning, leading him to pursue degrees in both psychology and electrical engineering at the University of Rochester. His love for technology, media, and the science of the universe was evident in everything he did, from his career to his extensive collection of classical and modern music.”

Dennis Clements ’72M (MD), a professor emeritus of pediatrics at Duke University, sends an update. He writes that, while he was in the class of 1972, he attended 1973’s ceremony because he took a year out and spent it at the Uganda Cancer Institute. After doing his internship in pediatrics at Duke University, he spent two years in the US Air Force as a flight surgeon before returning to Duke and completing a fellowship in infectious diseases as well as an MPH and PhD in epidemiology at the University of North Carolina School of Public Health. Returning to Durham after conducting research in Melbourne, Australia, Clements joined the faculty of pediatric primary care and pediatric infectious diseases. “I established the Duke vaccine unit, and over eight years we did 25 vaccine trials. I then became interested in the business of medicine and was on the board of Duke Medical Center, interim chair of pediatrics, and CMO of the children’s hospital. I was also the division chief for primary care pediatrics for 22 years. In 2007, I took the position of senior advisor to the newly created Duke Global Health Institute and began teaching the capstone to the undergraduate global health major students and Innovation and Entrepreneurship in Global Health. I retired from pediatrics in 2019, but I was pulled out of mothballs in 2020 to be the interim director of the Global Health Institute for two and a half years. I finally retired from Global Health in June 2025 after more than 50 years at Duke.” Dennis also sends a photo from his last day teaching classes—in a tuxedo and top hat, of course.

Dennis Clements ’72M (MD)

Barry Lachman ’72M (Res) has received the 2025 Shalom Award from Temple Shalom of Dallas for his work with underserved and marginalized individuals and communities. Barry is a nationally recognized leader in healthcare with more than 50 years of experience providing care and advocacy for underserved populations. For 20 years, he served as the medical director for Parkland Community Health Plan. In his “spare time,” adds Barry, he serves as a leader of Dallas Area Interfaith, a nonpartisan, multiethnic group of religious congregations, schools, and CLHE nonprofits in the Dallas metropolitan area.

Amy Friedman Phillips ’73, a speech professor specializing in public speaking and speech communication, writes that she has been honored as an adjunct professor of the year at Broward College in Fort Lauderdale, Florida. She previously managed media platforms and produced events for the Art Institute of Fort Lauderdale, where she chaired the communication department.

Loren Ostrow ’73, ’74S (MBA) has opened an apartment community for ages 55+ LGBTQ active adults and their straight allies. Called Living Out, Palm Springs, it offers a safe, welcoming community with lifestyle options designed to meet immediate and ongoing needs. Loren, the CEO and president, has served on the Board of Directors for the Los Angeles LGBT Center for more than 25 years. He and his husband, Brian Newkirk, also endowed the Lorri L. Jean and Darrel Cummings LGBTQ Leadership Lecture series at the Paul J. Burgett Intercultural Center to bring to campus leaders who are spearheading influential LGBTQ programs across the country.

Bob Hogan '74M (MD), '77 (Res) has written a children's book, *How Clydesdales Saved Christmas: A New Santa Story* (self-published). "The story describes how a worried Santa, with major help from Mrs. Claus, overcomes climate change difficulties to make Christmas Eve deliveries," Bob writes. "Mighty magical power is provided by a team of iconic Clydesdale horses who have learned to fly."

Ross Petty '74S (MBA), a professor emeritus of marketing law at Babson College, has written *From Marking Products to Marketing Brands: A Legal Perspective on the History of Brand Marketing* (Palgrave Macmillan), a survey of brand marketing and its regulatory landscape.

Dave Smith '74 celebrates football and baseball coach **David "Archie" McNelis** '74, "whose impact on the world of sports, particularly at Thomas A. Edison High School [in Rochester], is nothing short of legendary." Archie was inducted into the Section IV Hall of Fame in May. Dave writes, "I wanted to send along a recent article on the amazing accomplishments of my classmate, teammate, roommate, and fraternity brother 'Archie' McNelis. Even though I have remained in fairly regular contact with Archie, I was deeply impressed with the details of his accomplishments over all these years. This can only further recognize another of his attributes, which is his humble demeanor. I am proud to know Archie and to have been and still be close in relationship with both him and his family. I believe the U of R will agree he has been an outstanding alumnus."

Jim Areno '75 writes that he became only the third umpire ever inducted into the Dutchess County Baseball Hall of Fame in the Poughkeepsie, New York, area. He has been umpiring baseball for high school, youth leagues, and men's leagues in his area for 42 years; girls' field hockey for 29; and girls' basketball for 19. In all three sports combined, Jim has officiated more than 4,000 games, including more than 200 postseason playoff games and state championships in baseball and field hockey. Jim has been president of the baseball umpires for 16 years and of the field hockey refs for seven years, during which time he has led his baseball umpires to fundraise college scholarships worth thousands of dollars for local youths. At the age of 71, Jim still officiates more than 100 games a year. He lives in Rhinebeck with his wife, Rhonda, and their rescue cats, Pumpkin and Bruce. Jim also divulges that his "corny jokes are just as bad as ever."

Phil Chrys '75 writes, "For more than 25 years, UR fraternity brothers of Theta Delta Chi have annually reunited for a week in Florida to golf and enjoy catching up." This year's gathering, celebrating St. Patrick's Day, included, from left: **Jim Hashim** '72, **Bill Hammond** '73, **Jim Juraska** '73, Phil, **Jim Sullivan** '74, **Jim Mazza** '73, **Bill Stefanski** '76, **John Wallace** '73, **Dave Santini** '76, **Len Champion** '73, and **Joe Zuniga** '80.

Bruce Pollock '75 writes, "Hello, fellow 1975 reunion classmates. After 50 years, I'm sure all of our paths are long and winding. My path certainly has been: a 23-year career with IBM followed by many years in various endeavors—now with Rochester Lifestyle Medicine Institute. Two marriages (still married); three children from the first marriage and one stepson from the second. Three grandchildren. I met both of my wives at the University of Rochester (it's a good story—ask me about it when we get together). Both my parents went to U of R; my son and his wife went to U of R—three generations of Pollock have been there. Dad passed 26 years ago (heart attack); Mom is still with us at 94 (G-d bless her). Still working part-time but recently became a snowbird in Florida (currently as I write this). Still an avid bicycle rider riding several times per week—mainly in the Rochester area but in sunny, warmer Florida for the winter.

Bruce Pollock '75

Survived prostate cancer. Adopted a whole-food, plant-based vegan diet seven years ago. Feeling healthier than I've ever been. Lots of ups and downs—lots of good times; some not so good. I'm grateful to still be here, still contributing what I can."

George Bernstein '76 shares that 17 years after attending URochester, he received a PhD in chemical engineering from North Carolina State University. While working on his degree, he wanted to consult internationally. He is happy to report that as a consultant working with pharmaceutical companies that got in trouble with the FDA, he traveled to China, India, Thailand, Taiwan, Germany, Austria, Canada, and Mexico as well as within the US. Taking a break from a project while in India, he was able to do some sightseeing there with his son Connor, who graduated from Georgetown University in 2016. George also writes that he and his wife, Jan Owens, hosted a mini-reunion in April at their home in North Carolina. Attending, from left, were **Stephen Elgert** '76; **Ken Burton** '76 and his wife, Kim; Jan; George; Barb Kessler; **Marjorie "Marjie" Shapiro** '76; **Dave Kessler**

BUZZWORTHY

Ready for Prime Time

As director of urologic oncology at the University of Colorado Cancer Center, Janet Kukreja '15M (MPH), '16M (Res) has treated hundreds of patients. In May, she was ready for "Prime Time." Kukreja removed a cancerous tumor from the bladder of National Football League Hall of Famer Deion "Prime Time" Sanders, head coach of the University of Colorado football team. Using advanced robotic surgery, which she learned during her residency at URochester, Kukreja removed the "very high risk" tumor and created a new bladder by stitching together a section of Sanders's small intestine. At a joint press conference in July, Sanders called Kukreja "such a blessing," adding, "I trusted and believed in her 100 percent." —*Jim Mandelaro*

Phil Chrys '75 and his Theta Delta Chi brothers reunite in Florida

AARON ONTIVEROZ/MEDIANEWS GROUP/THE DENVER POST VIA GETTY IMAGES

George Bernstein '76 and friends gather at his North Carolina home

'76; and Ben Griffin. Asked about a 49-year reunion instead of the upcoming 50th, Marjie said, "We're not getting any younger!"

Frank Pipp '76 writes, "What a year! I survived sepsis and made the NBA Milwaukee Bucks Grand Dancers Team at age 70. Can't wait for my next birthday."

Theater producer **Jane Dubin** '78, '79 (MS) wrote in April that she would be presenting a concert series of "The Village of Vale," a musical in development, in June at the Charles Wood Theatre in Glens Falls, New York, as part of the Adirondack Theatre Festival. In January, Jane produced the play *Still*, starring Melissa Gilbert (*Little House on the Prairie*) and Mark Moses (*Mad Men, Desperate Housewives, Homeland*), at the Sheen Center in Manhattan.

Joel Horwich '78, who attended University College and Eastman, sends a summary of his life since graduating from Rochester: "I went to work as a flight instructor in 1978, became a cargo pilot for Guyana Airlines in 1980, a corporate pilot with Automated Business Systems and Services in 1983, and an airline pilot with American Airlines in 1984. I retired from that airline (and the A-330) in January 2022. In 1985, I entered American University's Washington College of Law, from which I graduated with a JD in 1991. It really did take me six years (with a total of four leaves of absence for pilot training), but I graduated. I wasted a lot of the following years visiting 145 countries—after about 10, they start to look the same, and it's hard to remember specific details of most. Since September 2021, I've been back as a full-time student." Joel lists multiple academic degrees that he is pursuing simultaneously through a number of colleges and universities, including master's degrees from SUNY Maritime and the University of New South Wales in Sydney, Australia, and a PhD from Gratz College in Philadelphia. He hopes to have completed them all by 2028. He says he studies "at least eight hours a day every day and [takes] 12 credit hours per semester [among] the various colleges and universities." He concludes, "Well, that's 46 years . . . Not much to report on the social front. Been doing other things."

'80s

Howard "Howie" Rudzinsky '80, **Steve Jensen** '80, **Harold "Hal" Goldstein** '80, and **Glen Mattioli** '80 met in Gilbert in 1976. "The boys," Howie writes, have been skiing together for 40 years, most recently at Whistler Blackcomb in British Columbia.

Ossie Mogilnik Spector '80, managing director and senior treasury officer at Bank of America, sends career news: She has been honored by Women in Payments—a global community dedicated to gender parity and career growth for women—with the 2025 Advocate for Diversity Award. Ossie was recognized for her work within Bank of America and local communities for leadership and mentorship to ensure diversity and inclusion.

Randy Otto '81 writes that he joined the faculty of the Department of Psychiatry and Behavioral Sciences at the University of New Mexico's medical school in May. He will serve as professor and chief of the forensic behavioral sciences division. He and his wife live just north of Albuquerque in the mountain town of Placitas.

Gary Freeberg '82 shares career news: He is a pulmonologist and now director of pulmonary medicine at St. Francis Hospital in Roslyn, New York.

Returning to Rochester after more than 30 years on the faculty of Harvard Medical School, **Tanya Mayadas** '83, '89 (PhD) is the new chair of the Medical Center's Department of Microbiology and Immunology and the inaugural director of the new Institute for Immunological Sciences. "I'm a people person, and relationships matter to me," she says. "URMC offers the ideal blend of quiet confidence, deep expertise, collaboration, and community."

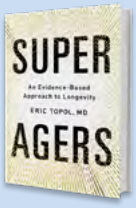
Don Spratt '83, '84S (MBA) died in February, writes his sister **Deborah Spratt** '76. A lifelong scholar, he earned his degree in economics while also focusing on English, statistics, and philosophy; he achieved the Dean's List each semester. He completed his MBA in 1984 and then went on to Washington and Lee University School of Law in Virginia, where he received his JD in 1987.

Michael Burritt '84E, '86E (MM) performed and did master classes in Sweden in March at the Malmo Academy of Music with students from Royal Danish Academy in Copenhagen, Odense Music Academy, and Malmo Academy and performed at the Days of Percussion Festival at Orebro University. Michael is featured in a chapter of *Passing on a Passion for Percussion* (Jan Pustjens Foundation), celebrating the principal percussionist in the Royal Concertgebouw Orchestra, and his *Ontario, Concerto for Marimba and Chamber Orchestra* (Edition Svitzer) was commissioned by the publisher to be premiered this year. Michael is currently professor of percussion and chair of the winds, brass, and percussion department at Eastman.

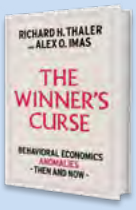
Bob Goodman '84 writes, "After 40 years in high-tech sales and marketing, I decided it was time to start and enjoy a new phase in life. I retired, and my wife, Susan, and I sold our house of 25 years in Bedford, Massachusetts, and moved to beautiful Charleston, South Carolina! If you're ever in the area, let me know. Always looking to connect with fellow Yellowjackets!

Thomas Hessenauer '84 writes that in the fall of 2024, he "was elected to be the president of the Board for Cockpit in Court summer theater

FEATURED WORKS



Super Agers: An Evidence-Based Approach to Longevity
Cardiologist **Eric Topol** '79M (MD) details the latest breakthroughs in human longevity. He explains new approaches to the worst chronic killers—diabetes/obesity, heart disease, cancer, and neurodegeneration—and their potential to slow the aging process. (Simon & Schuster)



The Winner's Curse
Nobel Prize winner **Richard Thaler** '74 (PhD), '10 (Honorary) teams up with fellow economist Alex O. Imas to explore the past, present, and cutting-edge future in behavioral economics—three decades after Thaler first introduced the field. (Simon & Schuster)

Litany for a Broken World
For her ninth novel, retired physical therapist **Lisa Cohen** '84 creates a modern adult reworking of *The Wizard of Oz* that takes place in the real world of a Boston homeless encampment. The book is the first in her new Entangled Realities series. (Interrobang Books)

FEATURED WORKS

Saving Annie
Mathew Tekulsky '75, who has published three previous novels and several nonfiction books, draws from his own college experience to weave the tale of Paul, a freshman at Eastman University in upstate New York, and the woman he falls in love with. (Palmetto Publishing)

The Forbidden Parallel
Under his pen name, Kevin Carver, **Kevin Carr** '15 has published the first entry in a planned trilogy that "blends fantasy and science fiction and explores the sprawling consequences of revenge and power." A soundtrack is available at kevincarver.com. (Provender Press)

Breakneck: China's Quest to Engineer the Future
Technology analyst **Dan Wang** '14 presents a riveting, firsthand investigation of China's seismic progress, its human costs, and what it means for the US. A research fellow at Stanford University, Wang has lived in Hong Kong, Beijing, and Shanghai. (W. W. Norton)

Amy Lyn Silbert Blake '87 and friends celebrate her new appointment

Mary Beth Bain Walsh '87

program, now in its 53rd season, at the Community College of Baltimore County (CCBC Essex) in Maryland. For the latter part of our summer season, I'm directing rehearsals for Noel Coward's comedy *Hay Fever*, which originally opened in New York and London exactly 100 years ago. This will be the 99th stage production I've been in and/or directed!"

Scott Rummler '84 shares that he published an article called "Scalar Wave Paintings: A New Approach to Postdigital Art" in the February issue of the journal *Leonardo* (MIT Press), which examines issues related to the interaction of the arts, sciences, and technology. "My paintings emit frequencies that disrupt digital cameras," writes Scott. "Each photograph of the same painting looks different, thus changing the relationship between light, object, and representation that is at the heart of art and critical theory."

Sascha Feinstein '85, the Robert L. & Charlene Shangraw Professor of English at Lycoming College in Williamsport, Pennsylvania, has published *Writing Jazz: Conversations with Critics and Biographers* (SUNY Press). In it, he presents interviews with 14 distinguished jazz scholars in a "literary jam session" that explores the many challenges and thrills of writing about jazz in various forms.

Amy Lyn Silbert Blake '87 was sworn in as chief justice of the Massachusetts Appeals Court in January, becoming the first woman to hold the position. She was joined by many UR alumni and Phi Sigma Sigma sorority sisters. Pictured, from left, are **Hilary Morrison Roman** '87, University Trustee **Lizette Pérez-Deisboeck** '87, **Jennifer Carpenter Siedman** '88, **Susan Yesley** '87, **Marianne Seidman Cohen** '89, Amy, **Meghan Daly Lippman** '88, and **Mary-Frances Pizzimenti Garber** '86.

Lorri Kahn Diggory '88 and family

Larry Abrams '89 and Claire Le Blanc '06

In January, **Mary Beth Bain Walsh** '87 was sworn in for her fifth term in the New York State Assembly. She was first elected in 2016 and in December 2024 was appointed Assembly Minority Leader Pro Tempore, making her the second-highest-ranking member within the Minority Conference. She is only the third woman to hold this leadership position, managing Assembly floor operations for the Republican Conference. Mary Beth also serves as the Secretary of the American Irish Legislators' Society, a member of the Legislative Women's Caucus, and a member of the assembly committees on education, judiciary, mental health, and ways and means.

Lorri Kahn Diggory '88 writes, "My mother, **Sandra Siegel Breitbart** '61, my husband, **John Diggory** '89, '94M (MS), and I attended the basketball game and alumni tailgate at the Palestra on January 24. We took a picture with Rocky and were also joined by my daughter Ariana, who is not an alum."

Larry Abrams '89 sends a photo. He writes that he started the Philly-based nonprofit BookSmiles, which has grown into one of the largest kids book banks in the nation. **Claire Le Blanc** '06 noticed his Meliora lanyard "when she came over for volunteer sorting with her Campbell's Cares team."

Lance Hulme '89E (MM), an associate professor of music and head of the composition and theory program at North Carolina Central University, announces the release of *Leaps & Bounds: The Music of Lance Hulme* (Métier). Lance's second "portrait CD," it contains 110 minutes of his original compositions, including several prize-winning pieces. Performers include John Covach, a professor of theory at Eastman and of music in the Arthur Satz Department of Music, and **Clara O'Brien** '86E (MM).

In March, middle and high school students joined the US Department of Energy's Western New York Regional Science Bowl's second year of STEM trivia competitions on the River Campus, with teams vying for an all-expenses-paid trip to the national finals. **Kelvin Knight** '89, the bowl's local regional coordinator, partnered with the Office of Government and Community Relations to encourage local youths to persist in STEM trivia, academics, and future careers. He's pictured, far left, with the local 2025 high school champions.

Kelvin Knight '89 at this year's Western New York Regional Science Bowl

'90s

Sharon Conrad Frost '91 has been elected state representative to Maine's 132nd Legislature. She writes, "I serve the 58th District, which includes the towns of Belgrade, Rome, Mt. Vernon, Vienna, Fayette, and New Sharon. It is an honor to serve my constituents. I am registered independent and strive to work across party lines."

Sylvia Hysong '91, a senior research health scientist and professor at Michael E. DeBakey Veterans Affairs Medical Center and Baylor College of Medicine in Houston, shares that she has been selected for a Research Career Scientist Award at the Veterans Health Administration. The award is reserved for nonclinician scientists who have made extraordinary contributions beyond their individual research programs to VA research, service, and training the next generation of VA scientists. Sylvia's five-year term will start in January 2026.

Jeffrey Reznick '92, senior historian at the NIH's National Library of Medicine, has edited the first critical edition of the poet and suffragist Lilian Sauter's "slender but significant" 1911 work reflecting her life of creativity and independence, *Through High Windows and Other Writings* (Universitas Press).

Sarah Robert '92, a professor at the University at Buffalo's Graduate School of Education, writes that she coauthored and coedited *Transforming School Food Politics Around the World* (MIT Press and Penguin), which demonstrates how to successfully challenge and transform public school food programs to emphasize care, justice, and sustainability.

Andy Wong '92S (MBA) sends a career update: "I was appointed chief financial officer of Vivic (Yacht) Corp. in January 2025." The company designs, produces, sells, operates, and services yachts in North America, Asia, and the Middle East.

Lori Mihalich Blodorn '94 writes, "I am thrilled to announce that I have been appointed as the inaugural vice president for people and culture at the California State University, Bakersfield, where I oversee the strategic priorities of developing a positive, inspirational culture focused on excellence and belongingness. Prior to this appointment, I served as the associate vice president for human resources at the university. Since leaving the practice of law over 15 years ago, I have thrived as a human resources leader in public education, from K–12 to the university level."

Evan Granite '94 (PhD) received the American Chemical Society Pittsburgh Award in November 2024 for his distinguished career in fossil energy (including internationally recognized efforts in mercury and carbon dioxide capture and for initiating, developing, and leading the Department of Energy's critical materials in-house research program) and in mentoring numerous colleagues (including postdoctoral and summer undergraduate students). Evan has moderated more than 30 Science Bowls and presented lively talks and demonstrations across the Pittsburgh region. The Pittsburgh Award is the highest honor awarded by the Pittsburgh section of the American Chemical Society.

Matthew Marullo '94E (MA) shares, "Outside my teaching career in music, I am also a writer of fiction. My fourth novel, a science fiction satire entitled *Welcome to Opine* (Marullo Publications), has been receiving awards." The book has won first place in the Feathered Quill Book Awards and a silver medal for the Reader Views Literary Awards and is a finalist for a Wishing Shelf Book Award.

Partha Bose '96S (MBA) writes, "A recent wedding in Kolkata provided the perfect opportunity to reunite with two dear friends, **Debasish Deb** '96S (MBA) and **Prasun Basu** '95S (MBA). Remarkably, despite all of us being from Kolkata, our friendship began in Rochester and has spanned more than 30 years. We've stayed close, visiting each other in cities across the globe, from Mumbai to San Francisco as well as Dubai, Nairobi, and Atlanta. It was a truly special occasion to catch up and also see our families again."

Rod Bugarin '96 writes, "I was very fortunate to accompany my husband as he was a delegate on a National Academy of Education trip to Havana in December 2024 to collaborate with education researchers in Cuba as his 'plus one.' We had an itinerary of touristy sites to visit. And at the home of one of Cuba's most famous artists, José Fuster, lo and behold, I see a Rochester pennant! I asked the artist's daughter why he had the pennant, and, supposedly, José was an artist-in-residence there and had the banner to commemorate his time on campus."

Christine Creter '97, the founder and CEO of the Creter Group, a woman-owned business specializing in leadership development, instructional design, and team dynamics across automotive, healthcare, professional services, and nonprofit sectors, sends news. To celebrate and mark her company's 20th anniversary and reinforce its commitment to strengthening mission-driven teams, the firm has offered complimentary training to five nonprofit organizations in 2025.

Amy Paciej-Woodruff '97W (MS), an associate professor and coordinator of the Higher Education Administration MS program at Marywood University in Scranton, Pennsylvania, writes, "I recently co-published *College Bound: A Family's Guide to Post-Secondary Options for Students with Disabilities* (Rowman & Littlefield), a book that will help students with disabilities and their families navigate post-secondary educational choices to reach their goals." Before becoming a full-time assistant professor in Marywood's School of Education in 2017, Amy served in student affairs for 23 years in various roles at six institutions, most recently as assistant vice president for student life at Marywood.

Carrie Rosen '97 sends a photo of herself and her former roommate **Michelle Rosenberg** '97 at the Jewish Relief Agency during the Martin Luther King Day of Service in Philadelphia. They posed with Pennsylvania Governor **Josh Shapiro** '95, who was volunteering

Partha Bose '96S (MBA) and friends

Evan Granite '94 (PhD)

Rod Bugarin '96 in Cuba

Carrie Rosen '97 and friends

Damon Zick '97E and his world chamber jazz ensemble, Quarteto Nuevo

with his family. Carrie, a regular monthly volunteer with JRA, says Michelle joins her whenever she visits Philadelphia.

Damon Zick '97E and his world chamber jazz ensemble, Quarteto Nuevo, were awarded a Jazz Road Creative Residency grant from South Arts, a nonprofit arts organization based in Atlanta, Georgia, to compose and record new music. They wrote works for each state visited during the 2023–24 touring season. The result is a 10-movement work, *Jazz Road Suite* (self-published), exploring the connection of jazz to geographical and cultural locations, including compositions for Alaska, Arizona, California, Colorado, Montana, Nevada, North Carolina, Oregon, Utah, and Wyoming. Each composer found connections to their chosen states through geography, culture, and personal experience. The complete suite was recorded live in concert in March 2024 at ASU Kerr Cultural Center in Scottsdale, Arizona.

Christina de Zafra '98M (PhD), an associate research fellow at Pfizer, writes, "I'm a proud alumnus of the toxicology training program, and I'm honored to share that I was recently accepted as a fellow of the Academy of Toxicological Sciences." She explains that ATS, established in 1981, recognizes accomplishments of senior toxicologists in the areas of education and continuing education, publications and professional development, and demonstration of professional recognition. The ATS designation provides worldwide recognition of expertise and experience in toxicology and ensures a high standard of professional experience and practice for toxicology professionals.

Jen LiMarzi '98 is "pleased to share that my first romantic fiction novel, *Pipe Dreams: A Novel of Midlife Meltdowns, Mishaps, and Romantic Reinvention* (self-published), is officially out on Amazon in paperback and eBook." Jen and her husband live in Chicago, where she works as a senior medical writer.

Tammy Clauser Napolitano '98 writes, "My daughter Mia just finished her junior year of high school and was awarded the Bausch & Lomb Honorary Science Award, the same award I was awarded 32 years ago as a junior in high school and the same award that led me to the University of Rochester!"

Samantha Slotnick '98, '99 (T5), a behavioral optometrist at Mind-Body-World Optometry in Scarsdale, New York, has written *But MOMMY, I can SEE!* (Newman Springs). Illustrated by Daniel W. Miller, the educational children's book goes beyond simple storytelling to address a critically overlooked issue in early childhood development: learning-related vision problems. The story follows the journey of Sylvia after receiving her first pair of prescription glasses and introduces young readers, parents, and teachers to the difference between seeing and seeing well—and how glasses can be a gateway to effective learning.

Nicole C. Wilson '99 won the 2025 Engineer of the Year award from the Pennsylvania Society of Professional Engineers. Nominated by the Bucks County Chapter, where she previously served as president, Nicole was selected from a group of engineers representing disciplines

Tammy Clauser Napolitano '98

across the profession. She is a senior project manager at EARTHRES, a Division of RESPEC, based out of Pipersville, Pennsylvania. Nicole has been with the company for more than 20 years and was an environmental specialist at PSC prior to working at EARTHRES. She has more than 25 years of professional experience in environmental consulting, specializing in air quality, compliance, and reporting.

'00s

Joshua Sckolnick '00 sends a photo: "Inspired by happy memories of the UR Viennese Ball," **Nick Rollins** '02, '09 (MS), **Laura McMullen** '00, and Joshua "decided to meet in Vienna and attend the 2025 Vienna Opera Ball." Nick, a data analyst, has lived in Haarlem, Netherlands, since 2017; Laura and Joshua are both physicians who have been living in San Francisco since 2011. They have all been friends since they were first-year students in 1996.

Valery Chirkov '01 (PhD), a professor of psychology and applied social psychology program coordinator at the University of Saskatchewan, writes, "My colleague Slav Gratchev and I have recently published the edited book *Cultural Models and Collective Mentalities in Literature, Art, and Philosophy* (Bloomsbury Academic)." This edited collection is a unique fusion

Joshua Sckolnick '00 and friends

COURTESY OF WARREN ZANES

BUZZWORTHY

Who's The Boss?

Bruce Springsteen is getting his biopic moment with *Springsteen: Deliver Me from Nowhere*, which opened nationwide in October. Based on the book of the same name by Warren Zanes '02 (PhD), it details the making of Springsteen's haunting 1982 album *Nebraska*—recorded on cassette tape by the famed artist alone in his bedroom. "Some records stay with you, and *Nebraska* has been it for me," Zanes (above left, on set with Springsteen and producer Eric Robinson) told *Review* in a 2023 interview. In a newly released paperback edition, the author charts the book's path from page to screen, including a memorable "cheesesteak meeting" on the deck of Springsteen and Patti Scialfa's Jersey Shore rental. —*Jim Mandelaro*

Lynne Bialas McHugh '01 and Janet Middleton Jones '87

of humanities, literary studies, and social and psychological sciences. It features essays that combine social science and humanities inquiries to examine the collective mentalities, identities, and national cultural models of people from different communities and nations.

Jennifer Dobrowski Collins '01W (EdD), a retired physical therapist and college professor, has coauthored *Unlikely to Unstoppable: Stories from Everyday Entrepreneurs* (Words in the Wings Press), a nonfiction book in which the authors provide glimpses into the lives of everyday people who have become successful at what they do and insights into the twists and turns encountered along the way. Jennifer has won accolades for her fiction, including a 2024 American Writing Award and an F.A.P.A. President's Award, both in the Inspirational Books category, for her novel *Bridges Between Our Hearts* (Words in the Wings Press).

Lynne Bialas McHugh '01 sends a photo of herself with **Janet Middleton Jones** '87. Both are running to represent their respective wards in the November 2025 election for the Oneida (New York) Common Council.

Aasim Padela '01, '08M (Res), a bioethicist, community health researcher, and emergency medicine clinician, has published *Maqasid Al-Shariah and Biomedicine: Bridging Moral, Ethical, and Policy Discourses* (International Institute of Islamic Thought) to address a notable gap in scholarship by exploring links between the maqāsid al-Sharī'ah and contemporary healthcare.

Play Steinberg '01 writes, "I recently completed a 12-episode web-based graphic novel entitled *Father. Mother. God*. Dealing with themes of mental health, suicide, spirituality, and addiction, it charts a journey of transformation, healing, and reckoning with loss. "In short," they add, "it's an autobiographical exploration of what it means to heal and how far I'm willing to go to find out."

Jon Von Kohorn '01, an attorney in Fairfield, Connecticut, enjoyed an impromptu March reunion of Delta Upsilon's Sigma Class in New York City. He met up with **Joseph DeCoursey** '01, an attorney in Rochester, **Matt Ikari** '02 (MS), a professor in Bremen, Germany, **Nathan Cornell** '02, a senior law enforcement official in Rochester, and **Dana Reid Vanas** '01, who is pursuing an artificial intelligence degree in Boston.

Ian Peddie '02 (PhD), a professor of English at Sul Ross State University in Alpine, Texas, has published *Culture, the Arts, and Inequality: American Artists and Social Justice* (Routledge), analyzing writers and artists who challenge the moral categories through which inequality has been maintained and mobilized. Ian has written or edited previous works on literature and culture, including 2024's *Music and Protest* (Taylor & Francis).

Greg Semeraro '03 (PhD) announces the publication of *Embedded Real-Time Operating System Design: RTOS.X Theory, Analysis, Performance and Portability* (GPS Engineering Consulting), "a comprehensive exploration of the theory, analysis, performance, portability, and implementation of a real-time operating system, RTOS.X. Four different hardware platforms are presented, providing diverse architectures to analyze and study."

Stephanie Yurchyk '06 and family

Hiatt Zhao '06, '15S (MS)

Chloe Corcoran '04 writes, "I was appointed to the City of West Hollywood's Transgender Advisory Board in April."

Kimberly Sidora Arcoleo '06M (PhD) is a professor in the College of Nursing at Michigan State University. "I'd like to share that I received the inaugural 2025 Implementation Impact Award from the Midwest Nursing Research Society at the annual conference in Indianapolis for a real-world implementation of the school-based asthma therapy program in Columbus, Ohio, originally developed by my longtime collaborator and current chair of pediatrics and physician-in-chief for Golisano Children's Hospital, **Jill Halterman** '90, '94M (MD), '01M (MPH), '01M (Res), '01M (Flw)."

Laurie Isaacson Damsky '06, '08N has cofounded "an innovative, first-of-its-kind, mental health residential program focusing on metabolic psychiatry." She explains, "We strive to improve mental health via metabolic pathways when medication hasn't been enough."

Jonathan Lax '06 writes that he has been appointed chief of the business and securities fraud section of the United States Attorney's Office for the Eastern District of New York. As chief, Jon leads a team of experienced prosecutors, investigators, and paralegal specialists who investigate and prosecute high-profile complex criminal cases involving securities and commodities fraud, insider trading, market manipulation, mail and wire fraud, healthcare fraud, digital assets and cybercrime, and money laundering, among other matters. The Eastern District comprises Brooklyn, Queens, Staten Island, and Long Island and has a population of eight million people. Jon previously served as deputy chief for business and securities fraud and has been a federal prosecutor since 2014.

Geoscientist **Stephanie Yurchyk** '06, a global exploration manager for ExxonMobil, writes, "My spouse, Sandy Lorch, and I welcomed our second son, Noah Lorch-Yurchyk, into the world on May the 4th, 2025! Dylan (three years old) is excited to be a big brother."

Where in the world is **Hiatt Zhao** '06, '15S (MS)? Inquiring minds can find

LOVE STORIES

For Ever Better

Love was all around at this year's Meliora Weekend. Gary Noyes '65, '67 (MS) and his wife, Carol, who were married at the Interfaith Chapel in 1975, celebrated their 50th anniversary by renewing their vows in the same spot. "I told Carol, 'I'd do it again in a heartbeat,'" Gary says. Meanwhile, Tom Hanson '20 proposed to Angie Lara '20 atop Rush Rhees Library, after the pandemic prevented them from visiting the rooftop as undergraduates. The couple, who met at the Simulation Gaming Association their first year and built up a strong friendship before ultimately dating in their senior year, got engaged on their sixth anniversary and while celebrating their fifth reunion.
—Tama Miyake Lung

RICH PAPROCKI

out at hiattzhao.com, where he's been documenting his worldwide bicycle tour since May. Hiatt started in King of Prussia, Pennsylvania, where the photo he sends was taken.

Stacy Onderdonk Liguori '07W (MS) is proud to share that she earned her doctor of education (EdD) degree from Morehead State University in Kentucky in May. Her dissertation, *Pathways and Persistence: Analyzing Kentucky's Special Education Teacher Shortage*, explores critical issues surrounding special education teacher recruitment and retention. Stacy continues her work in education policy and leadership, building on the foundation she established at the Warner School.

'10s

Catherine Bailey Broadwall '11 (MA), an assistant professor of English at DigiPen Institute of Technology in Redmond, Washington, has published *Water Spell* (Cornerstone Press), "a book-length lyric essay told in fragments." Before joining DigiPen in 2021, Catherine worked as an assistant professor at the College of Western Idaho and as a teaching-writer at the Cabin, a literary nonprofit.

Laurana Ryback '11, '12 (MS) in Rome

Alumni Board member **Laurana Ryback** '11, '12 (MS) shares that she made a "whirlwind trip" to Rome in May to witness the papal conclave and was there when the new pope, Leo XIV (American-born Cardinal Robert Francis Prevost), was announced. As she draped an American flag around her shoulders, she was "mobbed" by news channels seeking to interview her. Laurana traveled to Rome with **Jonathan "JJ" Gonzalez** '11.

Keith VanNostrand '12M (PhD) died in February, writes his sister, Debra Scott. She adds that "Keith loved school, and his time at U of R was very important in his life." His obituary notes that "from an early age, Keith loved to learn and embraced academia in every sense. He especially loved scientific research and information technology."

Rachel Stuart '14 wrote in May: "I was selected for this year's Emerging Clergy Network, an annual leadership training cohort for young United Methodist clergy. I met a number of amazing colleagues [this month] at our opening conference, and I look forward to our Wesley Heritage Tour in England later this summer."

Morgan Kath '16 and Reese Hussey married in April in Mt. Horeb, Wisconsin, where they were joined by friends **Jess Curtis** '16, **Gabryella Pulsinelli** '16, and **Andrew Mara-Williams** '16.

Brianna Herron '18 and **Aaron Faulkenberry** '19 were married at Glenora Wine Cellars on Seneca Lake in New York's Finger Lakes region in November 2024. They were joined by many alumni friends—and Rocky. Pictured, from left, are **Ben Feinberg** '12, '19 (PhD), **Mo Ahmed** '15, '18 (MS), **Sue Shuyang Qin** '22M (PhD), '24M (MD), **Colin Funai** '12, '17 (PhD), **Gary Ge** '16, '23 (PhD), '25M (MD), **Krista Kogler Pizzo** '20N, Aaron, Brianna, **Alex Johnson** '19, **Kayla Gunderson** '23, **Amelia Petrosino** '18, **Abigail Eberts** '18, **Natalie Jara** '18, and **Zaira Luján** '18.

Morgan Kath '16 and fellow Yellowjackets at her April wedding

Brianna Herron '18 and Aaron Faulkenberry '19 celebrate their nuptials with friends

'20s

Jess Hunsicker '20 shares career news: "I've been named as the executive director and curator of the Dorset Historical Society in Dorset, Vermont."

César Febres-Cordero Loyola '21 writes, "I'm happy to share that I participated as one of the two moderators for the Ecuadorian vice presidential debate in January. Reportedly, it was the first successful attempt to organize a debate solely dedicated to vice presidential candidates in our history. The debate was part of an initiative by a group of universities and civil society organizations, with the support of Ecuador's national electoral authority (Consejo Nacional Electoral), to help voters make an informed decision on election day and to foster a respectful exchange of ideas between politicians of different stripes. Currently, only the candidates who run for president, prefect, or major are mandated by law to participate in public, televised debates." César includes a photograph of himself with Pamela León Andriuoli, his fellow debate moderator.

César Febres-Cordero Loyola '21

Sam Reenan '21E (PhD) has published *Symphonic Spectacles: Form, Identity, and Hybridity in the Early Twentieth Century* (Oxford University Press), which investigates large-scale formal mixture in six case studies that juxtapose works of the Austro-German symphonic canon with lesser-studied pieces by a diverse array of composers, including Strauss, Beach, Ellington, and Mahler. The book combines manuscript evidence, composer commentary, historical and biographical details, and published music criticism. It represents not only a collection of studies in hybrid symphonic form but also a model for countercanonic means of knowledge production in the field of music analysis.

Soprano, composer, and poet **Rachel Singh** '23E (MM) has written her debut volume of poetry, *Poems with a Bite Taken Out of Them* (Dorrance Publishing).

Ella Smith '25 graduated in May. Her mother, Missy Pfohl Smith, the director of the Program of Dance and Movement, will graduate in 2026 with a PhD in human development from the Warner School, and her brother will graduate in 2027 with a degree in audio and music engineering from the Hajim School—that's three graduates in three years from one family!

In Memoriam

Trustee Emeritus

Mark Ain '67S (MBA), a pioneering entrepreneur and generous mentor, died in July at the age of 82. A member of the Board of Trustees since 2007 and a trustee emeritus since 2022, Ain founded workforce management company Kronos Incorporated in 1977. His passion for entrepreneurship inspired the creation of the Ain Center for Entrepreneurship and Innovation to give aspiring entrepreneurs the tools, mentorship, and space to experiment, take risks, and turn ideas into real ventures. One of the most enduring aspects of this legacy is the Mark Ain Business Model Competition, an annual event that has become a cornerstone of the student startup ecosystem at URochester.

Faculty

Pawel de Barbaro '90 (PhD), a senior research associate in experimental high-energy physics. February 2025
Edoardo Bellotti, an associate professor of harpsichord at the Eastman School of Music. February 2025
Joseph Eberly, the Andrew Carnegie Professor of Physics and a professor of optics. April 2025
Kat Sirico, a lecturer in dance production and lighting design in the Program of Dance and Movement. August 2025
Peter Veazie, a professor of public health sciences and former chief of the Division of Health Policy and Outcomes Research. February 2025

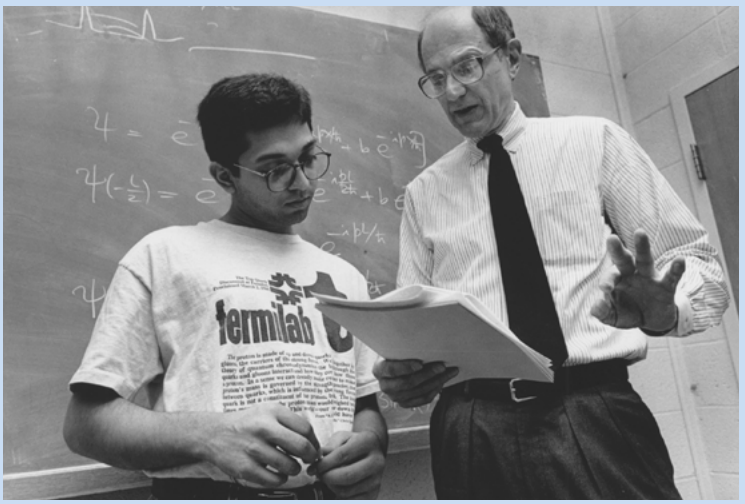
Former Faculty

Dean A. Arvan, acting chair of pathology and laboratory medicine, and senior associate dean for academic affairs at the School of Medicine & Dentistry. January 2025
David Beach, dean of graduate studies at the University and a professor of music theory at the Eastman School of Music. June 2025
Daniel Beaumont, a professor emeritus in the Department of Religion and Classics. August 2025
Edward E. Calnek, a professor in the Department of Anthropology. April 2025
Douglas Cline, a professor in the Department of Physics and Astronomy and director of the Nuclear Structure Research Laboratory. June 2025
William Hauser, a professor emeritus and chair of the Department of History. March 2025
Joyce Koziol, an associate professor of clinical psychology in the Department of Psychiatry. January 2025
Robert W. Kreilick, a professor emeritus in the Department of Chemistry. June 2025
Ruth Anderson Lawrence '49M (MD), '58M (Res), a professor emeritus of pediatrics. October 2025
James C. M. Li, a professor emeritus in the Department of Mechanical Engineering and Materials Science Program. April 2025
Raymond Mayewski, a professor emeritus of medicine and chief medical officer of Strong Memorial Hospital and Highland Hospital. July 2025
Charles Plosser, the John M. Olin Distinguished Professor of Economics and Public Policy and dean of Simon Business School. August 2025
Kathy Rideout '95W (EdD), a professor of clinical nursing and pediatrics and dean emeritus of the School of Nursing. February 2025

Alumni

This list includes notices received and confirmed by the Office of Gift and Donor Records from January 1 through June 30, 2025.

Ruth West Spalding '44E, December 2024
R. Leroy Moser '47, May 2025
Charles L. Strouse '47E, May 2025
Murray Beckerman '48, June 2025
Mozelle Sawyer Bell '48E, March 2025
Robert E. Ginna '48, March 2025
Elaine Thompson Walden '48, February 2025
John J. DeVuyst '49, March 2025
Adnah G. Kostenbauder '49, December 2024
Ruth Anderson Lawrence '49M (MD), '58M (Res), October 2025
Jane Shaver Peck '49, April 2025
June Neuscheler Allen '50N, '59W, February 2025
Vernon G. Eisenbraun '50, February 2025
Janice Knappenberg Blum '51, February 2025
Jane Bang Williams '51, January 2025
June Caccamise Baker '52, January 2025
Edward H. Carman '52 (MS), January 2025
S. Gerald Davidson '52, January 2025
Jo Anne Hickman Duke '52, '53N, January 2025
Alexander Gray '52, February 2025
Peter D. Hansen '52, '56 (MS), January 2025
Thomas R. Knapp '52, '54 (EdM), '57 (MA), January 2025
John A. Meyer '52, February 2025
Mary Anne Krupsak '53, December 2024
Allen J. Roggen '53, February 2025
Earl B. Stroup '53, April 2025
Havilah P. Toland '53, '57W (EdM), December 2024
Helen Powell Bellanca '54, '54N, April 2025
Jay W. Burchak '54E (MA), January 2025
Samuel J. Chapin '54M (MD), January 2025
Nancy Jones Dainty '54N, May 2025
Eleanor Troxell Johnson '54, March 2025
Helen McCune Knudson '54N, May 2025
David M. Sturges '54, January 2025
Marilyn Roesser Bradley '55E, February 2025
Cataldo A. Maggiulli '55, February 2025
Richard A. Peters '55, May 2025
Nona Reed Porter '55E (MM), February 2025
Roger J. Quinn '55, February 2025
Lewis E. Rowell '55E, '58E (PhD), May 2025
Kenneth B. Ruhm '55, May 2025
Robert W. Adams '56, June 2025
Edwin F. Baumgartner '56, December 2024



KIMBERLY MCKINZIE/UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION

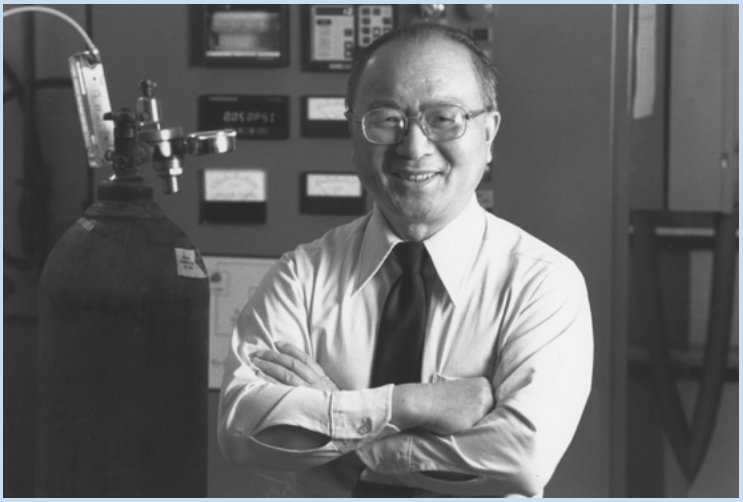
JOSEPH EBERLY, 1935–2025

* * *

"A giant in the optics community—Joe left an indelible mark on all he did."

Read the tribute at rochester.edu/news/eberly.

Eleanor Saabel Boda ’56E, June 2025
Frank Cesare ’56 (MS), April 2025
Kenneth H. Doolittle ’56M (MD), May 2025
Judith Clark Esch ’56E, March 2025
Laurina Mignardi Harper ’56, ’58 (MS), December 2024
Ingrid Hultgren Harrison ’56E, February 2025
Catherine Kronmiller Huther ’56, April 2025
John Perry ’56E, ’58E (MM), May 2025
Elizabeth Rauh Squires ’56, ’59W (MA), March 2025
Jessica Kramer Friedlander ’57E, March 2025
William L. Goffe ’57 (MA), April 2025
Edward C. Morrison ’57, January 2025
Gilbert M. O’Gawa ’57M (MD), November 2024
Margaret Weeks Redcay ’57E, January 2025
Nancy R. Rosenberg ’57, March 2025
Karis Edgington Say-Cavecche ’57, February 2025
James J. Barber ’58E, ’59E (MM), ’64E (DMA), January 2025
Patricia Meland Bond ’58N, May 2025
Betty Remy Burns ’58E (MM), January 2025
Elizabeth Moody Culp ’58, December 2024
Terry R. Diebold ’58, December 2024
Ronald F. Galloway ’58, February 2025
June Fundin Hardt ’58, December 2024
Valorie Evans Rathbone ’58, ’60S (MA), March 2025
Robert L. Shannon ’58, April 2025
Floyd A. Short ’58M (MD), February 2025
Penelope Tickelis Smith ’58 (MS), April 2025
Sylvia Stone ’58E, ’59E (MM), May 2025
Anne Daskavitz Valery ’58N, February 2025
Deanna Stroh Warren ’58N (Dpl), ’72N, December 2024
John H. Baker ’59M (MS), January 2025
Gregory W. Byrne ’59 (MSE), June 2025
Lois Dennis Cohen ’59, December 2024
Jack W. Falsion ’59, January 2025
John J. Kaminski ’59W (EdM), March 2025
Margaret K. Krimsky ’59E, March 2025
Eva Pang Pan ’59N (Dpl), March 2025
Mary Tharp Short ’59, December 2024
Steven Davis ’60, February 2025
Mark E. Friedlander ’60, April 2025
Cecilia J. Hervas ’60E (MM), April 2025
Julie Cichon Hill ’60E, February 2025
James I. McClintock ’60, February 2025
Ralph H. Orth ’60 (PhD), January 2025
Janice Meeker Roemish ’60W, May 2025
Chuck E. Shepard ’60, May 2025
Donald C. White ’60, February 2025
Joseph T. Black ’61, June 2025
Karen Hill Brown ’61, ’72 (PhD), March 2025
Margaret Brown Carey ’61, December 2024
Wright H. Ellis ’61, March 2025
Richard M. Lowe ’61W (EdM), March 2025
Gerald A. Metz ’61M (MD), February 2025
Larry B. Campbell ’62E, December 2024
Charles G. Groat ’62, March 2025
Daniel H. Johnston ’62E, June 2025
Irene E. Liden ’62E, January 2025
Gilbert Simon ’62M (MD), January 2025
Charles D. Spotts ’62W (EdM), January 2025
Lars H. Thompson ’62 (MA), April 2025
Stuart J. Updike ’62M (MD), January 2025
Hannah Wilkins Voigt ’62E (MM), March 2025
Marcelle V. Arak ’63, November 2024
Thurid Kaaber Campbell ’63M (Pdc), January 2025
John J. Canning ’63, February 2025
Susan Happy Duda ’63, January 2025
Robert J. Fien ’63, January 2025
Suzanne Gimple Goodman ’63N, ’91, April 2025
John H. Howe ’63, January 2025
William L. Keplinger ’63W (MA), January 2025
Rori E. Murrell ’63, December 2024
Catherine Gabel Nasgowitz ’63E (MM), January 2025
Merrill C. Oaks ’63M (MD), December 2024
Charles S. Parmenter ’63 (PhD), January 2025
Diane Deutsch Thome ’63E, January 2025
Robert L. Weisman ’63, December 2024
Gregory J. Barone ’64M (MS), January 2025
Rachel Perry Bell ’64, April 2025
Nancy Stein Bidlespacher ’64, ’80 (MS), November 2024
Halimah Maurey Brugger ’64E, ’66E (MM), February 2025
John G. Elliott ’64, January 2025
Richard J. Fenton ’64 (MA), January 2025
Glen E. Miller ’64W (EdM), March 2025
Alexandra Salamaca Lypeckyj ’64, May 2025
Steven A. Silverberg ’64, March 2025
Svend W. Bruun ’65M (MD), May 2025
William S. Champney ’65, February 2025
William E. Craig ’65, June 2025
James L. Fitzgerald ’65M (MD), February 2025
Margaret Clark Hampson ’65 (MA), December 2024
David A. Heeks ’65, April 2025
Robert A. Kosakoski ’65, January 2025
Richard L. Morales ’65, April 2025
Philip S. Morse ’65, ’73W (EdD), March 2025
Helen Hall Rutan ’65W (MA), December 2024
Henry E. Schnepf ’65, June 2025
Keith R. Volkmann ’65, ’73M (PhD), April 2025
David J. Whitbeck ’65, ’70W (MA), January 2025
Frank H. Anderson ’66W (MA), May 2025
Antoinette Fraase Babcock ’66E, February 2025
Ruth I. Dawson ’66, January 2025
William L. Dearcop ’66W (MA), April 2025
Betsey Barney Edwards ’66, June 2025
Mary Dellano Illingsworth ’66, June 2025
Kenneth J. Macritchie ’66M (Res), January 2025
Frederick S. Mee ’66W (MA), February 2025
Donald P. Paquin ’66, December 2024
Raymond M. Stone ’66 (MS), February 2025
Ronald A. Strauss ’66, January 2025
William H. Bleuel ’67 (MS), December 2024
Ronald A. Carlish ’67M (MD), April 2025
Donald E. Christensen ’67, April 2025
Munir J. Katul ’67M (Res), April 2025
Neil A. Kayes ’67, June 2025
James J. Merlihan ’67, ’69 (MA), February 2025
Richard W. Moothart ’67M (MD), February 2025
Thomas E. Morrow ’67W (MA), February 2025



JAMES MONTANUS/UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION

JAMES C. M. LI, 1925–2025

* * *

“Not only an outstanding scientist but a very warm human being. One of the pillars in our department.”

Read the tribute at rochester.edu/news/li.

CHUCK MANGIONE '63E, '85E (HONORARY), 1940–2025

* * *

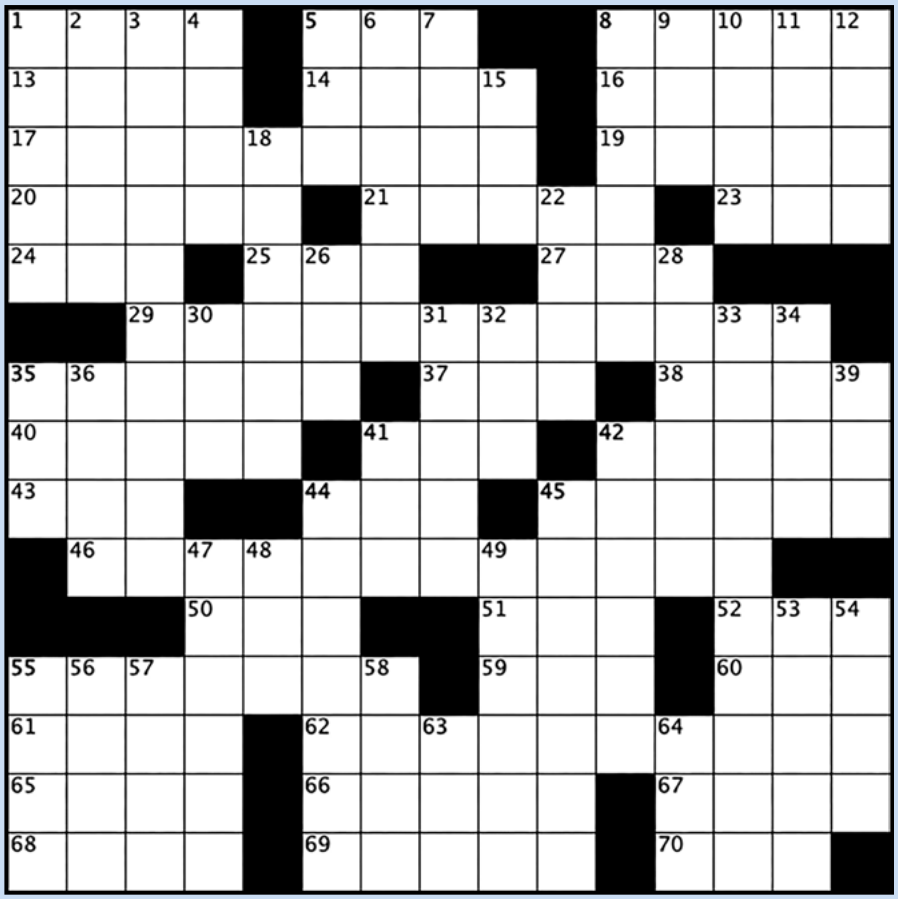
"He left an indelible legacy, woven into the fabric of Eastman and the broader musical world."

Read the tribute at uofr.us/mangione.

James W. Mylacraine '67, May 2025
William B. O'Connell '67W (MA), '73W (EdD), January 2025
Rodney J. Rothlisberger '67E (MA), December 2024
Thomas S. Stierwalt '67E, '69E (MM), March 2025
Ronald C. Stump '67, March 2025
Suzanne M. Timble '67, May 2025
Michael R. Werner '67, March 2025
Kenneth H. Cowan '68, December 2024
Alan S. Lobel '68, '69S (MBA), May 2025
George J. Mazzeo '68W (MA), April 2025
Mary Shaw Odoroff '68W (MA), April 2025
Kenneth T. Steadman '68M (Res), May 2025
Thomas W. Panke '68M (MS), '70M (MD), May 2025
Valentina Kalcov Washburn '68, March 2025
John A. Amarel '69, January 2025
A. Damian Bursill-Hall '69E, February 2025
Bonnie Conrad Knutsen '69W (MA), April 2025
Kathleen Stoeckl Neuner '69N (MS), March 2025
Ronald J. Paprocki '69, '86S (MBA), February 2025
Richard S. Pugach '69, February 2025
Richard R. Ranney '69M (MS), '69M (Pdc), November 2024
Jean Anderson Wuensch '69E (MM), May 2025
Joseph A. Amato '70 (PhD), January 2025
Joseph A. Greis '70E, December 2024
William C. Milroy '70M (MS), '72M (PhD), June 2025
Richard E. Prell '70, April 2025
Jeanne Calcagno Roulleau '70, February 2025
Robert K. Skoglund '70 (MA), November 2024
Lauren A. Cohen '71, February 2025
Esther R. Friedman '71, June 2025
J. Thomas Hannon '71E, February 2025
George Malachowsky '71, February 2025
James C. McGuire '71, December 2024
Harriet Smith Rifkin '71, March 2025
James R. Thyng '71S (MS), January 2025
Leo W. Trickey '71, June 2025
Bruce A. Watson '71, '75, March 2025
James L. Cambier '72 (MS), '77 (PhD), April 2025
Linda A. Garthe '72, January 2025
Patricia A. Santillo '72, '87M (MS), February 2025
Spencer P. Annabel '73M (MD), March 2025
Paul W. Burnham '73, March 2025
Theodore K. Oates '73M (Pdc), April 2025
John D. Pigula '73, May 2025
Ross H. Tallents '73M (Pdc), '79M (Pdc), December 2024
Martha Gamble Flint '74S (MBA), February 2025
Terry Baker Grissing '74N, May 2025
William Magenheimer '74, December 2024
Roland R. Bartlett '75, March 2025
Janet L. Levatin '75, June 2025
Tamar Lubin-Saposhnik '75W (EdM), '79W (EdD), April 2025
James J. Tanney '75, April 2025
Catherine Shear Craw '76N (MS), May 2025
Maurice F. Durning '76S (MBA), March 2025
John A. Ferguson '76E (DMA), January 2025
Manuel J. Gonzalez '76M (Res), February 2025
Sylvia Moukous '76, April 2025
Barry M. Rosenberg '76, March 2025
Nona Veith Spitzner '76, January 2025
David A. Mycoff '77 (MA), '84 (PhD), December 2024
Kavita A. Rajpal '77M (Res), May 2025
Rebecca Chefalo Taylor '77, February 2025
Henry A. Young '77S (MS), '78S (PhD), June 2025
John T. Alfieri '78E (MM), January 2025
Thomas K. Bolton '78S (MBA), January 2025
Carol L. Hondorf '78N (MS), April 2025
Thomas A. Indiano '78E, June 2025
Diana Mark Malchoff '78M (PhD), April 2025
Richard C. Notargiacomo '78S (MBA), May 2025
Mark C. Perlberg '78, March 2025
Edward Sommers '78M (Pdc), May 2025
Bonnie Morrison Vaughn '78N, March 2025
Robert F. Asbury '79M (Flw), June 2025
Michael C. Pignato '79M (Pdc), May 2025
Thomas A. Rice '79 (MS), February 2025
Rachel Shoshana Speck '79, January 2025
Virendra K. Gupta '80S (MBA), May 2025
Anthony J. Cipolla '81, January 2025
Louann Gerken '81, May 2025
Francis J. O'Brien '81S (MBA), January 2025
Jonathan English '82E, '84E (MM), January 2025
Danny M. Smolnik '82, May 2025
James W. Swiatowy '82, January 2025
Timothy L. Nolan '83M (Res), April 2025
Donald R. Spratt '83, '84S (MBA), February 2025
Charles H. Taylor '83, December 2024
Paul J. Archibald '84N, February 2025
Nancy C. Faubel '84S (MBA), January 2025
Therese M. Franko-Holstein '84M (Res), December 2024
Van J. Ritter '84M (Res), '86M (Flw), February 2025
Frank J. Sheroshek '84, '90S (MBA), June 2025
Lawrence M. Bramlette '85, February 2025
Douglas J. Slavens '85, May 2025
Robert M. Elfont '86M (MS), '88M (MD), '89M (Res), '90M (PhD), June 2025
James J. Kumler '87 (MS), February 2025
Susan T. MacDougall '88S (MBA), January 2025
Wayne D. Jeffrey '89E (DMA), November 2024
Larry Denk '90M (Res), June 2025
Daniel Downey '90M (Res), January 2025
Mary Vacher-Weill '90E (MM), June 2025
Lawrence C. Deptula '92, December 2024
Samuel F. Constantino '93, January 2025
Robert W. Lee '93, February 2025
Richard G. Powers '93W (MS), February 2025
Stephen H. Remy '93, January 2025
Robert F. Ebertz II '94S (MBA), March 2025
Peter H. Jameson '94S (MBA), May 2025
Kathy Henkel Rideout '95W (EdD), February 2025
Barbara J. Roman '95, March 2025
Karine K. Stone '95E, '02E (MM), March 2025
Michael Clancy '97, January 2025
Martin S. Canning '98S (MBA), January 2025
Paul E. Spencer '99S (MBA), December 2024
Barry A. Evans '04N (MS), March 2025
Keith P. Van Nostrand '08M (MS), '12M (PhD), February 2025
Robin L. Doughty '10W (MS), December 2024
Geoffrey P. Penar '11E, January 2025
Patricia Gingras '13E (PhD), November 2024
Samuel M. Lerman '17, '19 (MS), January 2025

CHRIS QUILLEN/UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION

Life of a Demisemiseptcentennial



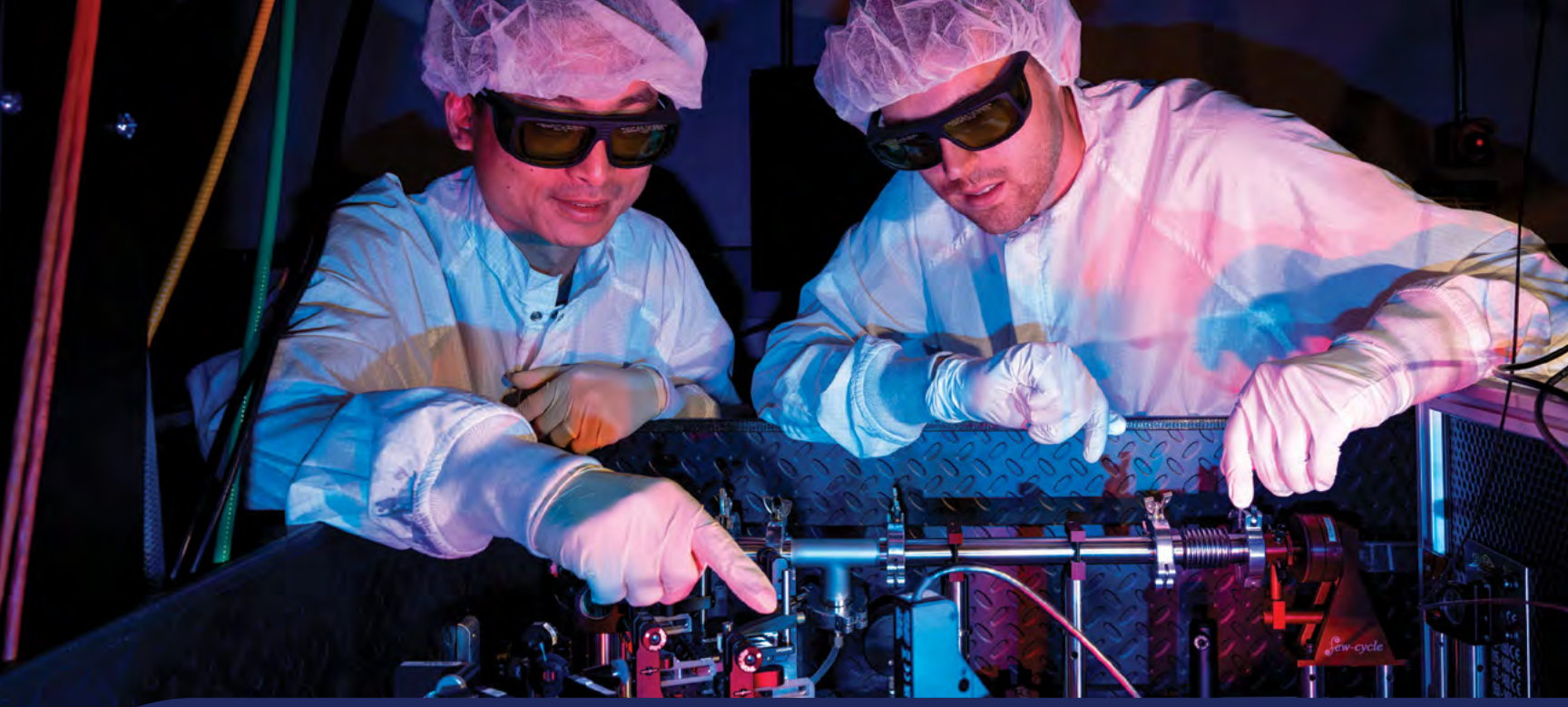
ACROSS

1. *That '70s Show* actress Debra Jo ____'74
5. ____ Mahal
8. "In what way?"
13. Other, in Spanish
14. Element often deficient in anemia, the research focus of George Whipple
16. "Count me in!"
17. Class of '70 alumnus who served as the 12th US Secretary of Energy
19. "Tomorrow" show that earned Charles Strouse '47E a Tony Award
20. Fished for morays
21. Emotion associated with teens
23. Bit of airport info: Abbr.
24. Colombo, ____ Lanka
25. Atom that carries a charge
27. Go to the Douglass Dining Center, say
29. Broad-spectrum antibiotic invented by Lloyd Conover '50 (PhD)
35. Part of a deer's "rack"
37. Naked mole ____ (animal used by URochester biologists to discover a "fountain of youth" gene)
38. Body art designs, for short
40. _____ Campus (Eastman Community Music School offering)
41. Booze in a mojito
42. Quickly swivel
43. Position in golf
44. What a Yellowjacket is not, contrary to popular belief
45. Actress Stritch or May
46. Class of '83E soprano who sang at Super Bowl XLVIII
50. Bonobo or gorilla
51. Author Alvar or actress Farrow
52. "I'm ____loss for words"
55. _____ Mental Health Project (initiative by URochester psychologist Emory Cohen)
59. Elmwood ____ (Rochester watering hole)
60. "You're it!" game
61. Fruit juiced for a mojito
62. *The Matrix* visual effect developed by George Borshukov '95
65. Purple Brazilian berry
66. Once more
67. "My bad!"
68. Adjacent (to)
69. Project a URochester CSC student might build
70. Focus of study for URochester Professor Lynne Maquat and the basis of some COVID-19 vaccines

DOWN

1. Valentine's Day flowers
2. Say out loud
3. Hassle-free Christmas decoration
4. Install some asphalt
5. Chemical element with the shortest name
6. Esoteric knowledge
7. ____ Levey '69, casting director of shows like *ER* and *The West Wing*
8. Type of hernia
9. Have the deed to
10. Drink offered at Rochester's Carnegie Cellars restaurant
11. Narrow cut
12. Display tech made practical by Professor Emeritus Ching Tang: Abbr.
15. Chicken morsel, for short
18. Worked on the *Campus Times*, perhaps
22. Religious splinter group
26. Bobby of hockey fame
28. Red color named after a Renaissance painter
30. 90-degree-angle shape
31. Inhumane
32. Thanksgiving tuber
33. Component of a website's user experience
34. Famed British boarding school
35. Hole-punching tool
36. Dark film genre
39. Sault ____ Marie, Michigan
41. Official at a Yellowjackets football game
42. Easily bendable
44. Establishment that specializes in craft brews
45. Like Nobel Prize winner Arthur Kornberg '41M (MD)
47. "Ask me for anything you want"
48. Government group that researches microplastics: Abbr.
49. Actor Estevez
53. City on Florida's Gulf Coast
54. Gets older
55. URochester's *Boundless Possibility*, for example
56. Staple grain in Asia
57. ____ Prismless Laser Projector (Oscar-winning tech codeveloped by Barry Silverstein '84)
58. Cold War–era auto make
63. Engineering Quad facility, for short
64. Sci-fi/fantasy publisher

Send a photo of your completed puzzle to rochrev@rochester.edu or post it on social media with the hashtag #RochesterReview for a chance to win exciting prizes! We'll choose the lucky puzzlers on December 31, 2025. (Psst: The solution can be found at rochester.edu/news/review.)



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