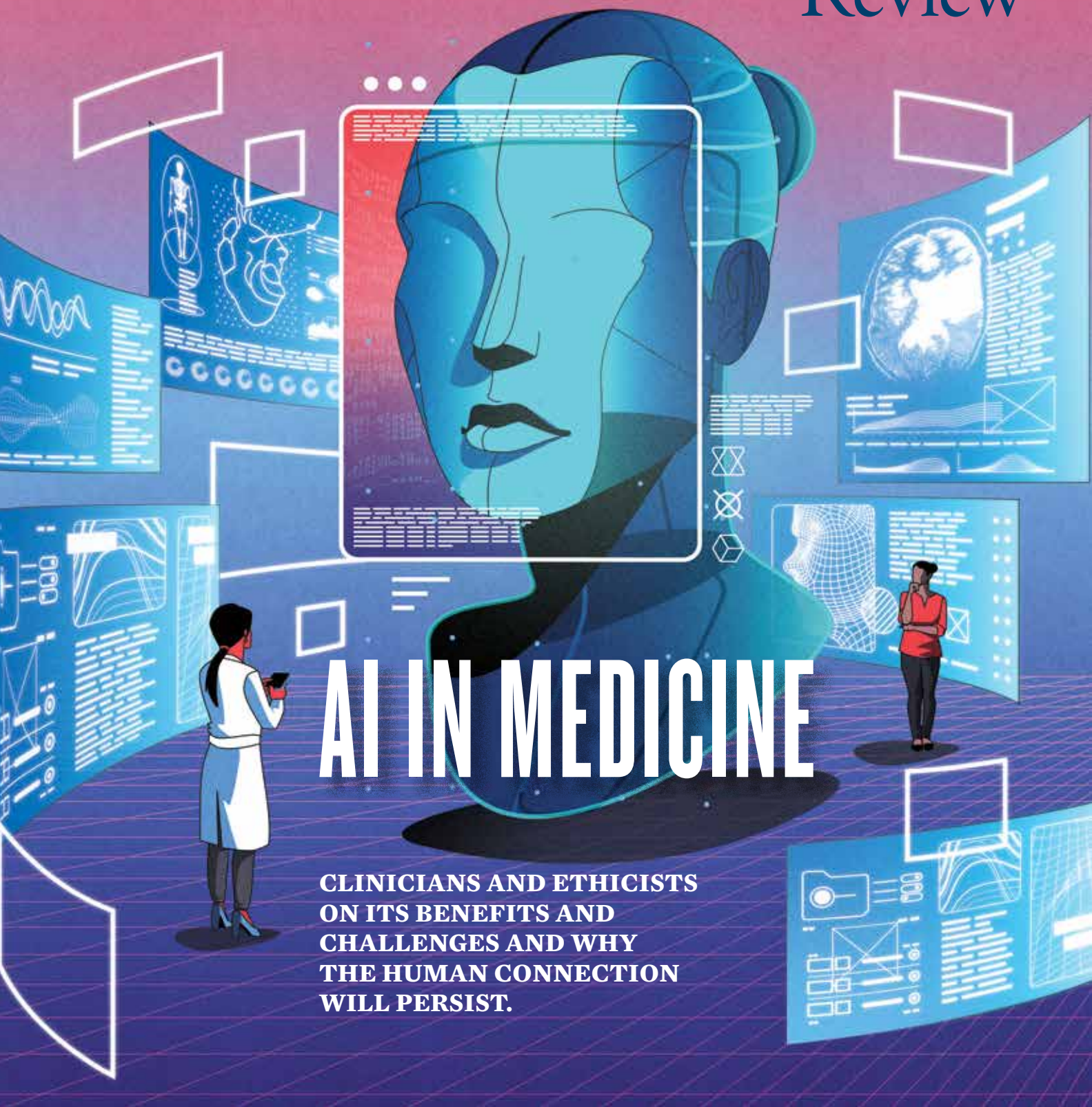
Rochester Review

UNIVERSITY OF ROCHESTER/SUMMER 2024

COMPUTER SCIENCE AT 50
A DEPARTMENT REFLECTS ON ITS HISTORIC ROLE.

A GIANT LEAP
COLE GOODMAN '25 AT OLYMPIC TRIALS.

WHEN POLITICS GETS PERSONAL
POLITICAL SCIENTIST JAMIE DRUCKMAN GETS ANALYTICAL.



AI IN MEDICINE

CLINICIANS AND ETHICISTS ON ITS BENEFITS AND CHALLENGES AND WHY THE HUMAN CONNECTION WILL PERSIST.

UR MEDICINE

WILMOT CANCER INSTITUTE

Lisa Norwood,
Retired Assistant Dean of the
Hajim School of Engineering,
University of Rochester

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Emily Lake,
T-Cell Acute Lymphoblastic Leukemia survivor

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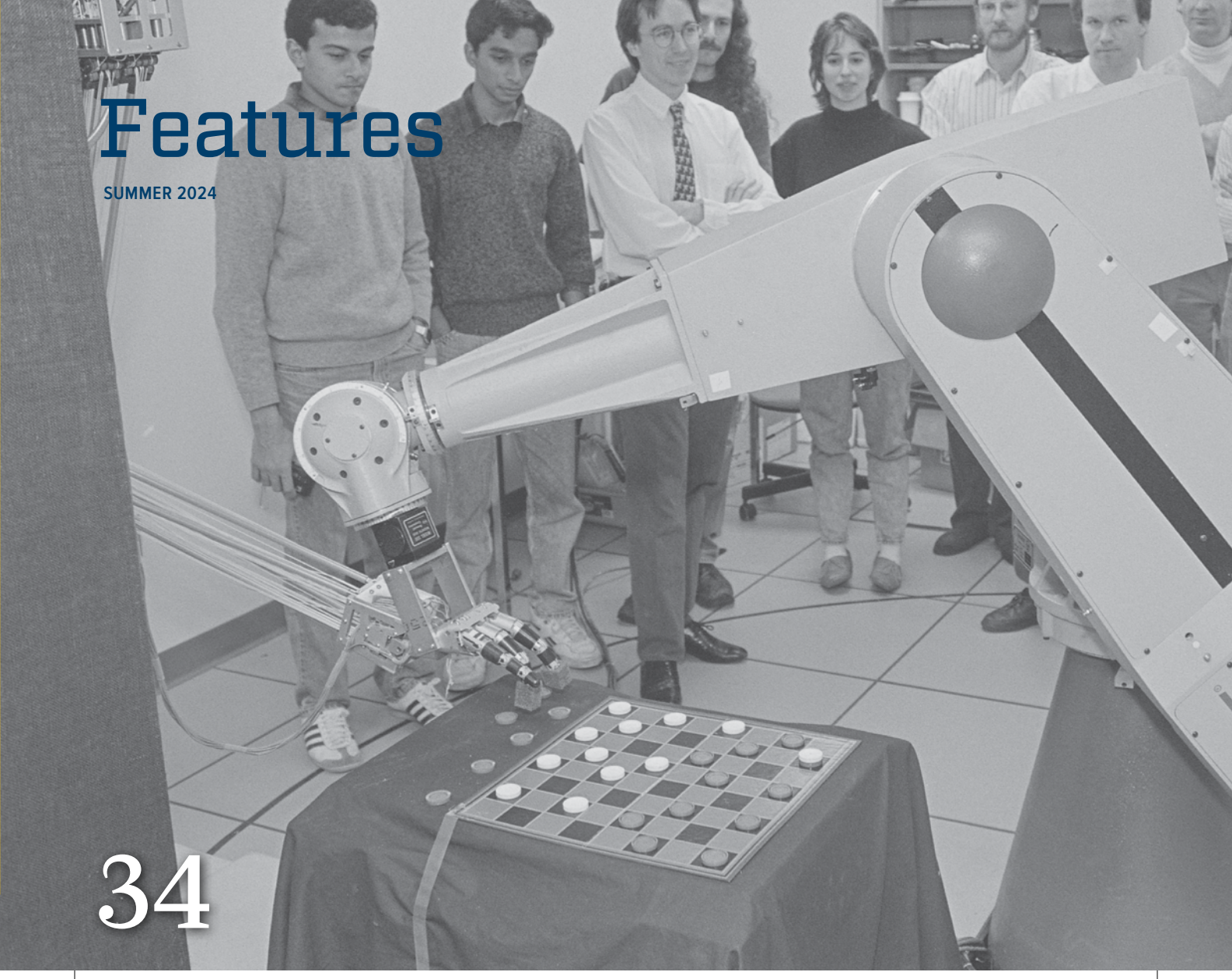
Features

SUMMER 2024



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24 Doctors, Patients, Algorithms, and Avatars

Clinicians, computer scientists, and ethicists are working across the University to incorporate reliable and ethical AI into medical diagnosis and treatment. As they progress, they're addressing fundamental questions: How can we ensure everyone benefits fairly and responsibly? And how can advanced technology be integrated into medicine without losing the human connection? *By Lindsey Valich*

ON THE COVER: Illustration by Denis Freitas for the University of Rochester

30 When Politics Gets Personal

As the 2024 presidential contest heats up, Jamie Druckman, the Martin Brewer Anderson Professor of Political Science, shares his expertise on political polarization. *By David Andreatta*

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The Department of Computer Science marks 50 years. *By Luke Auburn*

38 Landmarks in Computer Science

A timeline of milestones at Rochester and around the world.

UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (ROBOTIC ARM); J. ADAM FENSTER (DRUCKMAN)

Departments

Summer 2024

SPHERE ENTERTAINMENT (ELBY); CARLO ALLEMANO (MORLEY)
DAVID COWLES FOR THE UNIVERSITY OF ROCHESTER (PARKER)

Mission and Spirit: Lead Research, Care, and Creativity

Universities like Rochester are uniquely poised to transform lives and drive innovation through the wide-ranging scope of our research and community commitment.

By Sarah C. Mangelsdorf

Sometimes overlooked in public discussions about the role that higher education plays in our society and culture is the incredible scope of national research universities like the University of Rochester. We are uniquely situated as an institution to engage in the kind of "big-idea" projects that can both transform disciplines and touch the lives of people in our community. At the same time, we share our creativity and innovation with those who live next door and around the world.

As a member of our University community, I'm regularly reminded of our remarkable legacy and the ways in which we continually work to build on our history. But in the span of a little less than a month this spring, even I marveled at our wide-ranging ability to ask big questions, focus our expertise at the most personal level, and help bring creative energy to our community.

In late May, we formally opened a new addition at the Laboratory for Laser Energetics that will help our scientists—and their colleagues around the world—advance the science of fusion and explore the physics at the core of planetary bodies in our universe. The 66,600-square-foot addition allows for new capabilities that enhance research and education as well as workforce and economic development. As a national laboratory, LLE has long been at the forefront of research and education in fusion, in understanding the extreme conditions typically only found at the centers of planets and stars, and in laboratory astrophysics.

In early June, we announced a historic $50 million gift from Rochester philanthropist and business leader Tom Golisano to establish a new institute at the Medical Center that will transform the lives of people with intellectual and developmental disabilities. The new Golisano Institute will leverage our outstanding research and clinical care programs that touch the lives of some of the most vulnerable—and underserved—members of our communities. That population is estimated to include 200 million people worldwide and about 120,000 people in the Finger Lakes region of western New York.

As one of only 15 institutions designated by the National Institutes of Health as a Eunice Kennedy Shriver Intellectual and Developmental Disabilities Research Center—and one of only a very small handful to receive all three top designations from the NIH—we are internationally recognized as leaders in this life-changing field.

And in late June, we were proud to enhance our engagement with the CGI Rochester International Jazz Festival, a showcase of our region's world-class musical culture. One of Rochester's signature community events, the festival features nine days of performances by musical artists from across the country and the globe, including our Eastman School of Music students, faculty, and alumni, as well as members of the Eastman Community Music School's programs.

We've been an integral part of the festival for each of its 21 years, largely through Eastman, but this year we increased our commitment as an institution, one that's a key partner for such efforts to showcase the talent and creativity found in the Rochester region.

Few institutions, enterprises, or organizations in our social and economic systems can take on such wide-ranging roles, much less dedicate themselves to leading these kinds of initiatives.

That is, however, the mission and spirit of a national research university like Rochester. We bring together the most talented and inquisitive faculty and student scholars, clinicians and health care professionals, musical and performing artists, humanists, social and physical scientists, and researchers of all kinds in a framework that allows them to follow their curiosity, to ask questions, and to explore answers.

The economic and social history of the United States and the world at large would be much diminished without the historic commitment of research universities and the incalculable dedication of those who are and have been a part of our history. We're grateful for the support of every member of our communities.

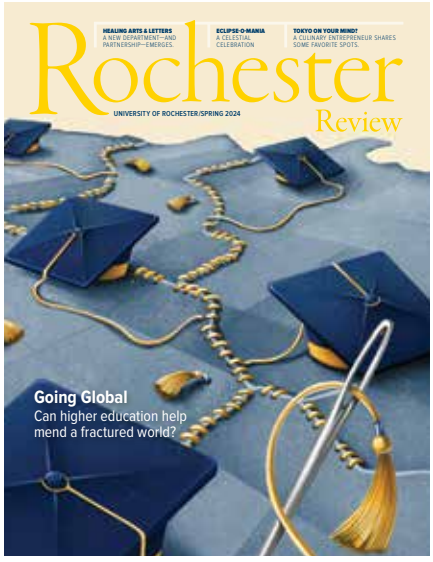
As we move forward in coming years, we will be guided by our *Boundless Possibility* strategic plan, which begins its second year this fall. The plan provides a road map for our institution that capitalizes on our incredible legacy of innovation—emphasizing our breakthrough research, our standing as a world-class academic medical center, and our engagement with the communities of the historic Rochester region that we call home.

We're committed to being an institution that can change the lives of students, patients, and all the people with whom we interact. We also fully expect to transform research, scholarship, the creative arts, and clinical care in ways that make the world better for all. We have an extraordinary legacy to build upon, and I'm confident that we will add even more marvelous chapters to our story. Ⓡ

Contact President Mangelsdorf at thepresidentsoffice@rochester.edu. Follow her on Instagram: @urochestermangelsdorf.

JOHN MYERS

Letters



Accent on Global

Having lived in Japan as a high school student and worked in Germany for four years, my thinking is that to think globally you need to live in an alien society, adapt to it, go through those adaptation pains, and interact with the locals, preferably in their language. The article about bringing foreign students to Rochester ("Going Global," Spring 2024) shows a good example of teaching those students how to interact with a strange (to them) society. For residents of the US, those able to get a year abroad will get as close to my ideal as you can in only one year. Working for an American company that was trying to become totally global meant I had several opportunities to interact as a member of several global teams and travel to Europe after having worked in Germany. That helped cement for me the teaching that there are many ways to attack a problem and that my way of thinking was not guaranteed to be the best of the team.

So I support the U of R in bringing as many outsiders to the University as possible and offering as many opportunities as possible for overseas studies. For my German experience, it took four weeks of Berlitz training to fix my year of German at Rochester, and two years living there before I could interact in German at work. I was accused of having an accent, but it was considered a Dutch accent, so pretty close.

Charles Bash '64
Midland, Michigan

Very interesting issue, but I was disappointed to see that the chart of academic partnerships does not reflect the student exchange agreement the University has with the Hebrew University of Jerusalem. I know it is only one of many partnerships the University has with foreign institutions, but the University, in its statement following the Hamas massacre in Israel on October 7, 2023, made a point of mentioning the agreement. It is important to emphasize the University's support of Israel as rowdy mobs of students and others encourage disengagement with Israel. I think *Review* can do better than to ignore the subject.

Jay Bernstein '69, '71S (MBA)
Glen Rock, New Jersey

Fond Remembrances

As a master's student in the Institute of Optics back in '75, I ran out of tuition funds midway through. Dr. Thompson ("Brian Thompson: University Leader, Optics Pioneer," Spring 2024) told me to focus on my studies and things would be taken care of. After graduation, I worked as an optical engineer and for 31 years after that as a patent attorney for optical technologies. This is the kind of person Dr. Thompson was. Thank you and may your spirit live in all of us.

William Greener '76 (MS)
Newfield, New York

Kudos to Marcy Kraus and Juliet Sullivan '98 (PhD) for their tribute to Suzanne O'Brien '59 ("Suzanne O'Brien '59: Shaper of Curriculum, Founder of Advising Services," Spring 2024). It is so beautifully written—a prime example of the prose that Suzanne so admired and demanded of her staff.

I worked at the College Center for Advising Services from 1972 to 1977, in my first job after college graduation. Suzanne taught by example how to respect and listen carefully to the undergraduates we served. She taught us how to find the answers we needed in those days before computers and how to be accurate in our advice.

As an English major, I enjoyed grammatical repartee with Suzanne, and I used and improved my writing skills on a daily—no, hourly—basis. All of this served me in good stead in my career after leaving Rochester.

Rochester Review

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Credits
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1850 MELIORA
UNIVERSITY of ROCHESTER

ARCHIVAL ADDITION: As members of the Class of 2028 get ready for Orientation 2024, Susan Klein '62 sends a photo of the junior women in charge of welcoming first-year women in 1960. Activities that year included "Frosh Camp," an overnight trip to Bristol Hills.

Your tribute to Suzanne absolutely hit the mark. It made me feel very fortunate to have been an employee in academic advising at Rochester.

Ann Sperry Parke
Concord, New Hampshire

More Good Times at *CT*

Thank you to Gary Birnbaum '75 for his wonderful tribute to the first daily staff of the *Campus Times*, on which I served as news editor (Letters, Spring 2024). It was no ordinary year, 1974, and I will always remember the ungainly AP and UPI machines sounding all four bells up in the *CT* offices in Todd Union when Nixon resigned in August.

My time at the *CT* was transformative. I spent 10-plus years reporting for the San Francisco Bay Area daily metropolitan papers and then practiced First Amendment law in California.

Here's to all that, Pat and Sandy's, Smitty's, and the best of times.

Helaine Lasky Schweitzer '76
Oakland, California

Mistaken Identities

Stephanie Brown Clark, the former director of the Medical Center's Division of Medical Humanities (the precursor to the Department of Health Humanities and Bioethics) noted that George Engel, the physician credited with originating the biopsychosocial model of patient care, was misidentified as a psychiatrist ("Healing Arts and Letters," Spring 2024). While Engel held a joint appointment in the Department of Psychiatry and the Department of Medicine, he was trained and practiced as an internist.

Clark, who is the coauthor of *John Romano and George Engel: Their Lives and Work* (Meliora Press, 2013), writes, "Engel developed a close relationship with John Romano (who was a psychiatrist) while they were working and teaching together in Rochester. It was John Romano's focus on the psychological and social factors in health and disease in his practice that Engel came to admire and incorporate into his own work with patients."

Clark was also misidentified. A physician and humanities scholar, she earned her doctorate in medical history and literature.

And Bill Golisch '80 noticed that the instrumentation pictured on page 29 in the spring issue ("Harkness and Light") was misidentified. The image shows a heliometer (circa 1880), an instrument used to measure the apparent diameter of the sun as it changes through the seasons. Although the image is part of the William Harkness collection in Rush Rhees Library, the equipment was not owned by Harkness.

We apologize for the errors.

Posting a Picture

Susan Klein '62 shared a small batch of photos of her time on campus, including a photo of the junior women who organized some of the welcoming activities for first-year women who arrived at Rochester in the fall of 1960.

That year, activities included spending a night in the Bristol Hills south of Rochester, part of what was known as "Frosh Camp." This fall, first-year and transfer students will arrive in late August for Orientation activities and other events leading up to the start of classes on August 26.

We'll make sure the photos find a home in the University Archives.

—Karen McCally

Review welcomes letters and will print them as space permits. Letters may be edited for brevity and clarity. Unsigned letters cannot be used. Send letters to Rochester Review, 22 Wallis Hall, Box 270044, University of Rochester, Rochester, NY 14627-0044; rochrev@rochester.edu.

In Review

EASTMAN CONNECTION

ROC around the City

CONCERT BREAK: Eastman School of Music faculty members Elinor Freer, associate professor of piano and chamber music, Yoo Jin Jang, assistant professor of violin, and David Ying, professor of string chamber music and violoncello, perform for residents of the rehabilitation unit at the Monroe County Jail. The performance was part of ROC City Concerts, a series coordinated by Freer, funded by the John and Mary Celentano Chamber Music Fund, and launched last spring to connect Eastman musicians to audiences around the city of Rochester who rarely get to hear live chamber music. PHOTOGRAPH BY J. ADAM FENSTER

COMMENCEMENT 2024

Here's to You, Class of 2024

For the third straight year in May, graduates from every school of the University gathered at Fauver Stadium for one big Commencement celebration. The stadium, part of the Brian F. Prince Athletic Complex on the River Campus, seated an audience of thousands, including family, friends, loved ones, faculty, staff, community members, and distinguished guests. The University conferred academic degrees on more than 3,500 undergraduate and graduate students this spring.

Highlights included the Commencement keynote address by Laura Carstensen '78, a Stanford University research psychologist and internationally renowned expert on aging; and the awarding of honorary degrees to Carstensen, laser physicist and former Laboratory for Laser Energetics director E. Michael Campbell, and jazz bandleader, composer, and artist rights activist Maria Schneider '85E (MM).

SNAPSHOTS: President Sarah Mangelsdorf welcomes Commencement keynote speaker Laura Carstensen '78 (left) before her address to the graduates (above); University Marshal Hani Awad hoods jazz composer, bandleader, artist rights activist, and honorary degree recipient Maria Schneider '85E (MM) (right); and graduates of the School of Arts & Sciences and the Hajim School of Engineering & Applied Sciences toss their hats, blow bubbles, and smile widely in celebration.

KEITH WALTERS (MANGELSDORF); LAUREN PETRACCA (GRADUATES AND STAGE)

KEITH WALTERS (SCHNEIDER, HATS); LAUREN PETRACCA (MIDDLE RIGHT, LOWER RIGHT); J. ADAM FENSTER (CENTER)

LIGHT MY FIREBALL: An artist's rendering depicts a black hole emitting a jet of hot gas known as plasma—the fourth fundamental state of matter alongside solids, liquids, and gases.

Plasma 'Fireball' Generated in Lab

Black holes and neutron stars are among the densest known objects in the universe. Within and around these extreme astrophysical environments exist plasmas, the fourth fundamental state of matter alongside solids, liquids, and gases.

The plasmas at these extreme conditions are known as relativistic electron-positron pair plasmas because they comprise a collection of electrons and positrons—all flying around at nearly the speed of light. While such plasmas are ubiquitous in deep space conditions, producing them in a laboratory setting has proved challenging.

Now, for the first time, an international team of scientists, including researchers Dustin Froula and Daniel Haberberger from the Laboratory for Laser Energetics (LLE), has experimentally generated high-density relativistic electron-positron pair-plasma beams by producing two to three orders of magnitude more pairs than previously reported. The team's findings appear in *Nature Communications*.

According to lead author Charles Arrowsmith, a physicist from the University of Oxford who is joining LLE in the fall, "The laboratory generation of plasma 'fireballs' composed of matter, antimatter, and photons is a research goal at the forefront of high-energy-density science."

The breakthrough opens the doors to follow-up experiments that could yield fundamental discoveries about how the universe works.

—Sofia Tokar

Protecting Cognitive Function: Ketones May Help

The brain naturally becomes more insulin resistant as humans age, creating breakdowns in communication between neurons, which can lead to mood changes, cognitive decline, and eventually, neurodegeneration.

A study led by Nathan Smith '13M (PhD), an associate professor of neuroscience, found new evidence that ketones—a byproduct released by the liver when the body burns fat instead of glucose for energy—may be useful in alleviating neuronal dysfunction.

Focusing on the hippocampus, an area of the brain that plays important roles in learning and memory, Smith studied the mechanisms that break down when insulin resistance strikes but before such chronic conditions as diabetes or Alzheimer's take hold. He and his team identified several aspects of neuronal function impaired by acute insulin resistance, all of them critical to supporting the communication flow in and out of neurons.

They found that one form of ketones proved effective in rescuing the synaptic activity previously impaired by insulin resistance. Conduction in axons and synaptic plasticity increased and neurons were resynchronized. The team published the results in *PNAS Nexus*.

"This research," says Smith, "has implications for developing ketone-based therapies targeting specific neuronal dysfunctions."

—Kelsie Smith Hayduk

NASA/JPL-CALTECH

Nanoparticles: Promising Tool for Precision Drug Delivery

Harnessing nanoparticles to deliver drugs precisely to a surgically repaired tendon can reduce scar tissue formation and improve mechanical function to a greater degree than traditional delivery methods, researchers report in *Science Advances.* Researchers' success in pinpointing a drug therapy inside the body, at the cellular level, proved to be a highly efficient delivery method that could be used to treat other injuries.

"There are very few effective drug regimens to assist the tendon healing process, despite the high number of these injuries and the poor outcomes that often result," says coauthor Alayna Loiselle, an associate professor at the Center for Musculoskeletal Research. Drugs administered orally are inefficient in reaching the healing tendon, and injection carries risks including potential tissue damage.

Using a molecular map of the healing tendon, the researchers were able to pinpoint a protein to which a peptide nanoparticle could bind, delivering medication directly and precisely to the healing site. They found that the targeted drug delivery method significantly benefited the healing process by reducing scar tissue formation and improving mechanical function.

—Barbara Ficarra

Magnetic Fields May Hold Keys to Evolution

Did a magnetic field collapse trigger the emergence of animals?

New research led by John Tarduno, the William Kenan, Jr. Professor in the Department of Earth and Environmental Sciences, suggests a weak magnetic field millions of years ago may indeed have fueled the proliferation of life.

Tarduno and his team uncovered compelling evidence that Earth's magnetic field was in its weakest known state a little more than 600 million years ago, when complex, multicellular organisms emerged on Earth. A weak magnetic field makes it easier for charged particles from the sun to strip hydrogen from the atmosphere, leading to a buildup of oxygen over time.

The study, published in *Nature Communications Earth & Environment*, suggests that understanding planetary interiors is crucial in contemplating the potential of life beyond Earth.

"It's fascinating to think that processes in Earth's core could be linked ultimately to evolution," Tarduno says. "As we think about the possibility of life elsewhere, we also need to consider how the interiors of planets form and develop."

—Lindsey Valich

ANIMAL MAGNETISM: Research shows a collapse in the earth's magnetic field may have led to conditions for complex life to emerge. The research raises questions about factors that may have fueled the emergence of multicellular organisms, such as fauna from the Ediacaran period of Earth's geological history, notable for their resemblance to early animals.

QUANTUM (DIS)CONNECTION: How long does quantum entanglement persist? And what breaks the connection? A Rochester experiment at CERN seeks answers.

Spooky Action at CERN

A research team led by physics professor Regina Demina has produced a significant result related to quantum entanglement—an effect that Albert Einstein called "spooky action at a distance."

Entanglement concerns the coordinated behavior of subatomic particles that have interacted but then moved apart. Measuring properties—like position or momentum or spin—of one of the separated pair of particles instantaneously changes the results of the other particle, no matter how far the second particle has drifted from its twin.

Quantum entanglement has been observed between stable particles, such as photons or electrons. But Demina and her group broke new ground in finding that entanglement persists between unstable top quarks and their antimatter partners at distances farther than what can be covered by information transferred at the speed of light.

The finding was reported by the Compact Muon Solenoid Collaboration at the European Center for Nuclear Research, or CERN, where the experiment was conducted. Located near Geneva, Switzerland, CERN is the world's largest particle physics laboratory.

Studies like Demina's can shed light on how long entanglement persists, whether it is passed on to the particles' decay products, and what, if anything, ultimately breaks the entanglement.

Theorists believe that the universe was in an entangled state after its initial fast expansion stage. The new result observed by Demina and her researchers could help scientists understand what led to the loss of the quantum connection in our world.

—David Andreatta

MICHAEL OSADCIW (MAGNETISM ILLUSTRATION); CERN PHOTO/MAXIMILIEN BRICE

MEDICAL CENTER

A Sort of Homecoming

In June, Justin White ’00 traveled with his wife, Kate, and their two sons, Caiden and Teddy, from their Connecticut home to Rochester—a trip the family has made more than 30 times since May 2022.

Four years ago, six-year-old Teddy was diagnosed with the rare genetic disorder Duchenne muscular dystrophy. With no cure for the condition, his doctors suggested gene therapy. The Whites chose to have the treatment done at the Medical Center, due to the strengths of its Clinical Research Center in conducting experimental gene therapy trials. Teddy completed the most recent phase of his trial in June and was granted his wish to mark the occasion: a trip to the top of Rush Rhees Tower. ®

Visit Rochester.edu/news/homecoming to watch a video of the Whites in which they share Teddy’s story and in which Emma Ciafaloni, the Medical Center’s director of pediatric neuromuscular medicine, explains how gene therapy works and talks about the Medical Center’s historic role in gene therapy.

TIME OUT FOR TOURING: Teddy White, joined by his father, Justin ’00, brother, Caiden, and mother, Kate, looks out onto the Eastman Quadrangle during a tour of the Rush Rhees Library tower.

J. ADAM FENSTER

University Welcomes New Trustees

Doug Bennett

Ria Dimalanta Nova

Steven Piaker

The Board of Trustees elected three new members and recognized four members as trustees emeriti at a meeting in May.

New trustees include Doug Bennett '06S (MBA), cofounder of Phalanx Impact Partners; Ria Dimalanta Nova '98, a partner at Apollo Global Management; and Steven Piaker '84, founder and managing partner of Ten Coves Capital.

Moving to trustee emeritus status are John Bruning, a board member since 2009; Thomas Richards, a member since 2004; Danny Wegman, a member from 1995 to 2005 and again beginning in 2009; and Mary Frances Winters '73, '82S (MBA), a member since 1987.

Nicole Sampson Named Interim Provost

Nicole Sampson

President Sarah Mangelsdorf has named Nicole Sampson, the Robert L. and Mary L. Sproull Dean of the School of Arts & Sciences since August 2023, to serve as interim provost. Sampson begins the role August 1.

"Nicole has proven to be an exceptionally skilled academic leader, in addition to being an admired and esteemed academic," said Mangelsdorf. "I am very confident she will transition seamlessly into this interim role."

Sampson succeeds David Figlio, the Gordon Fyfe Professor of Economics and Education, who stepped down as provost in June to return to teaching and research.

Duje Tadin, chair of the Department of Brain and Cognitive Sciences, has been named interim dean of the School of Arts & Sciences.

Kate Sheeran '02E Begins as Dean of Eastman

Kate Sheeran

Kate Sheeran '02E, most recently the executive director of Kaufman Music Center in New York City, began as the Joan and Martin Messinger Dean of the Eastman School of Music on July 15. The first woman in the school's history to hold the position, she succeeds Jamal Rossi, who served in the role since 2014.

New Leaders in Health, Safety

Cheryl Kodjo

Quchee Collins

Following a national search, Cheryl Kodjo '01M (MPH), a University Health Service physician and a specialist in pediatrics and adolescent medicine, was named vice provost and director of UHS. She began in the role on July 1, succeeding Ralph Manchester, who retired at the end of June.

Quchee Collins began as the inaugural associate vice president of public safety, bringing to the role more than 20 years of executive experience in public safety at institutions such as the City University of New York and New York City's civic agencies.

Rochester and Albany Launch Center of Excellence in RNA Research

Lynne Maquat

Rochester and the University at Albany have partnered on a new Center of Excellence in RNA Research and Therapeutics focused on developing RNA–based therapies and training New York's biotechnology workforce. The institutions are home to renowned scientists with decades of experience and millions of dollars in external research funding—notably, Lynne Maquat, the director of Rochester's Center for RNA Biology, who has helped catapult RNA research to the forefront of health and medicine over the past decade. Her work has identified the role that RNA plays in a multitude of diseases, a finding that has led to targeted RNA–based treatments for several inherited disorders.

Maquat will jointly lead the Center of Excellence at Rochester with Eric Wagner, a professor of biochemistry and biophysics and a member of the Center for RNA Biology.

Laser Lab Expansion Complete

The Laboratory for Laser Energetics has completed construction on a $46 million building expansion that began in August 2022. The opening of the addition marks a significant milestone for the national research facility, which was last expanded in 2003 to house the OMEGA EP laser.

The 66,600-square-foot addition includes 15,500 square feet of laboratory space with seating for 132 staff and students. The largest lab space will house a new high-energy, long-pulse laser.

J. ADAM FENSTER (SAMPSON); MATT WITTMEYER (MAQUAT); PROVIDED PHOTOS (TRUSTEES, SHEERAN, KODJO, AND COLLINS)

LEADER IN PHILANTHROPY: Golisano's total philanthropy to the Medical Center nears $100 million. His interest in the quality of life for people with intellectual and developmental disabilities is longstanding, as demonstrated by the more than $145 million he has given to organizations globally that are dedicated to advancing the health and social inclusion of an often underserved population.

'A Better World' for People with Intellectual and Developmental Disabilities

Rochester entrepreneur Tom Golisano makes a $50 million commitment—the largest single gift in University history—to build on the University's strengths in research and care.

By Kristine Kappel Thompson

Standing before an assembly of University leaders, clinicians, researchers, patients, family members, and other advocates, entrepreneur, philanthropist, and civic leader Tom Golisano announced in June a $50 million commitment to build the Golisano Intellectual and Developmental Disabilities Institute at the Medical Center. The commitment is the largest single gift in University history and the largest single gift made by Golisano, the founder of Paychex Inc.

The historic commitment will enable the University to significantly expand its already distinguished work in the field. Over the past nine years, the University has invested nearly $80 million in clinical, therapeutic, and educational programs affecting people with intellectual and developmental disabilities. In 2020, the University was designated an Intellectual and Developmental Disabilities Research Center by the National Institute of Child Health and Human Development.

Those with IDD are a traditionally underserved population, with approximately 19,000 people affected locally, 120,000 regionally, and 200 million worldwide.

"Creating a better world for people with IDD has been a passion of mine for over 40 years," said Golisano. Praising the University's commitment to IDD care, he added that the Medical

Those with IDD are a traditionally underserved population, with approximately 19,000 people affected locally, 120,000 regionally, and 200 million worldwide.

MATT WITTMEYER

Center's "vision for the new Golisano IDD Institute takes that dedication to a new and unprecedented level, putting patients at the center of every focus and providing one-stop integrated care and coordinated customized services. The impact will be an enhanced quality of life and access to care that, before now, has only been a dream for people with intellectual and developmental disabilities and their families."

The new institute will unite the resources of the University under a single umbrella. Research, patient care, community outreach, and caregiver support programs are now spread across the departments of neurology and of pediatrics, the Division of Developmental and Behavioral Pediatrics, the Del Monte Institute for Neuroscience, the Eastman Institute for Oral Health, and other centers providing education and care.

Plans are underway for a new facility to house the institute. The location of the site has yet to be determined. John Foxe, the Killian J. and Caroline F. Schmitt Chair in Neuroscience and director of the Del Monte Institute, will lead the institute.

"I couldn't be happier, more proud, and more inspired to take on this role, providing solutions to the health and quality of life issues that affect people with IDD," says Foxe.

"Although our clinical, therapeutic, and educational programs make Rochester an important regional and national resource, we must do more to address the growing needs of those with IDD. Tom's gift will help us close gaps, address challenges, meet demands, and expand educational opportunities, curricula, and community partnerships. We can now purchase the highly sophisticated tools required to allow breakthroughs in diagnosis and treatment, hire and train more professionals, and better meet the growing demand for services."

BOUNDLESS POSSIBILITY As a state-of-the-art center for transdisciplinary research, the Golisano Intellectual and Developmental Disabilities Institute fulfills a key goal of the University's 2030 strategic plan, *Boundless Possibility*. Learn more at Boundless.rochester.edu.

"I couldn't be happier, more proud, and more inspired to take on this role, providing solutions to the health and quality of life issues that affect people with IDD."

—John Foxe, Killian J. and Caroline F. Schmitt Chair in Neuroscience

PATIENT-CENTERED: Patient spokesperson and 22-time Special Olympic gold medalist Emily Brushafer thanked Golisano, adding that in spite of the excellent care she has received at Medical Center facilities, "many patients with intellectual disabilities, and their parents, struggle navigating the health care system." The 24-year-old Dansville, New York, resident is employed as a dietary aide at UR Medicine Noyes Health.

JOHN SCHLIA

Books & Recordings

Books

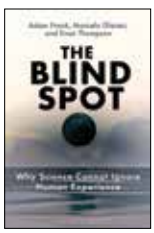
Partisan Hostility and American Democracy: Explaining Political Divisions and When They Matter

James Druckman, the Martin Brewer Anderson Professor of Political Science, coauthors a study of political polarization in the US and when it undermines democratic institutions. *(University of Chicago Press)*

Prior Art: Patents and the Nature of Invention in Architecture

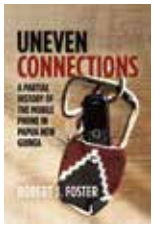
Peter Christensen traces the intersection of intellectual property and architectural invention during the 19th and 20th centuries when architects began the practice of patenting in significant numbers. Christensen is the Arthur Satz Professor of the Humanities, the Ani and Mark Gabrellian Director of the Humanities Center, and associate dean of the School of Arts & Sciences. *(MIT Press)*

The Blind Spot: Why Science Cannot Ignore Human Experience



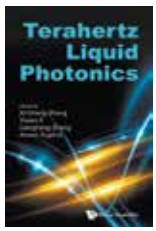
Adam Frank, the Helen F. and Fred H. Gowen Professor in the Department of Physics and Astronomy, joins with a theoretical physicist and a philosopher to make the case for a new conception of science—not as objective truth but as "a self-correcting narrative made from the world and our experience of it evolving together." *(MIT Press)*

Uneven Connections: A Partial History of the Mobile Phone in Papua New Guinea



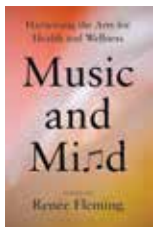
Robert Foster explores the introduction, uptake, and effects of mobile phones in the Pacific Islands nation. Foster is a professor of anthropology and of visual and cultural studies and the Richard L. Turner Professor of Humanities. *(Australian National University Press)*

Terahertz Liquid Photonics



Xi-Cheng Zhang and **Yiwen E** coedit an overview of the emerging topic of terahertz liquid photonics, offering a new perspective on laser-matter interactions. Zhang is the M. Parker Givens Professor of Optics and a distinguished scientist in the Laboratory for Laser Energetics. E is a research associate in Zhang's lab. *(World Scientific Publishing)*

Music and Mind: Harnessing the Arts for Health and Wellness

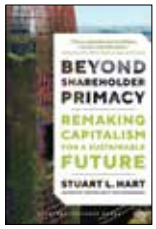


Renee Fleming '83E (MM) edits a collection of essays from leading scientists, artists, creative arts therapists, educators, and health care providers about the powerful impacts of music and the arts on health and the human experience. Contributors include Ann Patchett, Ben Folds, Rosanne Cash, and Yo-Yo Ma. *(Penguin Random House)*

The Art of the Music Critic

Max Stern '69E, a professor emeritus at Ariel University and a music critic for the *Jerusalem Post* since 1988, presents a comprehensive collection of his reviews, offering a window into the aesthetic, social, historical, and cultural context of the musical life of Israel. *(Nova Academic Publishers)*

Beyond Shareholder Primacy: Remaking Capitalism for a Sustainable Future



Drawing on the history of capitalism and its evolution in response to crises, **Stuart Hart** '74 argues that a capitalism structured to achieve aims beyond maximizing shareholder value is possible and even likely in the coming years. Hart is a professor emeritus at Cornell University's Johnson School of Management and a professor-in-residence at the University of Michigan's Erb Institute for Global Sustainable Enterprise. *(Stanford Business Books)*

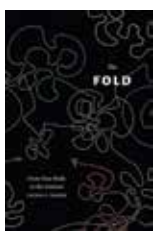
Beastly Beauty

Jennifer Donnelly '86 offers a modern retelling of Beauty and the Beast. As Arabella makes her debut in society, she suppresses her deepest emotions in an effort to be compliant. Her effort backfires, and her display of anger brings upon a curse—one that has Arabella asking whether desire and ambition really are beastly. *(Scholastic Press)*

An Invitation to the Party

Mary (MJ) White '72W (MA) offers a humorous novel about aging in which Garnet, a retired bookstore manager and "failure as a mother" looks forward to a "no fuss" 70th birthday. *(Regal House Publishing)*

The Fold: From Your Body to the Cosmos



Laura Marks '96 (PhD) draws on philosophers and theoretical physicists to offer "a practical philosophy and aesthetic theory for living in an infinitely connected cosmos." Marks is the Grant Strate University Professor at Simon Fraser University in Canada. *(Duke University Press)*

Modern Classical Optical System Design: Fundamentals, Techniques, Tips, and Tricks

Ronian Siew '97, '99 (MS), an optical engineering consultant in Vancouver, shares his "bag of tricks" for designing optical systems in a modern, fast-paced product development context. Topics include imaging, lens design, illumination, tolerancing,

detection, and nuances of optical system product development. *(IOP Publishing)*

Economics of Healthcare: A Brief Introduction

Andrew Friedson '07, the director of health economics in the Milken Institute's research department, presents a basic guide to health economics "that brings the economist's way of viewing the world to bear on the fundamentals of the US health care system." *(Cambridge University Press)*

Elements of Sound: A Full-Spectrum Exploration of Sound and Consciousness

Adrian DiMatteo '12E explores the relationship between sound and consciousness at the intersections of science, spirituality, and music theory. DiMatteo is the founder of the Sonic Institute, which helps connect people with sound and music as tools for healing and meditation. *(Albion Andalus)*

The Manual of Close-Up and Macro Photography, Volume I: The Basics—Magnification to 1X

Lester Lefkowitz '72 (MS) presents an illustrated guide for hobbyists and the scientific, technology, and medical communities to the mechanics and techniques of creating visually pleasing and technically accurate photographs of subjects as small as 20mm wide. *(Tech Photo Press)*

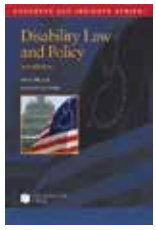
The Feldenkrais Method for Instrumentalists: A Guide to Awareness Through Movement

Elizabeth Blades '83E (MM), '93E (DMA) coauthors a guide for musicians to using movement during performance with minimum effort and maximum efficiency. The guide includes exercises, lessons, and case studies. Blades teaches at Alfred University. *(Rowman & Littlefield)*

Skip the Funeral and Other Musings (Second Edition)

Bill Goldstein '68—lawyer turned sports executive turned humorist—offers a new collection of stories, observations, and "pet peeves," together delivering "practical wisdom in bite-sized bursts." *(Fulton Books)*

Disability Law and Policy (Second Edition)



Peter Blanck '79 provides an updated overview of the major themes and insights in disability law since passage of the Americans with Disabilities Act in 1990. Blanck is University Professor and chairman of the Burton Blatt Institute at Syracuse University's law school. *(Foundation Press)*

Recordings

Seeds

Brooklyn–based pianist, composer, and multimedia artist **Yvonne Rogers** '21, '21E presents her debut album, recorded at Jazzcampus in Basel, Switzerland. *(Relative Pitch Records)*

October Skies: Songs for Tenor, Violin, Cello, and Percussion

The October Sky Ensemble, which includes cellist **Alan Weinstein** '86E (MM), violinist **John Irrera** '07, '14 (DMA), percussionist **Annie Stevens** '12 (DMA), and tenor Brian Thorsett, performs a mix of new music. *(MSR Classics)*

Ave Maris Stella

Reed Chamberlin '14E (DMA), director of bands at the University of Nevada, Reno, conducts the Nevada Wind Ensemble in his arrangements of the motets and secular works from the 14th and 16th centuries. The recording offers a 21st-century recasting of the works using novel recording and editing techniques. *(Navona Records)*

Transformations: Music of David Evan Thomas

Pianist Sonja Thompson performs the first recording of solo piano music by Minneapolis-based composer **David Evan Thomas** '83E (MM). *(Centaur)*

Oneira

The percussion ensemble Clocks in Motion, which includes **Chris Jones** '10E (MM), '18E (DMA), performs music by **Jennifer Bellor** '13E (PhD), an assistant professor of music composition and theory at the University of Nevada, Las Vegas. *(Aerocade Music)*

Samuel Jones: Three Concertos

Composer **Samuel Jones** '60E (PhD) presents a concerto each for flute, violin, and trombone, recorded by soloists and conductor Gil Rose with the Boston Modern Orchestra Project. Jones was the founding dean and is a professor emeritus of composition and theory at Rice University's music school. *(BMOP)*

Olivier Messiaen: La Nativité du Seigneur

Mark Steinbach '90E (DMA), Distinguished Senior Lecturer in Music and University Organist at Brown University, performs Messiaen's work on the unaltered 1880 Cavaillé-Coll organ of the Eglise Saint-François de Sales in Lyon, France. *(Aeolus)*

Books & Recordings is a compilation of recent work by University alumni, faculty, and staff. For inclusion in an upcoming issue, send the work's title, publisher, author, or performer, a brief description, and a high-resolution cover image to Books & Recordings, Rochester Review, *22 Wallis Hall, Box 270044, University of Rochester, Rochester, NY 14627-0044; or by email to rochrev@rochester.edu.*

GLOBAL ENGAGEMENT

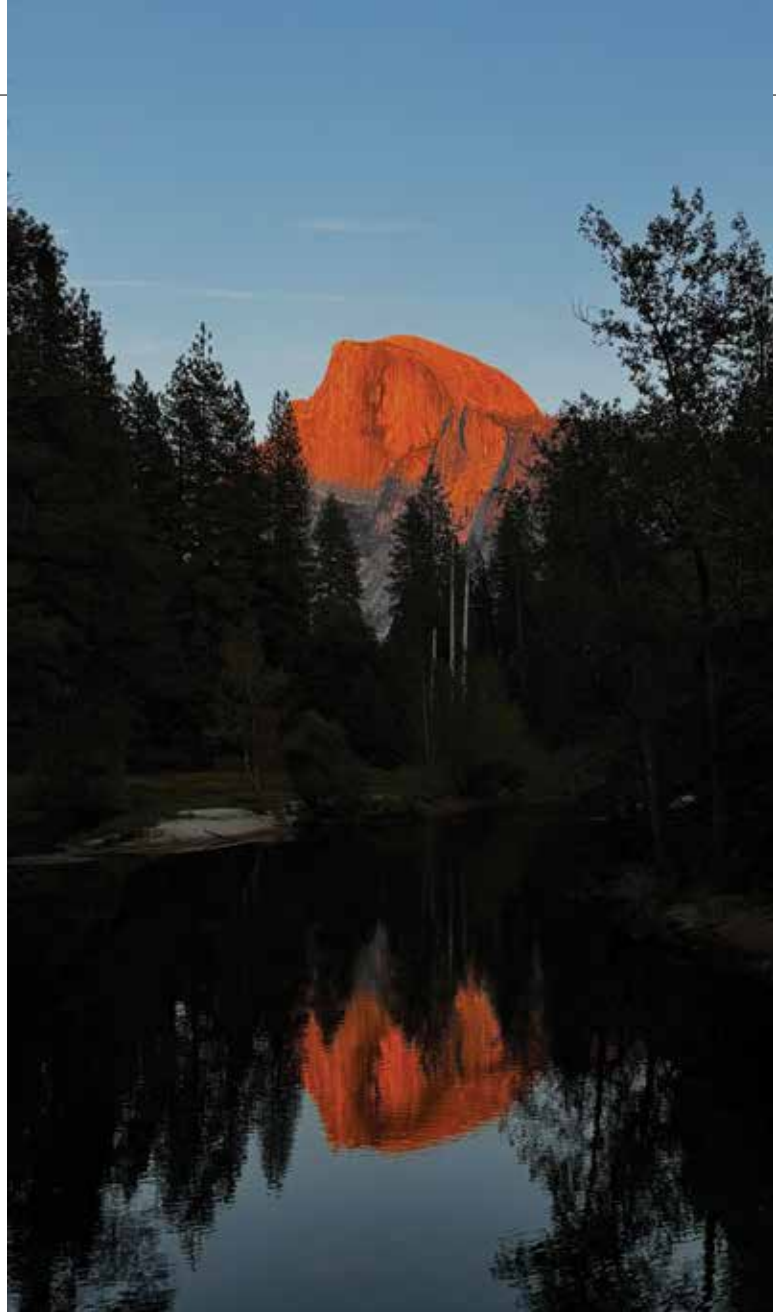
Around the World in 5 Photos

Highlights from an annual photo contest showcase international education.

By Matt Cook

Every year, the Office for Global Engagement gives Rochester students participating in international education an opportunity to tap into their inner photographer. The office's Center for Education Abroad sponsors a photo contest for students studying outside the Americas or overseas, while the office's International Services Office sponsors a similar contest for Rochester's international students who have turned their lenses on their experience in the United States.

This year's contests, which closed toward the end of the spring semester, drew submissions from 49 international students and 54 students who traveled abroad. Here are a few of the top photos submitted. ®

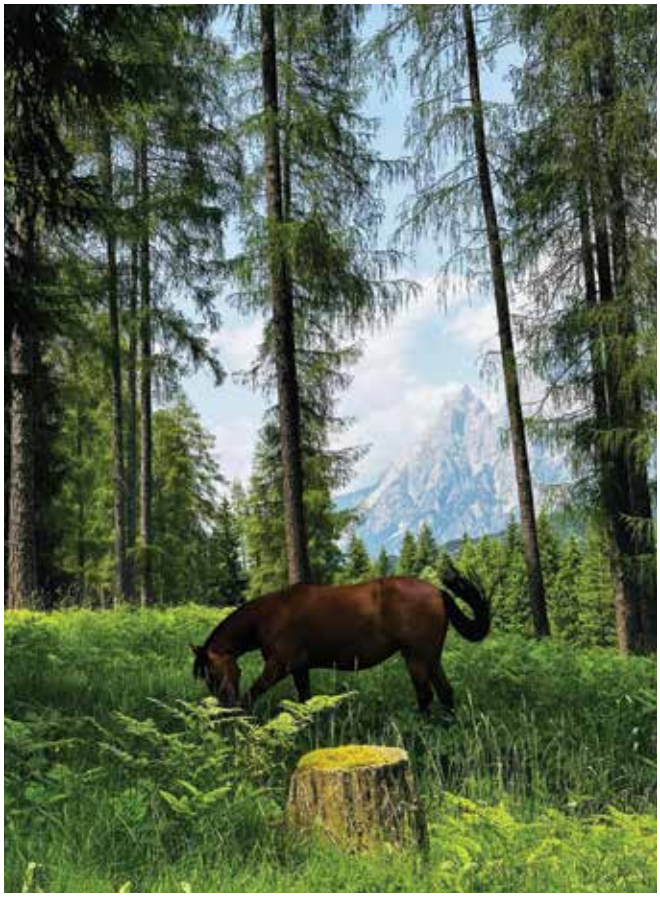


FALSE SUN
Perhaps only the most dedicated of national park devotees would recognize this rock formation (right), pictured mimicking a setting sun as Yosemite National Park's Half Dome. This view is from Sentinel Bridge. After spending time on the park's Mist Trail, **Stella Fu** '24, who came to Rochester from Beijing, China, hiked to the bridge and made this breathtaking golden-hour photo of the well-known batholith.

THE YOUNG MAN AND THE SEA
It's easy for people in the Rochester area to take the city's proximity to the Great Lakes for granted. So someone from Rochester might not guess that this photo (left) was taken at Ontario Beach Park. **Yupei Miao** '24S (MS), who is from Xian, China, took his drone out for a sunset flight along the lakeshore when he happened upon this unidentified man having an existential moment—or a moment of silence for a lost pair of sunglasses. Interpretation lies with the viewer.

HOLI DAY

Ivan Gomez '27, whose home is in Chile but who lived for two years in Tanzania, took this shot (left) in Moshi, Tanzania, in March at the start of Holi, the Hindu festival of colors that celebrates the end of winter, love, and the triumph of good over the evil king Hiranyakashipu. People in Tanzania's tiny Hindu community (roughly 0.5 percent of the country's population) mark the occasion by burning pyres (a symbolic thumbing of the nose at Hiranyakashipu), dancing, and dousing everything in color by throwing powder (gulal) and splashing water. The photo shows celebrants Gomez (right) and his friends Paola and Martina.



ITALIAN STALLION

Julia Schiavoni '25 took this poster-worthy still on a hiking trail in Borca Di Cadore, Italy, while participating in a summer research program with Professor Nancy Chin. For years, Chin has taken small teams of undergraduates interested in public health to this location. The mountain posing in the background of Schiavoni's photo is Mount Antelao, the tallest of the eastern Dolomites. It's a significant landmark as the trip investigated the relationship between the region's tourism and social justice.

HUMAN TOWER OF BARCELONA

A human pyramid is impressive. But it's no castell. Castells are human towers—as many as nine or ten stories tall—traditionally built at Catalan festivals in the Catalonian region of Spain. **Abby Strugger** '24 photographed this castell being built in Barcelona at the Santa Eulàlia Festival. Festivals like that are part of why Strugger chose to study in Barcelona. "Barcelona has everything," she says. "It's the mountains. It's the beach. It's the city in the middle, and, even within Spain, it has a unique culture."

Ask the Archivist: Can We Come Up and See the Book Sometime?

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

"As an anthropology student, I have been making efforts to avoid becoming a 'fish trying to describe water' by regularly questioning my routine environment. One day my friend Michael and I decided to stop and intentionally read the inscriptions on the doors of the Rush Rhees Library—beautiful features often taken for granted.

"This led us to read the engravings on the walls of the lobby, informing onlookers about the development of the River Campus. A particular line stood out to us: 'The names of all the givers and solicitors have been inscribed in a book which will be permanently preserved in this library.'

"Our question to you is: does this mystical book actually exist? What is its significance, and how might a mere book reflect the grandeur of the campus's constructional philosophy and donations?" —Joshua Jung '26 and Michael Ding '26

Your question could not be more timely, as we approach the centennial of the November 1924 Greater University Campaign that funded the construction of the River Campus. With the goal of raising "ten million in ten days," the effort had contributions from schoolchildren and principals, office workers and executives—and just a few philanthropists—at giving levels from pennies to millions.

How do you say "thank you" for a brand-new campus? President Rush Rhees had heard of the "books of remembrance" that recorded the names of British soldiers killed in the First World War. He wanted something equally distinctive for the University's donors, along with the library inscription you discovered.

But while the Greater University Campaign lasted 10 days and the campus construction required three years, 13 years would pass before the book was completed. If its existence had not literally been carved in stone, it might have been forgotten.

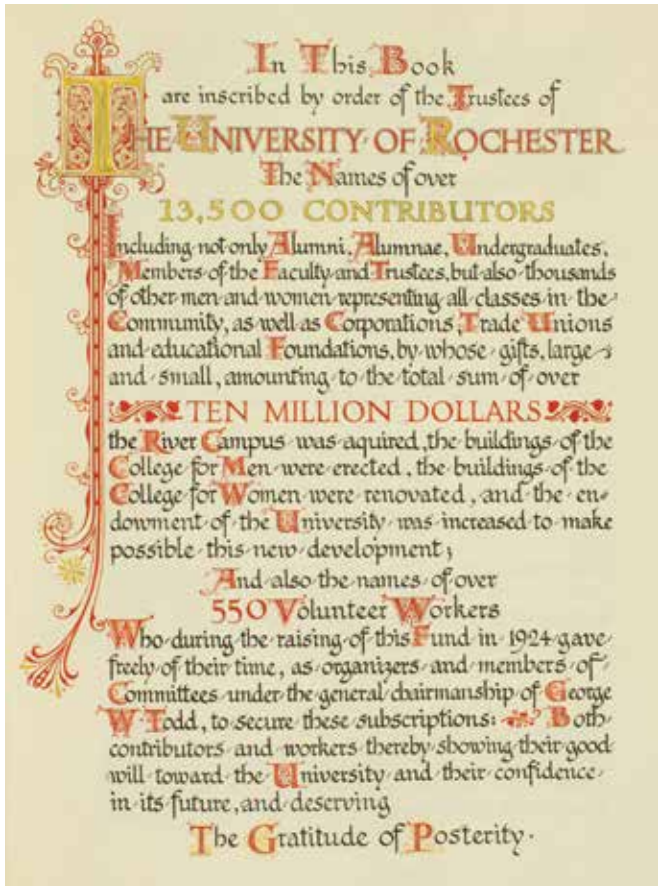
Initially, the volume was to be ready in time for the campus opening on October 10, 1930. Just one week before, a letter from University Treasurer Raymond Thompson to University Librarian Donald Gilchrist contains the admonition, "Dr. Rhees wants this book exhibited in the Library at the time of the Dedication Exercises. . . We must, of course, comply with [his] request without fail."

But they did fail.

A printed book might have been finished in time but would have lacked the desired splendor. Instead, the project was entrusted to Philipp Merz. The designer of the University seal and mace, Merz worked for architects McKim, Mead, and White on the Eastman Theatre and then was hired by Gordon and Kaelber for the River Campus.

In December 1931, Merz consulted Gilchrist about the book. Gilchrist suggested a visit to collector George A. Plimpton, who would "undoubtedly be delighted to permit you to examine the greatest collection of calligraphy, which he happens to own."

Need History?
Do you have a question about University history? Email it to rochrev@rochester.edu. Please put "Ask the Archivist" in the subject line.



BIG BOOK OF GRATITUDE: With gold leaf and calligraphy, the dedication page of the Greater University Fund book highlights the achievements of individuals who donated their time, efforts, and dollars to the 1924 capital campaign to build the River Campus.

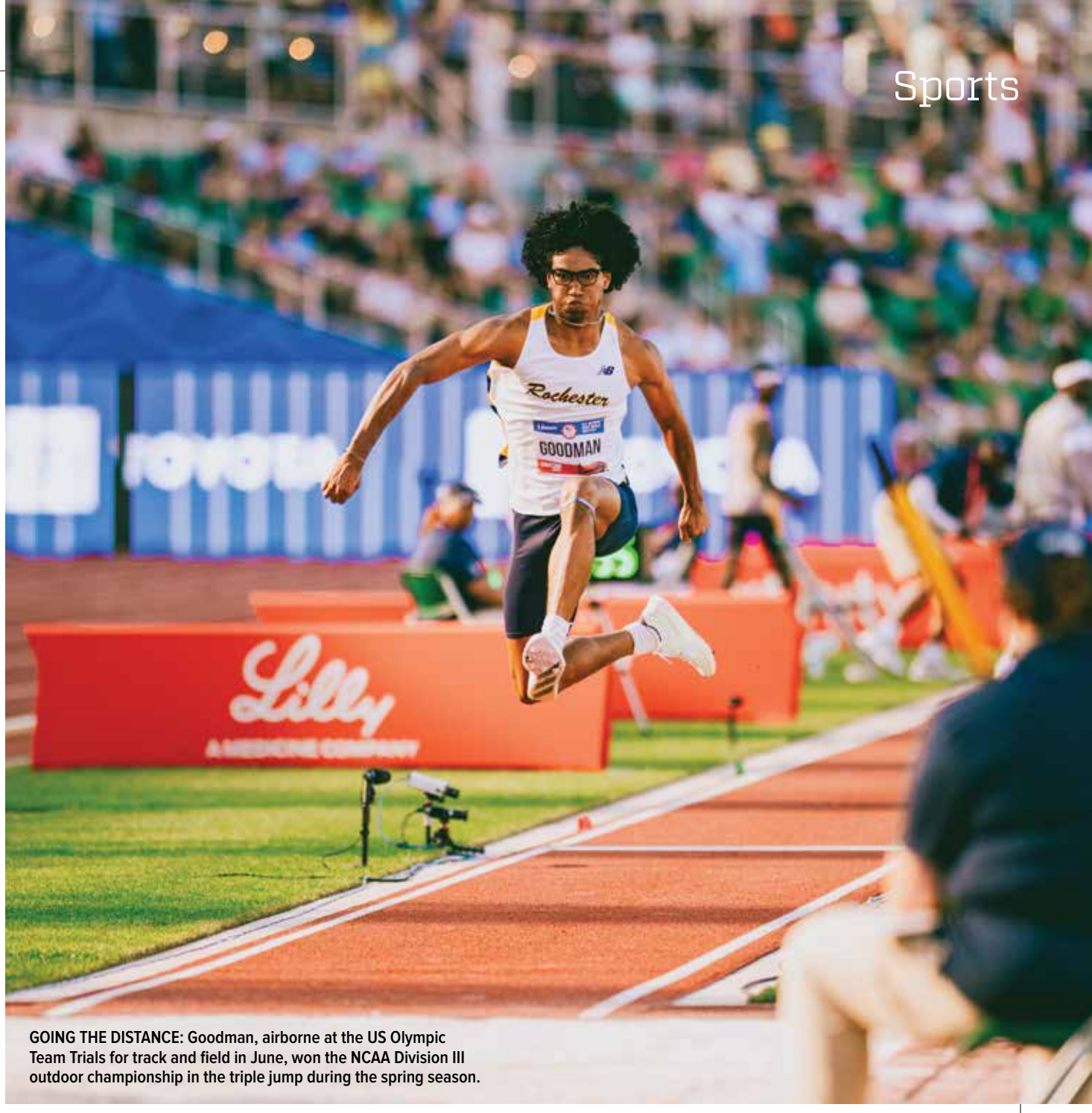
The job was monumental: The 228-page book includes the names of 13,711 donors and the 738 men and women who participated in the fundraising. It is possible that Merz grew bored with repetitive parts of the task, because despite Thompson's numerous letters, by 1938 only about 68 pages had been received. By June 1941, something had to be done, especially after librarian John R. Russell reported an encounter much like your own: "Another visitor has just asked to see [the book], after reading the carved statement in the foyer."

With no word from Merz, the University found an accomplished calligrapher closer to home. Ruth E. Gutfrucht, soon to begin a long and illustrious career on the faculty of RIT, worked quickly but still required a year.

By July 1943, the completed book, bound in dark blue leather, was on display at last. It does match the campus's grandeur and the contributors' generosity, blending expert calligraphy, sparkling gold leaf, and crisp handmade paper, and featuring the familiar design elements that Merz created for the Eastman School and River Campus and that we are so fortunate to enjoy in our "routine environment." R

To view pages from the Greater University Fund book and learn more, visit Library.rochester.edu/rbscp/blog/ata-summer2024.

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



GOING THE DISTANCE: Goodman, airborne at the US Olympic Team Trials for track and field in June, won the NCAA Division III outdoor championship in the triple jump during the spring season.

2024 OLYMPICS

Triple Wow

Cole Goodman ’25 competes at the United States Track & Field Olympic Team Trials.

With his winning jump in the Division III outdoor track and field national championships last spring, Cole Goodman ’25 earned a spot to compete in the triple jump at the US Olympic Team Trials.

The rising senior from Guttenberg, New Jersey, posted a distance of 15.14 meters at the trials, held in June at the University of Oregon’s Hayward Field. That was shy of the distance needed to earn a spot in the Olympics. The mark was also short of his national championship–winning jump of 15.76 meters that made him eligible to compete in the trials.

Goodman is the only Rochester student athlete ever to compete in the Olympic trials in track and field. He’s also the University’s record holder in both the long jump and triple jump in both the indoor and outdoor track and field seasons.

A computer science major, Goodman is working as a software engineer intern this summer at Atlassian. Ⓡ

DOCTORS, PATIENTS, ALGORITHMS, AND AVATARS

CLINICIANS, COMPUTER SCIENTISTS, AND ETHICISTS ARE WORKING ACROSS THE UNIVERSITY TO INCORPORATE RELIABLE **AND ETHICAL AI INTO MEDICAL DIAGNOSIS AND TREATMENT.**

BY LINDSEY VALICH

illustrations by Denis Freitas

IN 2012,

PROFESSOR OF PSYCHIATRY Caroline Easton had a eureka moment watching her son play video games: what if she could blend video-game technology with her research on the intertwined issues of addiction and domestic violence? ¶ "Younger clients have grown up with games and having technology at their fingertips," she says. "We need to have venues of therapy that are relatable to them and that standardize behavioral therapy in a way that is like a medication." ¶ With that insight in mind, Easton set out to develop a platform that would use an avatar coach to guide patients through cognitive behavioral therapy and help them practice coping skills.

INITIALLY, EASTON AND her team manually created and animated rudimentary avatars. But increasingly sophisticated artificial intelligence (AI) technology has allowed her to fine-tune the tool, enabling users to customize their avatar coaches to respond to their particular needs.

Funded by the National Institutes of Health, the app is in the pilot phase, with randomized control trials set to begin by the end of the summer. Easton says AI tools like this one promise to transform addiction treatment by not only supporting patients between therapy sessions but also enabling clinicians to spend time and energy with their patients in ways that are even more meaningful.

"We can now use AI to collect data and deploy the most relevant coping skills based on what the client is feeling in the moment," Easton explains. "And if we can also decrease things like compassion fatigue, vicarious trauma, and work burnout—and allow the clinician more time to focus on the therapeutic alliance—I feel like we are heading in the right direction."

Today, Easton is the Medical Center's academic chief of addictions psychiatry and director of digital therapeutics for the Department of Psychiatry. Her use of AI in therapies illustrates one facet of AI's transformative power in medicine and health care.

At the same time, AI also raises questions among clinicians and researchers, including Easton: How can we ensure everyone benefits from AI advancements fairly and responsibly? As AI takes on a larger role in health care, how do we guarantee it serves everyone's best interests? How can advanced technology be integrated into medicine without losing the human connection?

THE LONG ROAD TO GENERATIVE AI

ARTIFICIAL INTELLIGENCE is not new. It was described in theory as early as the 1950s by philosophers and mathematicians such as Alan Turing, who posited that machines might be able to learn in ways similar to humans. But it took decades before computing power was sufficient to make AI more than just a concept.

In the late 1990s, IBM demonstrated a major breakthrough when its Deep Blue computer defeated world chess champion Garry Kasparov. Then in 2011 a still more powerful IBM computer system called Watson competed on the TV game show *Jeopardy!* and won over two of the game's greatest champions, Brad Rutter and Ken Jennings.

When IBM tried to leverage Watson in the health care sector, however, the effort was unsuccessful. Watson was initially trained on highly structured datasets, such as dictionaries and encyclopedias. That training was poorly suited to working with health care data. Inherently unstructured, health care data encompasses a wide range of complexities, including shorthand and misspellings in doctors' notes; variability in the image quality of medical scans; the presence of anomalies such as rare diseases and complex genomic information; and fragmented datasets spread across different systems. Computers required sophisticated techniques to effectively process and integrate diverse types of data.

In 2023, a paradigm shift occurred with the emergence of generative AI, led by OpenAI's ChatGPT.

"When the world got introduced to generative AI, in health care—and pretty much every aspect of our daily lives—the potential of AI became very powerful," says Michael Hasselberg, an associate professor of psychiatry, clinical nursing, and data science, and the University's inaugural chief digital health officer.

While classical machine learning enables computers to analyze data and use it to make predictions, generative AI enables machines to create new content based on learned patterns from large datasets. It does this using complex neural networks designed to mimic the human brain's ability to recognize patterns and learn from them.

"Generative AI comes trained on more than a trillion parameters—essentially the entire internet and all of its structured and unstructured data," Hasselberg explains.

AI'S ADVANTAGES

THAT POWERFUL foundation allows generative AI to analyze patterns in medical images with remarkable accuracy and speed.

"AI helps us identify urgent issues quickly, which is crucial for conditions like a pulmonary embolism or a brain bleed," says Jennifer Harvey, the Dr. Stanley M. Rogoff and Dr. Raymond Gramiak Professor in Radiology and chair of the Department of Imaging Sciences.

That means AI tools can act like a second set of eyes for radiologists. Say a patient undergoes a CT scan to check for possible pneumonia. As the scanner captures detailed images of the patient's chest, an AI algorithm analyzes each of the images, and,

within moments, flags a potential pulmonary embolism even if the scan was initially done for a different reason. Potentially urgent problems get prioritized, leading to more efficient and accurate diagnostics.

But radiologists must still carefully examine every patient scan. According to Harvey, AI does not threaten to replace radiologists because most algorithms are built for—and excel at—specific tasks. In addition, rare findings continue to be difficult for AI tools to detect.

"Radiologists are still much better at synthesizing the findings in a way that AI tools cannot," Harvey says. "For example, a chest CT may have one or two findings flagged by AI, but the radiologist must put all of the findings together to generate likely diagnoses."

Still, she adds, predictive AI tools can offer "critical insights"—and not only in analyzing scans. They can also summarize report results and automate other clinical tasks.

Hasselberg highlights the "army of nurses" at the Medical Center whose jobs previously involved manually extracting data points from patient charts for submission to national registries.

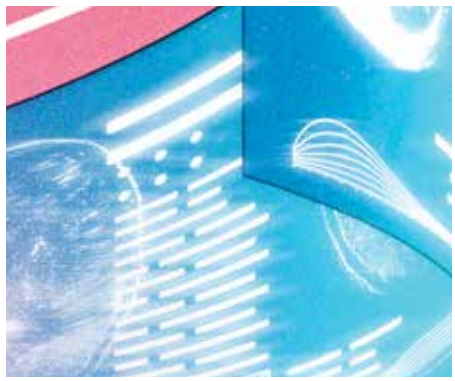
"Tasks like these are well below the scope and practice of a nurse," he says. "You're still going to have a human in the loop that will look at the generative AI's output and see if everything looks right. But the machines take the administrative burden off the clinicians, giving them more time to spend with patients actually doing clinical care."

CAN DOCTORS AND PATIENTS TRUST AI?

TO RELY ON ALGORITHMS for disease detection and treatment, however, clinicians need to have high confidence in their accuracy. Says Hasselberg: "There is some risk with generative AI because it does generate new content. It can get it wrong."

Hasselberg's role includes serving as codirector of the UR Health Lab, using technology such as machine learning, virtual reality, and 3D imaging to enhance patient care, while also tackling ethical challenges. To this end, he has partnered with stakeholders across the University, including not only clinicians like Harvey and Easton but also Chris Kanan, an associate professor of computer science who helped develop the first FDA–cleared pathology tools, and Jonathan Herington, an assistant professor of philosophy and of bioethics who is a nationally recognized expert on the ethical issues surrounding AI.

TO RELY ON ALGORITHMS FOR DISEASE DETECTION AND TREATMENT, HOWEVER, CLINICIANS NEED TO HAVE HIGH CONFIDENCE IN THEIR ACCURACY. SAYS HASSELBERG: **"THERE IS SOME RISK WITH GENERATIVE AI BECAUSE IT DOES GENERATE NEW CONTENT. IT CAN GET IT WRONG."**



An ethicist whose research once focused on political philosophy, Herington began writing about AI systems in 2017, prompted by articles in the popular press on the use of machine learning algorithms to predict criminal recidivism. He began to look deeply into how algorithms can perpetuate social and cultural biases.

From 2021 to 2023 he served on the AI Task Force for the Society for Nuclear Medicine and Molecular Imaging. During that time, the task force published two influential papers in the *Journal of Nuclear Medicine* addressing ethical issues surrounding AI.

Herington highlights one case demonstrating a particularly pressing ethical concern: An insurance algorithm was designed to identify patients who have a high probability of requiring frequent care, with the goal of enrolling them in prevention programs. As a metric for identifying high-need patients, the insurer used cost of care—that is, "How much care did a person cost us last year?" Due to disparities in access, Black patients who were as sick as white patients were rated with lower risk because they had historically accessed care less frequently.

"All of this historic bias in the health care system got baked into this dataset," Herington says.

One way to remediate bias is to be more deliberate about the data used to train the system. But a larger issue is at play as well. Precisely because the tools can get it wrong, "it is more important than ever—especially as we start moving toward more generative AI tools—to always have a human in the loop," Herington says.

PERFECTING AI TOOLS

ANOTHER WAY TO keep humans in the loop is to regulate AI tools as medical devices, which requires FDA compliance certification. Herington favors that approach. "Right now, it's like the Wild West," he says. "Models can be implemented without establishing that they work."

Many companies balk at the rigorous testing—and the delay that ensues—in moving a product to market. However, FDA certification offers benefits even beyond ensuring a product is safe. The distinction helps increase the trust hospitals and clinics have in a product, Kanan says. If a product does not go through the FDA certification process, it must be marketed in the US as "research use only." FDA distinction also ensures regulatory compliance to avoid legal issues and is more likely to be covered by insurance.

The FDA process proved valuable when Kanan was working with the company Paige.AI to develop Paige Prostate—the first FDA–cleared, AI-assisted pathology tool.

In his lab, Kanan focuses on fundamental research in deep learning as it applies to AI.

His work with Paige began in 2018, with the goal of developing an AI tool that could assist pathologists in diagnosing cancer with unprecedented speed and accuracy. To create such a tool, however, required more than developing sophisticated algorithms. It also meant integrating AI into workflows and ensuring its reliability across various settings.

Kanan and his team had to demonstrate the AI could perform consistently well, regardless of differences in medical data and environments of individual hospitals. For instance, an algorithm trained on data from a specific set of hospitals might be more sensitive to the unique conditions and nuances of those environments. When the same algorithm is then applied to a different patient population or hospital system, it can struggle to perform effectively because of variability in data and clinical practices. Kanan's team had to ensure Paige Prostate wasn't overly sensitive to factors such as the type of microscope used or the presence of watermarks on medical scans. They also needed to address potential biases related to patient demographics, such as gender or race, by ensuring Paige Prostate performed equally well across hospitals serving different populations.

Then there was the challenge of making sure the AI could detect a variety of anomalies.

"The majority of the cases are the ones that are obvious," Kanan says. "It's the rarer stuff that people don't have as much familiarity with that are challenging for an AI system to spot."

The key, Kanan says, is to train AI systems on extensive and diverse datasets. In Paige's case, the dataset included millions of images and datapoints from numerous sources, ensuring the tool could generalize well across different conditions.

It's also important that system training be continuous. This is where academic medical centers can play a large role. By implementing AI programs and contributing valuable data, hospitals can work with companies like Paige to refine and enhance AI algorithms. This collaboration ensures that AI tools continuously "learn" and improve.

Locations such as Rochester—which cover broad, diverse patient groups, and, in Rochester's case, also span dense urban areas as well as small towns and rural communities—are well positioned for the task of testing and refining AI tools.

"Having that heterogeneity of patients is a game changer," Hasselberg says. "It's incredibly important to make sure that AI tools are developed and deployed in an ethical way that accounts for a very diverse group of patient populations."

WHAT NO MACHINE CAN DO

DESPITE THE technological advancements in AI, the role of human expertise and empathy remains irreplaceable. Generative AI, even at its most impressive, "doesn't correlate with the ability to plan or have beliefs, attitudes, or genuine emotional reactions," Herington says.

Says Hasselberg, "There's an art to clinical care and the way we make decisions. It's not all based on data points or an algorithm; it's based on intuition and experience. There are things we do as clinicians that a machine can't do."

That's precisely why Easton designed her app to be a complement to—not a replacement for—clinician-centered therapy.

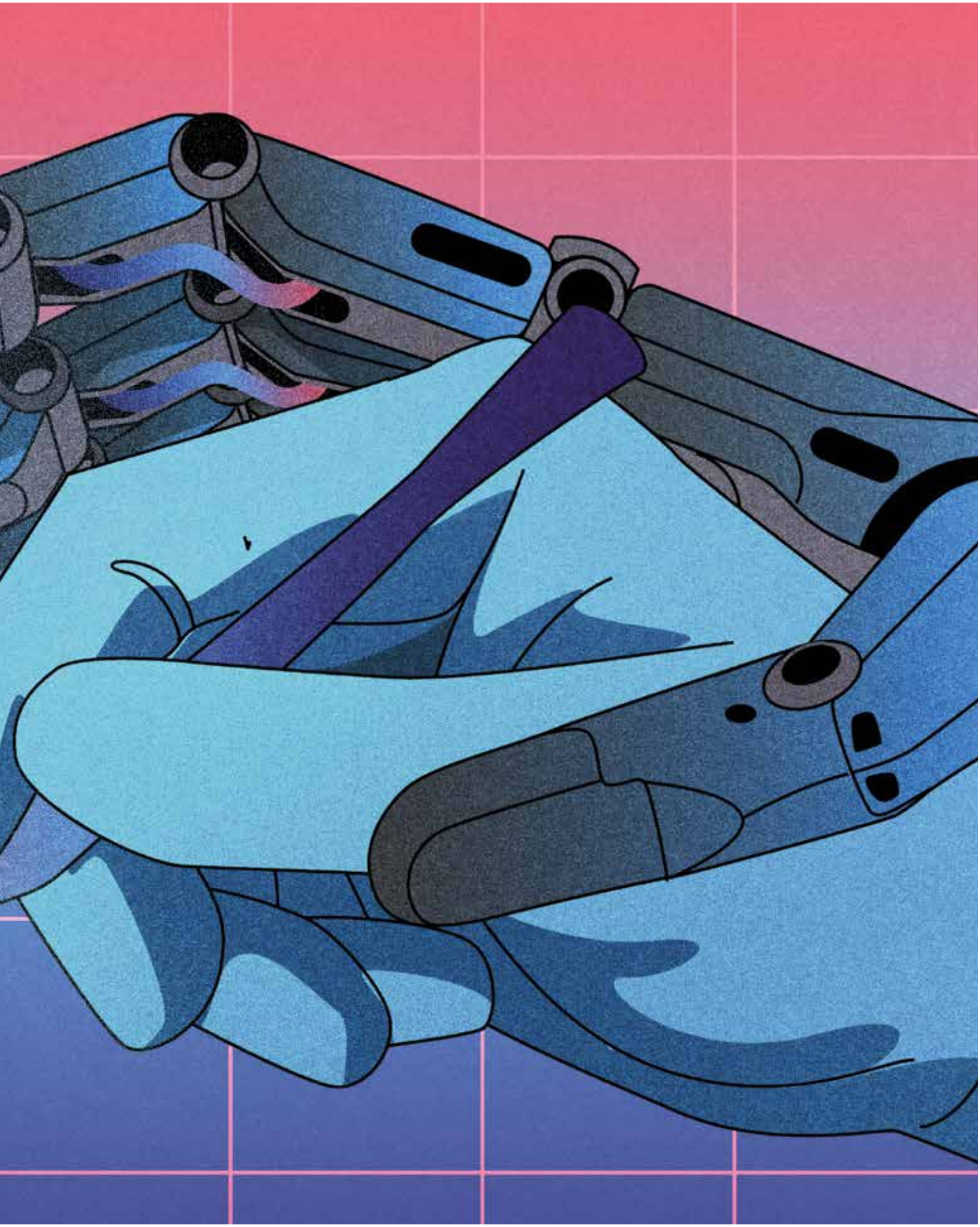
The app's program spans 12 weeks—a length of time consistent with a typical course of cognitive behavioral therapy. Patients start each session by rating their cravings, substance use, and mood in the current moment. The avatar then guides them through real-time coping exercises and positive reinforcements, such as meditations or distraction techniques like taking a walk. Patients provide feedback by rating the effectiveness of the exercises. The tool tracks progress and behaviors with charts and graphs, identifying patterns in each patient's stressors over time.

Easton envisions that the program could be integrated into a wearable device to take in biomarker data and proactively deploy on-demand coping skills to help prevent psychiatric crises.

But this would be a tool that patients would use in between visits with a human clinician, who could synthesize the information and integrate it into a detailed care plan.

It is never the goal, Easton says, for technology to replace the human therapist.

"We should never be taking the human out of the equation. We can coexist and integrate with technology, but I don't envision a world where technology would ever take over for people." Ⓡ



WHEN POLITICS GETS PERSONAL

JAMIE DRUCKMAN, A RENOWNED EXPERT ON POLITICAL POLARIZATION, IS AS BUSY AS HE'S EVER BEEN.

By David Andreatta

IF YOU FOLLOW THE SOCIAL SCIENCE driving public policy and political behavior in the United States, chances are you know the name Jamie Druckman.

It's not an overstatement to call Druckman, who in January joined the Department of Political Science after 19 years at Northwestern University, a star in his field.

But even if you are among the millions of Americans who pay little attention to the theory and practice of government and politics, chances are you have been influenced in some way by Druckman, or at least his work. And if not, you're about to be.

That's because Druckman, the Martin Brewer Anderson Professor of Political Science, is fast emerging as one of the nation's foremost scholars on political polarization and a go-to source for news outlets around the world for the implications of such divisions. Last year, the veteran political commentator and *New York Times* contributor Thomas Edsall referred to him as among the political scientists "working on getting us to hate each other less."

"I'm comfortable doing it and I'll do it when I'm asked but I don't seek it," Druckman says of the media attention around his work. "I do think it's part of one's job, especially when you're a political scientist in an election year."

J. ADAM FENSTER

UP TO THE VOTERS? According to Druckman, the Martin Brewer Anderson Professor of Political Science, the future of American democracy hinges on how politicians behave rather than voters. "Partisans tolerate the undemocratic behavior of a few elites and then, over time, the system gradually erodes," Druckman and his coauthors write in a new book.

AS OF LATE, Druckman's research has focused on what he and other political scientists call "affective polarization"—a melding of political and social identities among partisans that leads them to dislike, distrust, and downright disdain members of the other party.

His timing could not be better. The only thing Americans can seem to agree on nowadays is that we are living in an era of extreme political polarization, and that the divisions and disagreements between us have grown personal. Indeed, the Pew Research Center recently found that most enrolled Democrats and Republicans use words like "immoral," "dishonest," and "unintelligent" to describe their counterparts on the other side of the aisle. Most Republicans surveyed called Democrats "lazy."

"I think that is something to be fearful of, the normalization of what can devolve into dehumanizing, inciting rhetoric," Druckman says. "It has consequences for what people think of other groups. It has consequences for what people think of democracy."

WHEN POLARIZATION MATTERS

HE SPOKE FROM HIS SPARSELY DECORATED OFFICE on the third floor of Harkness Hall that was imbued with the controlled chaos of its resident still moving in. Mounds of books here. Piles of papers there. Unpacked boxes lined the walls.

Druckman acknowledges that he might never get around to tidying up. For him, settling in means working, and there is plenty of work to do. There are students to teach, research to complete, and invitations to lecture from around the country to answer.

Then there are requests from news reporters who want him to explain how the political animus came to be and what it means for the American way of life.

Some of the answers to those questions are detailed in a new book Druckman cowrote called *Partisan Hostility and American Democracy: Explaining Political Divisions and When They Matter* (University of Chicago Press, 2024), which explores to what extent partisan hostility degrades democratic institutions and functions.

Published in June, the book and its findings are poised to be talking points for political pundits and everyday Americans alike as the presidential election season—and the partisan rhetoric that comes with it—ramps up this fall.

DRUCKMAN'S RESEARCH HAS FOCUSED ON WHAT HE AND OTHER POLITICAL SCIENTISTS CALL "AFFECTIVE POLARIZATION"—A MELDING OF POLITICAL AND SOCIAL IDENTITIES AMONG PARTISANS THAT LEADS THEM TO DISLIKE, DISTRUST, AND DOWNRIGHT DISDAIN MEMBERS OF THE OTHER PARTY.

"Jamie has this amazing ability to connect big, broad questions to people's daily interactions with politics," says Yanna Krupnikov, a professor of communication and media at the University of Michigan and one of Druckman's coauthors. "It is, honestly, difficult to express how much of an important influence Jamie has had on American politics research."

So, what does the rampant political animus mean for American democracy? The book offers good news and bad news.

Here's the good news: Partisan animosity shapes attitudes and behaviors and politics, but extreme animosity does not invariably lead to democratic erosion. Here's the bad news: It could.

In the end, Druckman and his coauthors conclude that while partisan hostility has degraded American politics, it is not an existential threat to democracy. The future of democracy, they write, hinges on how politicians behave rather than voters.

The authors cite research that suggests elected officials who act undemocratically—that is, undoing or undermining democratic institutions and norms for their own gains or those of their party and partisans—can slowly shift the idea of what is "democratic" for partisans, the most extreme of whom fail to see the consequences of undemocratic behavior.

"Partisans tolerate the undemocratic behavior of a few elites and then, over time, the system gradually erodes," the authors write.

Potentially worrisome is that the politicians of tomorrow are the electorate of today, and voters in growing numbers have come of age in an era of extreme partisanship.

Indeed, the book opens with a recap of the fractious 2000 presidential election between George W. Bush and Al Gore, which was settled by a divided United States Supreme Court, as a harbinger of things to come.

"At the time, that seemed like an explosive political contestation," Druckman says. "Today that seems rather mundane.

"Now, you're seeing a cohort coming of age right now, people under the age of 30, who are much more polarized than any prior cohort," Druckman continues. "I think part of that is they have been socialized in an era of extreme acrimony. . . . What that means for what politics will look like as that generation becomes political leaders will be interesting and is a bit worrisome."

RESEARCH THAT RESONATES

DRUCKMAN HAS THE PEDIGREE OF AN ACADEMIC—his father, Daniel Druckman, was a social scientist—but the reputation he enjoys today took decades to cultivate.

He grew up in Bethesda, Maryland, a suburb of Washington, DC, where his father consulted for various agencies, including the National Academy of Sciences, before entering academia later in life.

Druckman earned a bachelor's degree at Northwestern in 1993 and received his doctorate from the University of California, San Diego, in 1999. From there, he found work as an assistant professor at the University of Minnesota before returning to his alma mater at Northwestern, where he became a celebrated and beloved professor.

Along the way to Rochester, he authored nearly 200 articles and book chapters. He coauthored or edited several books, including the influential *Experimental Thinking: A Primer on Social Science Experiments* (Cambridge University Press, 2022), which is considered essential reading by his contemporaries. His work has been recognized by numerous foundations that are household names—McKnight, Guggenheim, Russell Sage. In recent years, he has crept onto various lists of the country's leading political scientists.

But it was work he produced with a consortium of other researchers from Harvard, Northeastern, and Rutgers Universities

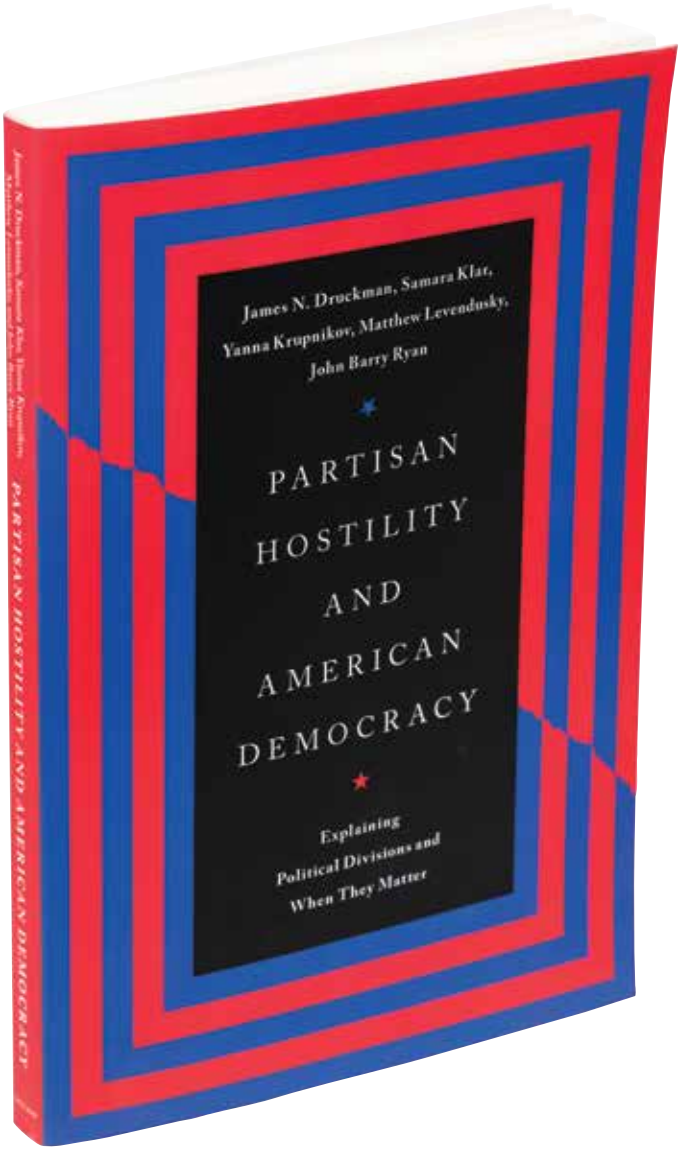
during the pandemic that transcended the ivory tower and elevated his public profile.

Their research identified links between social behavior and COVID-19 transmission, as well as the impact of messaging and regulation on individuals and communities. They explored topics that were in news feeds every day during the health crisis, from social isolation and misinformation to vaccine hesitancy and masking mandates.

Their goal was to help governments make more informed decisions on public policies and allocate resources more effectively.

Suddenly, Druckman, who had been cited as an authority on myriad topics by a handful of news outlets in his career to that point, was everywhere. Google Scholar, for example, shows Druckman's research has been cited by academics nearly 50,000 times, an extraordinary number by any measure and one that reflects the impact of his work. Well over half of those citations occurred in the last five years.

The consortium, originally called The COVID States Project, has since morphed in name and scope into the much broader Civic Health and Institutions Project, which provides state-level data on citizens' opinions on a wide variety of topics. The project has touched on everything from presidential approval ratings and mental health among young adults to Elon Musk's takeover of Twitter and election fairness.



"AT THE TIME, THE 2000 ELECTION SEEMED LIKE AN EXPLOSIVE POLITICAL CONTESTATION. TODAY THAT SEEMS RATHER MUNDANE."

THE RIKER LEGACY

WHEN DRUCKMAN ANNOUNCED HE WAS LEAVING Northwestern for Rochester, word of his departure reverberated through the political science community.

"For Jamie to go anywhere is a massive coup for that university," says Samara Klar, a professor of political science at the University of Arizona, a former student of Druckman's at Northwestern, and another of his coauthors. "He's a giant in our field and surely one of the most influential living political scientists."

Druckman says his move to Rochester was inspired by two factors.

One was family considerations. His wife, with whom he shares two sons, grew up in the Rochester area. Today, they make their home in Pittsford.

The other was the Department of Political Science's illustrious history as a trailblazer in the field, as well as the intellectual curiosity and collaboration of its faculty and graduate students that he witnessed after giving a talk at Rochester in 2022.

Druckman cites as one of his greatest influences the late Rochester political scientist William Riker, who revolutionized the field by applying game theory and mathematics to his research and, in the process, transformed the department into a world-class destination for the study of political science.

Riker died in 1993. But the culture he and his colleagues built, Druckman says, still exists.

"It reflects remarkable leadership in the last 30 years years," he says. "This is palpable on both the individual collegial level and the collective culture of the department."

Druckman singles out the launch in 2022 of the Democracy Center, led by Professor Gretchen Helmke, as an exciting development. The center fosters a community of scholars to advance the study and practice of democracy through research, teaching, and public engagement.

"Every single person I met in the department, faculty and students, had this genuine intellectual curiosity to address important political, social, and economic questions, and they were serious about doing that in a very meticulous and systematic manner," he says. "That's a unique intellectual experience in academia. This is a collection of truly special scholars and people.

"It's the ideal," he adds. "And, you know, it's incredibly unique and special. I can't imagine a better place to be."

Listen to "Taking the Temperature of American Democracy," an interview with Druckman, or read the transcript at Rochester.edu/news/democracy.

J. ADAM FENSTER

POWER ON: Wegmans Hall, home to the Department of Computer Science and the Goergen Institute for Data Science, is a hub of activity into the evening. The Department of Computer Science celebrates its 50th birthday during Meliora Weekend in October.

J. ADAM FENSTER

BIT BY MEGA BIT

THE DEPARTMENT OF COMPUTER SCIENCE MARKS 50 YEARS OF REVOLUTIONARY PROGRESS.

BY LUKE AUBURN

When Rick Rashid ’80 (PhD) became the first student in Rochester’s new Department of Computer Science to set foot on campus, he was taking a leap of faith.

It was 1974. He had just turned down an opportunity to pursue a PhD in math at the University of California, Berkeley, and he arrived before any faculty members or fellow students did. The only person there was administrative assistant Jill Orioli, and it would be months before the department’s first computers arrived.

Computer science was a young field. It had only been a few years since the first academic departments in the country had begun branching off from the fields of mathematics, physics, and electrical engineering. Rashid, a mathematics and comparative literature graduate from Stanford University, enjoyed working with computers but knew he was taking a gamble in a new discipline and on a department made from whole cloth.

“The hard part was telling my parents because they had this idea of what I was going to be doing and I had changed my mind,” says Rashid. “They were super supportive on the call even though they didn’t really know anything about computers and neither had a college education. Years later my father confessed ‘we thought it was the stupidest idea you’d ever had in your life.’”

As it turned out, Rashid and the field of computer science had bright futures. After completing his doctorate, Rashid joined the computer science faculty at Carnegie Mellon University. Then, in 1991, Microsoft CEO Bill Gates hired him as the founding director of a new division at the company: Microsoft Research.

Mirroring his rise was the growth of Rochester's department. "We quickly went from being probably the computer science department with the fewest facilities you could imagine, to one of the most technically advanced computer science departments in the country," says Rashid.

BOOTING UP

In the fall of 1974, Rashid, seven additional students, and the first faculty members, Jim Low and Paul Rovner, coalesced around charismatic founding department chair Jerome (Jerry) Feldman '60. Feldman, who had earned a bachelor's degree in physics from Rochester, returned to the campus after having served as the associate director of the artificial intelligence lab at Stanford University.

He quickly used his contacts in government and industry to build the program into a serious player. Through connections at Xerox PARC, by the end of the year he was able to secure four Alto computers—the first computers to incorporate features like a mouse and Ethernet networking—before anyone outside of Xerox had them. And through his contacts at the Department of Defense's Advanced Research Projects Agency, he connected the University to ARPANET, the precursor of the internet, introduced just a few years before.

AN IDENTITY EMERGES

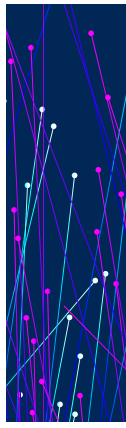
By the mid-80s, the commercialization of personal computers was spreading access to computing and interest in computer science. The department had matured and was already making an outsized impact, producing seminal works in the field.

Feldman, Rashid, technical operations manager Liudy Bukys, and others created an operating system that could manage multiple machines at once. Called the Rochester Intelligent Gateway, or RIG, it's known as "the great-grandparent" of the operating system used by Apple computers.

Early faculty members Christopher Brown and Dana Ballard published *Computer Vision*, the seminal text in the field, and James Allen published *Natural Language and Understanding*, a similarly influential text.

Large grants from the National Science Foundation, Office of Naval Research, and the Alfred P. Sloan Foundation were rolling in. In particular, NSF support enabled the department in 1984 to acquire a 128-node BBN Butterfly machine, then the largest shared-memory multiprocessor in the world.

By the mid-80s, the commercialization of personal computers was spreading access to computing and interest in computer science. The department had matured and was already making an outsized impact, producing seminal works in the field.



At that point the distinguishing characteristics of the department that still define it to this day were clear: strength in artificial intelligence (AI), systems, and theory; an interdisciplinary focus; and an intimate size.

The focus on AI created opportunities for collaborations with faculty in cognitive science (later the Department of Brain and Cognitive Sciences), the Center for Visual Science, the Design Automation Project, and the Laboratory for Laser Energetics.

Says Michael Scott, a professor of computer science and the Arthur Gould Yates Professor of Engineering, who came to Rochester in 1984, "Computer science is an interdisciplinary field, but I think it's more the case here than almost anywhere."

A NEW MAJOR

By the 1990s, the promises of ARPANET had borne fruit, and the technology evolved into the internet, connecting millions of computers around the world. Meanwhile, British scientist Tim Berners-Lee had proposed an application for the internet: a method to create pages, with unique addresses, giving networks a new and compelling purpose. The World Wide Web, as it was soon known, spread information with ease and at a speed (even in its first days) previously unknown. The dot-com era had arrived, and with it, exploding interest in the study of computer science.

The department had solely been offering graduate degrees, but nationwide, the demand for computer science was high enough that the department introduced undergraduate degrees and a minor in 1995.

The undergraduate program was a significant development for the department, and leadership had to be careful to integrate undergraduate education while preserving the culture that had allowed the department to thrive.

"When I arrived in 1989, the culture was 100 percent focused on research and doing something amazing," says George Ferguson '95 (PhD), the department's undergraduate coordinator and a professor of instruction.

That same spirit infuses the undergraduate program, which has a heavy research focus and emphasis on "breadth and the foundation of the discipline as a whole," he adds. That approach fosters "graduates who understand enough to learn new things, which is essential in a field that has been evolving constantly since its inception."

At the same time, the department has been deft in attracting students with wide interests. "The program was smartly designed from the beginning so that you could either pursue a bachelor of arts or a bachelor of science," Ferguson adds. The modified requirements of the bachelor of arts made a computer science degree more accessible to students also pursuing degrees in fields from physics to art history.

The program's first graduating class in 1996 included 10 students, and by 2003, that number had increased fivefold.

POST-Y2K CHALLENGES

The dot-com bubble burst of 2000 put a pause on the undergraduate program's growth. As tech companies folded, some prospective students became wary of pursuing careers in computer science.

Christopher Stewart '08, now a professor of computer science at Ohio State University, says that when he arrived as a PhD student in 2003, the discipline was facing challenges even beyond the financial sector.

The computer industry had long relied on the expectation, borne out by experience, that the number of transistors on a microchip would double about every two years, at nominal cost. Accordingly, computers would continue to get smaller, faster, and cheaper. The trend became known as Moore's Law, and scientists began predicting its end. Similarly, Dennard scaling—the physical principle that enabled transistors growing in potency to consume less power—was running out as well.

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

Moore's law and Dennard scaling, says Stewart, "were these things that allowed us to keep building sequential programs for so long. It was an exciting time, and it was fun to be a part of that phase of computing."

Stewart, who focused on computing systems, says much of the research at the time focused on parallel computing—that is, how to break down large, complex problems into smaller, independent groups of calculations, all of which could be carried out simultaneously across multiple processors relying on shared memory. Although at first Stewart did not understand what parallelism would lead to, he received an answer that proved to be decades ahead of its time.

As a beginning graduate student, "I was really trying to understand the field and where things were headed," he recalls. He asked Michael Scott, the leader of the computer systems research group, what was likely to happen to the field of parallel computing.

"I asked [him], 'What are we going to do? Even if we do get all of this parallel programming done, we already know how to write' whatever single-coded thread was dominant that day. He told me, 'Chris, if we can do parallelism right, we can reach new heights with AI.' That was at least two generations of insight ahead of where computing would go."

BRAIDING A FUTURE

By the mid 2010s, computer science had rebounded from the dotcom bust and experienced a second surge in enrollment. With that growth also came efforts to diversify the student body, particularly to get more women to pursue computer science degrees at Rochester.

Sandhya Dwarkadas joined the department as an assistant professor in 1996 and later became the Albert Arendt Hopeman Professor of Engineering and from 2014 to 2020, chair of computer science. Dwarkadas, now a professor and chair of computer science at the University of Virginia, recalls in those early years a tight-knit and collegial department but one that had few women.

"I taught many classes where I had just one woman or no women in the class," she recalls. "Now the statistics are roughly 30 percent. That is a pretty big sea change."

It's also well above the national average of 20 percent.

Under Dwarkadas's leadership, Rochester became one of 15 universities in 2014 to join BRAID (Building, Recruiting, and Inclusion for Diversity), an initiative funded by Facebook, Google, Intel, and Microsoft and administered by the Anita Borg Institute.

"This cohort of 15 departments met regularly and exchanged information about what it would take to make a difference," she says. She and undergraduate coordinator Marty Guenther worked to attract more students interested in double majors, and to build community and provide opportunities for peer networking. Those efforts "made a huge difference," says Dwarkadas.

NEW FRONTIERS

In 2013, the department spun off the Goergen Institute for Data Science. Outgoing chair Henry Kautz became its founding director, and together the programs moved into the new Wegmans Hall.

Now, as the use of commercial generative AI spreads rapidly, the department remains at the forefront of AI research. "Key roots of today's AI explosion go back to work that was done here," says Scott. "Our department has been about half AI since its founding. Today that emphasis is very common. But until even as recently as 10 years ago, it was uncommon."

Earlier this year, one of the department's first graduates presented the department with a sizeable birthday gift.

Daniel Sabbah '74, '82 (PhD) graduated with a degree in mathematics just before the launch of the computer science department. He stayed at Rochester for graduate study in the new department and, after earning a PhD, went on to IBM, where he helped create its cloud platform and pioneer its move into open source, and played a key role in its successful expansion into internet software.

Sabbah has made a $2 million commitment to establish the 50th Anniversary Distinguished Professorship in Computer Science.

"I am in a position where I can help facilitate opportunities for others, especially those who have or will build careers in computer science," he says. "I'm honored to play a role in the development of the department and the people within it."

The Department of Computer Science celebrates its 50th birthday on Friday, September 27, during Meliora Weekend. Alumni, colleagues, and friends are invited to join. Visit Cs.rochester.edu.

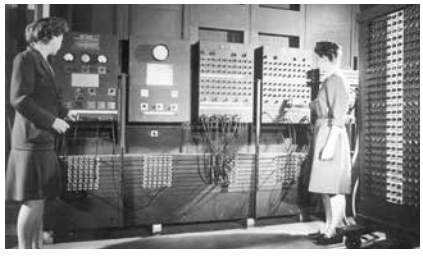
WAYBACK MACHINE: As elsewhere, the birth of the Department of Computer Science at Rochester grew out of developments in computing that burgeoned during and after World War II. In 1967, electrical engineering graduate student Charles Newman '71 (PhD) works in the University's first computing center in Taylor Hall.

LANDMARKS IN COMPUTER SCIENCE

1936

British scientist and mathematician **Alan Turing**, considered the father of computer science and artificial intelligence, presents the principles of the "Turing machine," a model of digital computers. During World War II, electro-mechanical devices developed by Turing and his colleagues to break Nazi code supplied the Allies with crucial military intelligence.

1946



MASTER OF WAR: Despite its speed, the ENIAC had no memory, and each calculation was programmed manually. Programming teams often included women, such as Jean Bartik (left) and Frances Spence.

In a project of the US Army, engineers at the University of Pennsylvania build the Electronic Numerical Integrator and Computer, or ENIAC, a programmable electronic computer capable of performing complex calculations at unprecedented speed.

1974

Rochester launches the Department of Computer Science. It begins the fall semester with three faculty members and eight graduate students.

1975

Bill Gates and **Paul Allen** found **MICROSOFT** to make software for the Altair 8080, a personal computer released the same year.

Founding chair Jerome (Jerry) Feldman '60 obtains four Alto computers from Xerox—making Rochester one of the first universities to own the machine. In the next few years, classmates Rick Rashid '80 (PhD) and Gene Ball '82 (PhD) create one of the earliest networked computer games for the Alto. Alto-Trek, inspired by the TV show *Star Trek*, featured a universe of 16 star systems and included Klingon, Romulan, and Terran spaceships and weaponry from the show.

FOUR FAB ALTOS: Founding chair Feldman poses with a couple of the four Xerox Alto computers he secured for the department. The machines were given the names John, Paul, George, and Ringo.

1976

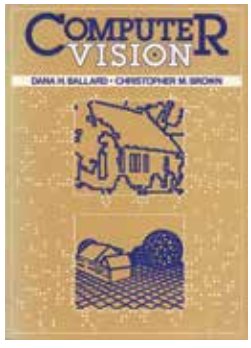
Steve Jobs, Steve Wozniak, and Ronald Wayne found Apple Computer with the aim of designing and selling user-friendly personal computers.

A team of faculty members and students create an operating system, the Rochester Intelligent Gateway, or RIG, that can manage multiple machines at once. A landmark in network architecture, RIG is widely acknowledged as the direct ancestor of the Apple operating system, through the intermediate Accent, Mach, and NeXTSTEP projects, led by Rick Rashid '80 (PhD) and Avie Tevanian '83, who became a doctoral student of Rashid's at Carnegie Mellon.

1981

IBM introduces its first personal computer. The IBM PC, using Microsoft's MS-DOS operating system, goes on the market in August for $1,565. Purchased widely by businesses, the PC becomes the industry standard for office workers.

1982



WIKIMEDIA COMMONS (TURING); UNIVERSITY OF PENNSYLVANIA ARCHIVES AND RECORDS CENTER (ENIAC); UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (FELDMAN)

The roots of computer science predate the existence of any programmable machine. But the formation of the academic field was heavily dependent on such technological achievement. As with many feats of modern technology, significant progress began during World War II.

1958-59

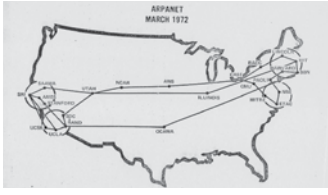
Two engineers, **Jack Kilby** and **Robert Noyce**, independently and simultaneously invent the integrated circuit, or **"chip,"** which becomes the foundation of memory and processing. Kilby is awarded the Nobel Prize in 2000 for the work.

1962

Purdue becomes the first American university to establish a department of computer science. In the next few years, a small number of other institutions follow, including the University of North Carolina, the University of Wisconsin, Carnegie Mellon, and Stanford.

1966-69

The federal defense research initiative Advanced Research Projects Agency, or ARPA, develops ARPANET, the precursor to the internet. ARPANET enabled multiple computers to connect to a single mainframe, aiding communication between machines.



INTERNET SANDBOX: By 1972, ARPANET was three years old and growing fast. The University of Rochester got connected shortly after the computer science department's founding in 1974, through the US Air Force Rome (NY) Air Development Center, or RADC, shown in this map.

1973

Xerox introduces the Alto computer. It incorporates such features as a mouse and a graphical interface, together with Ethernet networking capability, allowing several computers to connect. Introduced at $32,000, according to a 1981 article in *Byte* magazine, the Alto was intended for research and never commercialized or mass produced.

$32,000 PERSONAL COMPUTER: Accompanying the Alto's sleek desktop setup was a processor box that fit in a small metal cabinet.

1984

Computer Vision, a textbook by faculty members **Christopher Brown** and **Dana Ballard**, is published by Prentice-Hall. The book becomes a landmark in AI as it pertains to how computers identify, process, and analyze real-world objects.

Apple introduces the Macintosh computer.

The department, already strong in parallel computing, acquires a 128-node BBN Butterfly Parallel Processor, the largest shared-memory multiprocessor in the world at the time. Over the next few years, faculty including Thomas LeBlanc, Michael Scott, and Christopher Brown develop new software packages and applications, leading to innovations in parallel algorithms, memory management, synchronization, and operating system design that continue to shape the state of the art today.

WIKIMEDIA COMMONS (ALTO AND ARPANET)

1985

Construction begins on the seven-story Computer Studies Building. Completed in 1987, it will house computer science, electrical and computer engineering, and the Carlson Science and Engineering Library.

TOO BIG FOR ITS BUILDING: With more faculty, students, and equipment, the computer science department has outgrown its home in Hylan Hall. Construction of the Computer Studies Building is completed in 1987.

1986

Diane Litman (PhD) becomes **the first woman to earn a degree from the Department of Computer Science.** She went on to become principal technical staff member in the Artificial Intelligence Principles Research Department at AT&T Labs–Research and a professor of computer science at the University of Pittsburgh.

1989

British researcher **Tim Berners-Lee** publishes his proposal for hypertext markup language (html), which becomes the building block of the World Wide Web.

2014

Rochester becomes one of 15 **"BRAID schools"** as the computer science department joins Building, Recruiting, and Inclusion for Diversity, an initiative of the Anita Borg Institute, funded by Meta, Google, Intel, and Microsoft. Rochester's participation, spearheaded by then department chair Sandhya Dwarkadas (right) and then undergraduate coordinator Marty Guenther, leads to policy changes that result in a notable increase in female students.

2023

MAJOR PROGRESS: Computer science majors (left to right) Gianna Marci '18, Euakarn (Som) Liengtiraphan '17, Pooja Priya '20, and Gabrielle Stillman '20 pose in the lab in 2017.

Fall enrollment shows **women make up 30 percent of undergraduate computer science majors**, 10 percentage points greater than the national average.

UNIVERSITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (COMPUTER STUDIES BUILDING); BOB MARCOTTE (DWARKADAS AND GUENTHER); SARAH MOSSEY (MAJORS)

1991

Science News reports that a team of Rochester computer science graduate students

"has developed a checker-playing robot that not only works out a strategy but also 'sees' the board, makes the moves, and even comments on the play."

ADVENTURES IN ROBOTICS: Faculty and graduate students watch as the robotic arm later featured in *Science News* takes its first stab at checkers.

1995

The department introduces an undergraduate major and graduates its first class, including 10 students, in 1996.

2009

The department, previously part of the School of Arts & Sciences, moves into the Hajim School of Engineering & Applied Sciences.

2013

The Goergen Institute for Data Science is established. Plans begin for a new home, Wegmans Hall, to house the institute and the computer science department in a collaborative environment. The building is completed in 2017.

ARC OF PROGRESS: In a nod to the past, the design of Wegmans Hall, gracing the entrance to the Edmund A. Hajim Science & Engineering Quadrangle, suggests a punch card—once the primary means of inputting data into a computer.

2024

Computer science is the second most popular major, surpassed only by the biological sciences. The department graduates **125 students with bachelor's degrees, 28 with master's degrees, and 20 with doctorates.**

UNIVERESITY LIBRARIES/DEPARTMENT OF RARE BOOKS, SPECIAL COLLECTIONS, AND PRESERVATION (ROBOT); J. ADAM FENSTER (WEGMANS HALL)

LIVE IN LAS VEGAS: The entertainment venue Sphere, adding glitz to an already dazzling Vegas skyline, is "sort of a living organism," says Elby, who helped design technology for the four-dimensional, ever-shifting marvel of immersive sight, sound, and experience.

Reengineering the Concert Experience

Stu Elby '82 helps make Sphere a revolutionary entertainment venue.

By Luke Auburn

Standing out amid the glitz and glamor of the Las Vegas Strip is difficult, and drawing someone's gaze more than half a mile away seems downright impossible. Yet people can't help but stop and look at Sphere, the 366-foot-tall live entertainment venue that is a spectacle inside and out.

What started in 2016 as a sketch on a napkin by James Dolan, the executive chair and CEO of Sphere Entertainment Co. and owner of Madison Square Garden and the New York Knicks and Rangers, required massive amounts of technological innovation to make a reality. Helping lead the way on those advancements was Stu Elby '82, the senior vice president of advanced engineering at MSG Ventures, a division of Sphere Entertainment focused on developing advanced technologies for live entertainment.

"The biggest problems in creating Sphere were the laws of physics, because most of the things we wanted to do seem to violate them," says Elby, a graduate in optics. "We wanted the ability to transport an audience to someplace outside Las Vegas, which means their brains have to really believe they're not sitting in a theater. We had to invent a whole new type of platform to do realistic atmospheric effects to achieve that."

Housed inside the world's largest spherical structure, the performance venue features countless technical marvels. Its creative canvas spans 160,000 square feet of LED panels positioned precisely on the dome to produce a seamless image. The Sphere team even developed a one-of-a-kind camera system to record visuals for the curved display.

Behind the LED panels are approximately 1,600 speaker panels delivering 167,000 audio channels using advanced math to create 360-degree audio environments. Elby and his team worked to ensure every seat in Sphere has optimal audio, conquering the problem of sound scattering that occurs at most venues in which the sound is clear in some sections and poor in others. Before the venue opened, they piloted the system—called Sphere Immersive Sound—at the historic Beacon Theatre in New York, part of MSG Entertainment.

Sphere's engineering feats go beyond sight and sound. The team developed air flow techniques to produce four-dimen-

GETTY IMAGES

sional wind effects that simulate realistic environmental experiences. The 4D platform also provides smells and temperature changes to further create the experience of being in the scene displayed on the screen.

A-list artists lined up to be among the first to perform at Sphere. Iconic rock band U2 played the first concerts at Sphere when it opened in September 2023, acclaimed filmmaker Darren Aronofsky developed an immersive film for the venue—*Postcard from Earth*—and jam band royalty Phish and Dead & Company performed multi-night concert runs.

"We have two customers in a sense," says Elby. "We have the audience members sitting in the seats listening but also the artists and what they experience on stage through the sound system."

That requires the Sphere team to be intimately involved with artists in the production of Sphere concerts. He says they begin partnering with musicians months before a performance on everything from stage design to audio effects to visuals.

"It's a new palette," says Elby. "No musical artists or directors have ever done anything like this before. There's a lot of education and collaborative work with them that goes into a Sphere show."

Sphere's exterior is as unique and innovative as the venue inside. Comprised of hundreds of interlocking triangles, the building's exoskeleton—the Exosphere—is the world's largest LED screen and puts on a 24-7 metamorphosizing public art display. The Sphere team also had to develop creative ways to make it withstand the test of time.

"There are millions of LED pucks on the exterior, and we designed it to all be toolless, where workers can snap puck-shaped devices filled with LEDs in and out as needed" says Elby.

Elby credits his education in optical engineering for preparing him for the myriad challenges the design and construction of Sphere presented, both within his area of expertise and beyond.

"In a sense, optics is applied physics, and that's what has helped me the most in thinking through these problems," says Elby.

He adds that it was extremely difficult bringing the venue to life and that he put in five years of working long days, collaborating with partners across time zones to make it a reality. But seeing the early concert attendee reactions has been extremely gratifying, and he's just as energized by the work that lies ahead.

"It's sort of a living organism, so it's never done," says Elby. "There are always new and better things to implement; we're working on new technology for future Spheres, and then we're constantly working with artists to develop increasingly immersive shows." R

DOING THE MATH: Elby stands before a visual map of a stereographic projection used to guide cameras in making 2D images appear 3D.

MAJOR FEAT: Sparks, who signed with the Cardinals in July, is only the third Yellowjacket in program history to be picked up by a Major League Baseball team since the MLB draft was established in 1965. The others were also pitchers. They include John Ghyzel '18, drafted by the Cincinnati Reds, and Michael Weiermiller '83, drafted by the Minnesota Twins.

IN THE NEWS

Nolan Sparks '24 Drafted by St. Louis Cardinals

Pitcher **Nolan Sparks** '24 was selected by the St. Louis Cardinals Major League Baseball team in the 13th round of the 2024 draft.

Sparks, who came to Rochester from Aurora, Colorado, pitched 60 innings during his final season with the Yellowjackets, striking out 80 batters while walking just 19. He led the Liberty League in strikeouts and finished his career with the Yellowjackets as the program's all-time strikeout leader.

Sparks graduated Phi Beta Kappa in May with a major in business.

Bienfait Mugenza '21 Wins Global Projects for Peace Alumni Award

Bienfait Mugenza '21 has won the Projects for Peace Alumni Award, a global initiative founded by philanthropist Kathryn Wasserman Davis and administered by the Middlebury College Center for Community Engagement. The initiative offers only one such award each year. Mugenza is Rochester's first recipient.

The award is an outgrowth of Projects for Peace, which offers $10,000 grants to college students who have designed a grassroots project that promises to address the root causes of a conflict. The $50,000 alumni award supports the continued work of a past Projects for Peace grant recipient "who demonstrates innovation and persistence in working for peace," according to the program's website.

Mugenza, who is from Goma, Democratic Republic of Congo, was awarded a Projects for Peace grant in 2018 with classmate Philemon Rono '21 of Kenya. The two ran a workshop in Kigali, Rwanda, called "Peace through Entrepreneurship," that brought together youths from Congo and Rwanda. The neighboring countries in central Africa have seen rising tensions for decades.

Since then, he has founded the Congo Peace Academy, whose mission is to develop young entrepreneurial leaders and peacemakers who will transform the Democratic Republic of Congo into a "more peaceful and prosperous country where everyone can live and thrive without the daily fear of violence and war by 2030."

Says Mugenza, "This award holds a deep personal significance for me. It is not just a recognition of my past efforts but also a reaffirmation of my commitment to peace and conflict transformation in the Congo. The application and interview process was both rigorous and enlightening, allowing me to reflect deeply on the impact of our work at the Congo Peace Academy. When I received the news of my selection, it was a moment of immense joy and validation, knowing that the efforts of our team are being recognized on such a prestigious platform."

Bienfait Mugenza

"THRILLING" SCORE: Chang has composed music for a thriller set during the Cold War. "'Music must tell a story' is the principle I've always followed for all of my musical works," Chang told the Alliance for Women Film Composers in 2023.

Ching-Shan Chang '17E Scores Feature Film

Composer, orchestrator, and arranger **Ching-Shan Chang** '17E has written the score for the thriller *Laws of Man*. The film, in which two US marshals pursue a wanted murderer in the deserts of Nevada during the Cold War, premiered at the Cannes Film Festival in May. *Laws of Man* is Chang's first feature score.

A composer for film, games, and other multimedia projects as well as concert music, Chang has been credited in *Sonic the Hedgehog 2*, released by Paramount Pictures, and *Rebel Moon: Part Two—The Scargiver*, released on Netflix this past spring. She has won several awards for her compositions for short films.

"'Music must tell a story' is the principle I've always followed for all of my musical works," Chang told the Alliance for Women Film Composers in 2023.

Chang is an accomplished concert composer who discovered her love of composing for contemporary media while she was a student at Eastman. After graduation, she completed a master's degree at New York University in screen scoring and earned a spot at Tom Holkenborg's Score Academy in Los Angeles.

Erin Morley '02E Knighted in France

Soprano **Erin Morley** '02E was named a Knight in the Order of Arts and Letters by the French minister of culture in recognition of her outstanding contribution to the arts. The award was presented to her in Paris in February by the president of France's National Music Center.

ATHLETICS AND RECREATION (SPARKS); MARTIN NOTT (MUGENZA); BORIS NAZAROV (CHANG); LOST GALLEON FILMS/FILM MODE ENT. (MOVIE POSTER); CHRIS GONZ (MORLEY)

Class Notes

MAC ATTACK: How's your memory? It's 1986 and these hard-driving women are working on (relatively) new Apple MacIntosh computers in the Computing Center. Recognize anyone? And where, exactly, was the Computing Center? Write to us at rochrev@rochester.edu.

College

ARTS, SCIENCES & ENGINEERING

MEDALLION REUNION

Meliora Weekend
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1949 **Walter Randolph** died in February, his son, Michael, writes. Walter was an alumnus of the V-12 Navy College Training Program, which began during World War II at universities across the country, including Rochester. Michael notes that Walter "often spoke fondly of the U of R and looked forward to chatting with students reaching out to alumni as part of the university's fundraising—he would never turn them down." The family honored Walter's love of Rochester by including a suggestion of donations in Walter's memory in the full obituary at Meesonfamily.com/obituaries/walter-jack-randolph/.

1959 **Abby Barnes Anderson** (see '61).

1961 **Sandy Siegel Breitbart** (see '88). . . . **Patricia (Poppy) Roesch** writes from Webster, New York, "A wonderful children's magazine is being published here by U of R alumnae. I am the editor and publisher; **Abby Barnes Anderson** '59 and **Diane Davies Parrinello** are current members of the board of directors." Poppy adds that **Ginny Barnes Parker**, who died in September, and **Vicki Proschel Schwartz** '62, who died last October, had been longtime board members. Published quarterly since 2005, *Magic Dragon* (Association for Encouragement of Children's Creativity), encourages creative expression in children by publishing writing and art by youth aged 12 and younger. Submissions come from "all over the US and abroad," writes Poppy.

1962 **Vicki Proschel Schwartz** (see '61).

1965 **James Schloss** writes, "I am sad to report that **Sandra Bowin Schloss** '66, '75S (MBA), my wife of 56 years and companion of 59 years, passed away in February after a lengthy battle with dementia. She lived a long and rich life, but this terrible disease robbed her of the ability to exist peacefully towards the end. As a result, to some degree her passing came as a relief for her and those around her. But that hasn't made it any easier for my son, Clayton, and me—she is loved and missed."

1966 **Sandra Bowin Schloss** '75S (MBA) (see '65).

1968 **Bill Goldstein** writes that after careers as a lawyer and a sports executive, he has launched a third act as a writer and humorist. His book *Skip the Funeral and Other Musings* (Fulton Books) is "a collection of stories, observations, and pet peeves." The first story begins with a telephone call to Bill, a freshman at Rochester, from his father at home near Boston and turns into an endearing remembrance of Bill's grandfather Maurice (Mosey) Goldstein.

1969 **Elaine Schueler Horton** writes that her roommate, **Barbara Nassau Perlmutter**, died in April. Elaine remembers Barbara as one who "worked her way up to being the director of the small PC division of IBM, a rare accomplishment for a woman at that time." Elaine adds that Barbara met the man she would marry in 1974, David Perlmutter, at IBM.

1971 **Harry Melkonian** writes that he and his wife, Wei Wu, attended his son Wyatt's recent graduation from Bond University in Queensland, Australia. Wyatt received his MD degree and has now begun an internship at Royal Brisbane & Women's Hospital. Harry also reports that Wyatt's brother, Axel, returned from a year studying Chinese

Abbreviations

E	Eastman School of Music
M	School of Medicine and Dentisty
N	School of Nursing
S	Simon Business School
W	Warner School of Education
Mas	Master's degree
RC	River Campus
Res	Medical Center residency
Flw	Postdoctoral fellowship
Pdc	Postdoctoral certificate

1971 Melkonian

at the University of Beijing to complete his final year at the University of Sydney Law School. Harry is still practicing law and that Wei continues with her podiatry practice. They live in Sydney. Pictured, from left, are Harry, Wei, and Wyatt.

1972 **Jim Hashim** (see '75). . . . **Bhaskar Pant** is the executive director of MIT Professional Education and has been honored with several accolades, including the 2021 Leadership in Diversity and Inclusive Excellence award from the University Professional and Continuing Education Association. In addition, the association has recognized MIT Professional Education with a 2024 International Program of Excellence or Innovative Practice Award for global programs developed under Bhaskar's leadership. Finally, in June he was recognized with the MIT Excellence Award in the Embracing Diversity, Equity, and Inclusion category.

1973 **Irwin Grossman** sends a photo. "Five friends from the classes of '73 and '74 gathered in Boston for an annual dinner and Boston College basketball game," he writes. "From left to right are **Jonathan Richman** '74, **Rick O'Meara** '74, **Stuart Hart** '74, me, and **Terry Keane**. Would be great to have more basketball fans from '73 and '74 join us next year. BC beat Syracuse in a great game!" . . . **Bill Hammond** (see '75). . . . **Jim Juraska** (see '75).

1974

50TH REUNION

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Stuart Hart, a professor emeritus at Cornell University's Johnson School of Management and a professor in residence at the University of Michigan's Erb Institute for Global Sustainable Enterprise, has written *Beyond Shareholder Primacy: Remaking Capitalism for a Sustainable Future* (Stanford Business Books) (see also '73). . . . **Rick O'Meara** (see '73). . . . **Steve Pearl** sends an update: After 30 years of living away (the Midwest and Buffalo), he once again lives in Rochester. He has been married to his wife, Linda, since 2012. He founded a small medical/rehabilitation consulting company, working with injured police officers and municipal employees on behalf of cities and towns throughout New York state. Steve also has been "back on the air as a disc jockey since 2017 at a local jazz radio station." . . . **Jonathan Richman** (see '73).

1975 **Phil Chrys** sends a photo from an enduring multiclass alumni gathering. He 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." Pictured from left are this year's participants: Phil, Jim Sullivan, **Jim Hashim** '72, **Erick Bond** '77, **Jim Juraska** '73, **Dave Santini** '76, **Joe Zuniga** '80, **Bill Hammond** '73, and **Bill Stefanski**. . . . **David Edmunds** writes that he has retired as a judge in the New York State Unified Court System. In a historic vote, he was elected the 116th president of the Bar Association of Erie County, the first African American to hold this position. During his career, David received the Distinguished Non-Alumnus Award from the University at Buffalo Law School Alumni Association, the Charles Dougherty Civility Award from the Bar Association of Erie County, and the Inaugural Lifetime Achievement Award from the Minority Bar Association of Western New York. . . . **Ken Novak** (see '77).

1976 **David Brown**, a professor of pharmacology and former department chair in the University of Minnesota's College of Veterinary Medicine, has received the President's Award for Outstanding Service. The award recognizes exceptional service to the university, its schools, colleges, departments, and service units by any active or retired faculty or staff member. David has been with the University of Minnesota for more than 40 years. . . . **Susan Kaufman Samuels** writes that she won the 2023 AAA Photo Contest Grand Prize for a photo she took while on a trip to Greece last year. . . . **Dave Santini** (see '75). . . . **Suzanne Weiss** (see '77).

1977 **Erick Bond** (see '75). . . . **Tom Ricks** writes, "I was at the U of R from

Continued on page 49

1973 Grossman

1975 Chrys

1976 Samuels

HONOREES

Kudos and Commendations

Alumni and friends were honored this spring for their service to the University and to their communities.

George Eastman Medal

Diane Hartmann '87M (MD), '91M (Res), senior associate dean of graduate medical education and professor of obstetrics and gynecology, has been a national leader in improving medical residency and fellowship education, including at the Medical Center, where she oversaw a near doubling in the number of programs and trainees in the past 30 years.

Diane Hartmann

Francis Price

Robert Montgomery

Charles Force Hutchison and Marjorie Smith Hutchison Medal

Francis Price '74, '75S (MBA), CEO and president of PHG Engineering and Interact Performance Systems, has dedicated himself as an entrepreneur and business leader to boosting opportunities for members of underrepresented communities.

Robert Montgomery '87M (MD), the H. Leon Pachter, MD Professor and Chair of Surgery at New York University's Langone Health and inaugural director of Langone's Transplant Institute, has been a pioneering transplant surgeon and transformative leader in academic medical education and patient care. R

EASTMAN SCHOOL OF MUSIC

Dean's Medal

Joan Beal '84E is a vocal artist who has performed with the New York Philharmonic, the San Francisco Opera Company, and the Los Angeles Master Chorale and who can be heard on hundreds of film and television scores, recordings, and commercials. She has served as the chair of Eastman's National Council, co-chair of the Centennial Campaign for Eastman, and is a University trustee.

Joan Beal

SCHOOL OF NURSING

Distinguished Alumnus Award

Eileen Fry-Bowers '97N (MS), an attorney, nursing scholar, and dean of the University of San Francisco School of Nursing and Health Professions, has conducted research spanning the impact of social policies on child and family health; the affects of legislative and regulatory change on delivery of pediatric health services; and health care workforce education related to the most vulnerable populations.

Eileen Fry-Bowers

Humanitarian Award

Jonathan Terry, a former member of the School of Nursing National Council and founder of the Terry Family Talent Foundation and the Allergy Advocates New York, has been a leader in arts and educational philanthropy and in allergy and anaphylaxis awareness.

Jonathan Terry

Legacy Award

C. McCollister (Mac) Evarts '57M (MD), '64M (Res), a Penn State Distinguished University Professor, is also the former senior vice president and vice provost for health affairs at Rochester and chief executive officer of the Medical Center.

C. McCollister Evarts

John N. Wilder Award

Frank Dimino, an entrepreneur and philanthropist, grew his small construction company into one of the largest in upstate New York, owned and operated a range of businesses, and has devoted himself to charitable giving, including support to the School of Nursing.

Frank Dimino

Dean's Medal

Judith Gedney Baggs '90N (PhD), a member of the Oregon Health & Science University's nursing faculty, is a nationally recognized researcher in the field of interprofessional collaboration and collaborative end-of-life decision making in intensive care unit settings.

Judith Gedney Baggs

SIMON BUSINESS SCHOOL

Distinguished Alumni Award

Sandra Ehret Rowland '02S (MBA), a public company CFO, Fortune 500 board member, and senior advisor at Xylem, has been a leader in the Simon Women's Alliance and Advisory Council and in financial strategies that serve underrepresented communities.

Sandra Ehret Rowland

Alumni Service Award

Josh Goldberg '03S (MBA), the head of data science and mortgage at Summit Consulting, has mentored students, facilitated networking, and promoted professional opportunities for students and alumni as a member of Simon's alumni board and as a supporter of the University's Diversity Advisory Council and Diversity Fund.

Josh Goldberg

KEITH WALTERS (PRICE); NYU LANGONE HEALTH (MONTGOMERY); PROVIDED PHOTOS

Continued from page 47
fall '73 to spring '75, when I moved to a warmer place. After a career in journalism, I turned to writing books. Most have been works of history, but my next one is a murder mystery set on the coast of Maine titled *Everyone Knows But You* (Pegasus Crime)." Tom is the author of several books, including *Fiasco* (Penguin Books), which was a finalist for the Pulitzer Prize. . . . **Richard Rubin** writes, "A memorial service for **Joel Lind** was held in May in Mason, Ohio. Joel passed away in January. Attendees included **Ken Novak** '75, **Suzanne Weiss**, '76, **Paul Tuthill**, **Christine Gray**, **Cindy Rizzo**, **Dan Kimmel**, **Ira Emanuel**, and **Maureen Hart Hennessey** '78.

1978 **Maureen Hart Hennessey** (see '77).

1979
45TH REUNION
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Peter Blanck writes that a second edition of his book *Disability Law and Policy* has been released by West Academic's imprint Foundation Press. Peter is University Professor & Chairman of the Burton Blatt Institute at Syracuse University's law school.

1980 **Joe Zuniga** (see '75).

1982 **Randy Sue Kornfeld Marber** writes, "On January 19, 2024, I was elected as a district director (10th Judicial District-Nassau County) for the Association of Justices of the Supreme Court of the State of New York."

1984
40TH REUNION
Meliora Weekend
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Cyndy Brown (see '86). . . . **Dave Kratka**. . . . (see '86). . . . **Mat Rice** (see '86).

1985 **Jennifer Donnelly** has published *Beastly Beauty* (Scholastic Press), a modern retelling of the classic story of Beauty and the Beast. . . . **Nancy Mertzel**, the managing partner of Mertzel Law, has been presented with the Distinguished Member Service Award by the national nonprofit organization Women Owned Law. The award recognizes a member who has given long and meritorious service to the organization. Nancy is the current president and has previously served as vice president and as chair of the New York regional steering committee and on the board of directors. . . . **Patty Rappazzo** sends a photograph. She writes, "A core group of us who became friends when living in Gilbert Hall freshman year, along with other UR friends and spouses, traveled to Portland, Oregon, and Willamette Valley wine country to celebrate our 60th birthdays." Joining Patty in the fun-filled minireunion were **Sue Lathan** '88 (MS); **Charlie** and **Margaret Tovey Haldeman**; Patty's husband, Dwight Boerem; **Eric Roberts** and his wife, Laura; **Bruce Link**; and **Gary** '87 (MS) and **Amy Freilich Ball** '87.

1986 **Kevin Mann** writes that he has joined Compound Planning as a senior vice president and senior wealth advisor. Kevin's previous professional experiences include stage manager, high ropes course builder, and small business owner. . . . **Marc Pekowsky** writes that in March "a group of alumni gathered 44 years after first meeting on the U of R campus to relive their glory days as Dead Heads (Grateful Dead aficionados) at the famed Capital Theater in Port Chester, New York, to help former Grateful Dead bassist Phil Lesh celebrate his 84th birthday." Pictured from left are Corbett Johnson, **Cyndy Brown** '84, **Dave Kratka** '84, Sue Spina, **Mat Rice** '84, and Marc. He adds, "The gang would like to give a shout-out to all of our old compatriots from Omega Fraternity & Friends."

1987 **Amy Freilich Ball** (see '85 College).

1988 **Lorri Kahn Diggory** shares a photograph: "My mom, **Sandy Siegel Breitbart** '61, and I attended the UR Yellowjackets basketball game and alumni tailgate."

1988 Diggory

1989
35TH REUNION
Meliora Weekend
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Alan Sherman has been named vice president of marketing for Gradient AI, a software provider for the insurance industry. Alan has more than 25 years of experience in leadership and marketing roles, including, most recently, five years as vice president of marketing at Hebrew College in Newton, Massachusetts. . . . **Margaret Williams Walker**, the executive vice president for legal affairs and corporate communication at HMTX Industries headquarters in Connecticut and a cofounder of the Rochester Black Bar Association, writes that she has published her first book, *Ninzi's Secret: A Journey of Love, Discovery, and Heritage* (self-published). "It is an autobiography of how my search for my birth mother led me right back to the University of Rochester and my South African roots." . . . **Mark Zaid** was named to *Forbes*'s inaugural list of America's Top 200 Lawyers. Forbes describes those lawyers as "those who have broken barriers to emerge as

1977 Rubin

1985 Rappazzo

1986 Pekowsky

leaders in their fields, and attorneys most respected by peers and clients." Mark was recognized for representing members of the news media in Freedom of Information Act disputes; representing federal employees, military and intelligence officers, and whistleblowers; and obtaining a substantial settlement against Libya for the 1988 bombing of Pan Am Flight 103.

1992 **Lawrence Loh** has been selected as the new music director and conductor of the Waco Texas Symphony Orchestra. He was most recently the music director of the Syracuse New York Orchestra. Over his career he has held conducting positions with the Syracuse Opera, Dallas Symphony Orchestra, Pittsburgh Symphony and Pittsburgh Youth Symphony, Northeastern Pennsylvania Philharmonic, West Virginia Symphony Orchestra, and the Colorado Symphony, and has been a frequent guest conductor all over the world. A highlight of his career was working directly with legendary film composer John Williams.

1994
30TH REUNION
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1996 **Chris Gold** (see '99).

1997 **Ronian Siew** '99 (MS), an optical engineering consultant in Vancouver, British Columbia, Canada, writes that he has published *Modern Classical Optical System Design: Fundamentals, techniques, tips, and tricks* (IOP Publishing), in which he shares his "bag of tricks" for designing optical systems in a modern, fast-paced product development context. Topics include imaging, lens design, illumination, tolerancing, detection, and nuances of optical system product development.

1998 Nasheri

1998 **Thomas Nasheri** '99 (T5) and Brittani Strausbaugh welcomed a son, Thomas Charles Nasheri, last December.

1999
25TH REUNION
Meliora Weekend
September 26 to 29
Rochester.edu/reunion

Rachel Madan, director of the sustainability and impact division at Luminous, a UK-based design services agency, writes, "I'm proud to announce I've been appointed to the executive board at Luminous, adding a new dimension to my role! It's been an exciting past three years starting back in 2021 when I was recruited to establish and grow the sustainability and impact practice. We've had an amazing journey so far, growing from just me, myself, and I to a fabulous team of five, collaborating across the business to deliver impactful work for so many different clients." . . . **Damon Ng** sends an update: "My wife, Samantha, and I have four amazing kids—15-year-old and 11-year-old girls and then identical twin nine-year-old boys. We live in the Bay Area in California. I've been working with Kaiser Permanente for the last 15 years as an orthopedic surgeon specializing in sports medicine and traumatology." . . . **Christina Herouart Rankin** writes that she's been installed as a Superior Court Judge for the State of Alaska. . . . **Alicia Samuels** writes, "I have a new professional role as the associate vice president of communications and public affairs for the Rockefeller University in New York City." Alicia was previously the senior director of strategic communications for Columbia University Irving Medical Center. . . . **Jonathan Steinberg**, the 2023–24 president of the Northeastern Educational Research Association, shares that **Shaun Nelms** '04W (MS), '13W (EdD) has accepted his invitation to speak at the association's 55th annual conference in Trumbull, Connecticut, in October. The conference theme is "Promoting Social Responsibility in Educational Research." Shaun, who is vice president for community partnerships at Rochester and special advisor to President Sarah Mangelsdorf, "will focus on his experiences as part of the Warner School of Education faculty and former superintendent of Rochester's East High School, chronicled in his recently published book, *Leading With Purpose: Empowering Others to Create Lasting Change*." . . . **Cory Tylenda** and **Chris Gold** '96 were married in Rochester in January at Asbury First United Methodist Church. Cory writes that it was the first same-sex wedding held at the church, and many well-wishers attended in a strong show of support. A reception was held at the Country Club of Rochester. Cory adds that alumni **Erica Fee** '98 and **Rich Post** '97 were among the guests. Cory and Chris add that in March, University Provost David Figlio hosted them to learn more about the famous Squealy Gobbler once served in The Pit. They write, "There were numerous Squealy Gobblers made and enjoyed by all."

1999 Tylenda and Gold

1999 Rankin

2000 **Alexis Spilman Vogt** '08 (PhD), the endowed chair and professor of optics in the optical systems technology program at Monroe Community College, was US congressman Joseph Morelle's guest at President Joe Biden's State of the Union Address in March. Rep. Morelle was quoted in a press release: "Dr. Vogt has been a leader in the high-tech optics field for years, and her work has helped propel our region to the forefront of the innovation economy—including helping to secure our recent designation as a Regional Technology Hub. I am proud to have her as my guest . . . and showcase the vital work she is doing to invest in the future of our workforce and our economy."

2004
20TH REUNION
Meliora Weekend
September 26 to 29
Rochester.edu/reunion

2007 **Andrew Friedson**, the director of health economics in the Milken Institute's research department has published *Economics of Healthcare: A Brief Introduction* (Cambridge University Press). . . . **Lulu Tsai Korsak** writes that she and "a few hallmates from Gannett 3" got together for a solar eclipse viewing party that included "six adults, seven kids, and two cats." She was with **Ryan Korsak**, **Ania Gedzior Hornberger**, and **Brian Meeker**.

2009
15TH REUNION
Meliora Weekend
September 26 to 29
Rochester.edu/reunion

Kyle Adams '09 served as lead power systems engineer for one of the first commercial attempts to launch a mission to the moon as part of NASA's CLPS initiative. He was responsible for the overall design and development of the electrical power system and the procurement of the components for Peregrine Mission 1, as well as the upcoming Griffin Mission 1 and future programs. He writes: "It has been really exciting being part of the amazing growth of Astrobotic, from a small startup that believed it could do a spaceflight mission to a highly capable team of 250-plus that has now accomplished one." He adds that the mission had a flawless launch, and the power system met all expectations and supported all the activities the payloads

2007 Korsak

and internal systems were to perform during the highly compressed mission schedule, but the propulsion system suffered a major malfunction and the spacecraft ultimately burned up in the earth's atmosphere after a 10-day trip. Astrobotic is collecting lessons to be applied to our future missions. Kyle is pictured second from left. . . . **Jill Endres Berry** writes, "In 2010, after a year at the M&T Bank graduation program, I moved from my hometown

2009 Adams

of Buffalo, New York, to Sydney for what I thought would be one to two years—which is now 14!" Jill majored in English and studied abroad in Sydney in 2007. Jill is CEO and cofounder of Adatree, which she started in 2019, grew, and sold earlier this year. The business "facilitates regulated data sharing (a regime called Open Banking), with integrations to every bank and energy company in Australia." . . . **Matt Magill** writes, "**Colleen Zenczak**

Student Alumni Ambassadors Celebrate 15 Years

The Student Alumni Ambassador program marked its 15th anniversary at a conference on the River Campus in June. More than 80 current and former members attended the celebration.

Managed by the Office of Alumni Relations and Constituent Engagement, the SAA program selects an exemplary group of undergraduate students from the College to serve as liaisons with the University's alumni community.

Launched in 2009 with just 14 members, the program has grown to include 57 current members and 280 alumni members, diverse in backgrounds and interests. This year's SAAs were part of 209 student organizations and included 17 teaching assistants or workshop leaders, 16 undergraduate researchers, and 42 undergraduate scholarship recipients. Current and former SAAs can be found in 33 states and 28 countries.

"SAAs are enthusiastic about 'all things Rochester,'" says Lauren Bradley '11W (MS), executive director of the University's Student, Young Alumni, and Reunion Programs. "They are some of the University's most dedicated supporters, too, contributing significantly to the growth of engagement efforts and enhancing our alumni volunteer network."

Today's SAAs are easily recognizable in their iconic cardigan sweaters adorned with a large "R." Introduced in 2013, they replaced the long-sleeved blue-and-yellow-striped rugby shirts worn by early members and the predecessor organization, STING (Students Together in Networking Graduates), founded in 1988.

—KRISTINE KAPPEL THOMPSON

ALL THINGS ROCHESTER: For more information about Student Alumni Ambassadors, visit Rochester.edu/news/saa.

2009 Magill and Zenczak

and I got married in Washington, DC, in November 2023. Although we first met D-Day of our freshman year, we reconnected 15 years later and quickly fell in love." Pictured from left are **Kishore Padmaraju**, **Brittany Celeste Smith** '11N, **Mike Furlani**, **Tyler Kieft**, Colleen, Matt, **Noah Bennett**, **Brendan O'Brien**, and **Aaron Gelinne**.

2014
10TH REUNION
Meliora Weekend
September 26 to 29
Rochester.edu/reunion

2016 **Lu Zhang** (see '66 School of Medicine and Dentistry).

2018 **Alex Johnson** sends an update: In 2022, he was appointed carillonist at the University of Chicago, one of only half a dozen full-time carillon positions in North America. He writes, "I perform regularly on the third-largest carillon in the world, teach 15 to 20 students, work with composers to write for carillon, and all kinds of other projects."

2020 Hughes and Aronson

2019
5TH REUNION
Meliora Weekend
September 26 to 29
Rochester.edu/reunion

Danny Aronson
(see '20).

2020 **Erica Hughes** and **Danny Aronson** '19 married in April. They met as undergraduates on the swim team. After graduating with a mechanical engineering degree, Danny went on to Cornell University to earn a master's degree in systems engineering in 2021 and is employed by Lockheed Martin. Erica majored in public health and is now at Rutgers Law School and works as a paralegal in residential real estate. The wedding was held in Egg Harbor City, New Jersey. . . . **Seiji Yamashita** '20E, now a digital journalist for CBS News, last year was part of the core editorial team and primary field producer for the DuPont Columbia Award–winning Hulu documentary *Trashed: The Secret Life of Plastic Recycling*.

2020 Yamashita

Graduate

ARTS, SCIENCES & ENGINEERING

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1957 **Walter Cooper** (PhD), a regent emeritus of the State of New York, was a featured speaker at the first event of the 2024 panel discussion series *Revolution, Reckoning, Reparation, Volume 3*, presented by the George Eastman Museum and In This Moment, an organization that "demonstrates the breadth and scope of revolutionary work happening in Rochester's Black communities." Walter has dedicated his career to advocating for children's education and community development and has helped found organizations like the Rochester Urban League and Action for a Better Community.

1958 **Martha Roby Miller** (MS died in January, writes her son, Perry Chang. "I know Mom valued her education and experience at Rochester. Her degree helped catapult her into some of her life's work—and she enjoyed visiting the city and campus every once in a while." Martha worked as an educational researcher and policy analyst for the Florida Department of Education for 35 years. Through her committee work, she also advised the College Board, producer of the SAT college aptitude standardized test. Her work was familiar to colleagues and researchers across the state and around the country and even sometimes to the public, as she was quoted in such outlets as the *Orlando Sentinel* and *USA Today*.

1961 **Howard Schnitzer** (PhD), the Edward and Gertrude Swartz Professor of Theoretical Physics, Emeritus at Brandeis University, writes that, although retired from teaching, he remains active in research in theoretical physics. He has published some 230 papers with numerous collaborators, including two Nobel Prize winners.

1972 **Lester Lefkowitz** (MS) is the author of *The Manual of Close-Up and Macro Photography, Vol.I: The Basics—Magnification to 1X* (Tech Photo Press), an illustrated guide geared to hobbyists and the scientific, technology, and medical communities.

1981 **Brian Mitchell** (PhD), the president and managing principal of Academic Innovators and a past president of Bucknell University and of Washington & Jefferson College, had an article published at RealClearEducation in April. His article, "In Higher Education, Teach-Outs and Growing Academic Programs Can Be Two Sides of the Same Coin," has been reposted by outlets including Johns Hopkins University Press. Brian is working on a book to be published in 2026 by Johns Hopkins.

1983 **Jay Sonstroem** (MS) has published *Loving Science—But Not the Empire: How Real Science Reveals a Creator but the Establishment Keeps Us in the Dark* (WestBow Press). "After graduating, I went into a career at the US Army's Night Vision Lab, where I worked on infrared sensors and laser applications," writes Jay. "I did include a couple of paragraphs in the book's introduction about my time at the Institute of Optics."

1987 **Gary Ball** (MS)
(see '85 College).

1988 **Sue Lathan** (MS)
(see '85 College).

1996 **Preeti Aghalayam** (MS) has been appointed as the first woman director-in-charge at the Indian Institute of Technology. She is responsible for leading the IIT Madras Zanzibar campus in Tanzania. She previously held positions as a professor at IIT Madras and before that at IIT Bombay. . . . **Laura Marks** (PhD), the Grant Strate University Professor at Simon Fraser University in Vancouver, Canada, has written *The Fold: From Your Body to the Cosmos* (Duke University Press). Laura is also the author of *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*, also published by Duke, among other books.

1999 **Ronian Siew** (MS)
(see '97 College).

2008 **Alexis Spilman Vogt** (PhD)
(see '00 College).

2011 **Meagan Evans** (PhD) was named one of the Top 50 Women Leaders of Delaware for 2024. She is the global research and development director for emerging technologies within the electronics and industrial segment at DuPont. She helped relaunch PhD campus recruitment for DuPont and mentors early-career scientists at the company. She and her husband established the Christopher M. and Meagan E. Evans Graduate Research Fellowship at the University of Rochester to support top chemistry

graduate students, and she has been a mentor in the Real Reader program at the University. Outside of work, Meagan is active raising her family and teaching Sunday school.

Eastman School of Music

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1958 **Tom Weber** '59 sends news that **Charmaine Strawman Weber** died in January at their home in Los Alamos, New Mexico. Charmaine was a pianist and violinist who played violin in orchestras and piano for children's dance classes and enjoyed accompanying students. One of her violin students was Tom. They were married for 65 years. Tom has had a long career as a teacher and performer, including as concertmaster of the Roswell Symphony Orchestra.

1959 **Tom Weber** (see '58).

1960 **Samuel Jones** (PhD) has written three concertos, one each for flute, violin, and trombone, that were recorded by soloists and conductor Gil Rose with his Boston Modern Orchestra Project on *Samuel Jones: Three Concertos* (BMOP/sound). Samuel was the founding dean and is a professor emeritus of composition and theory at Rice University's music school. After retiring from Rice, he and his wife, Kristin, moved to the Seattle area, where she grew up. In 1997 Samuel became the composer-in-residence with the Seattle Symphony—a one-year appointment that lasted 14 years.

1969 **Max Stern** writes that he has published *The Art of the Music Critic* (Nova Academic Publishers), "based on my reviews as music critic for *The Jerusalem Post* newspaper from 1988–2020."

1983 **Renée Fleming** (MM) is the editor of *Music and Mind: Harnessing the Arts for Health and Wellness* (Penguin Random House), a collection of essays from leading scientists, artists, educators, and health care providers about the powerful impacts of the arts on health and the human experience.

1986 Cellist **Alan Weinstein** (MM), an associate professor in Virginia Tech's performing arts school, has recorded *October Skies: Songs for Tenor, Violin, Cello and Percussion* (MSR Classics) with the October Sky Ensemble, which also includes Eastman alumni and Virginia Tech faculty **John Irrera** '07, '14 (DMA) on violin and **Annie Stevens** '12 (DMA) on percussion.

1990 **Mark Steinbach** (DMA), distinguished senior lecturer in music, university organist, and curator of instruments at Brown University, writes that he performed on the unaltered 1880 Cavaillé-Coll organ of the Eglise Saint-François de Sales in Lyon, France, for his latest recording, *Olivier Messiaen: La Nativité du Seigneur* (Aeolus).

1993 **Elizabeth Blades** (DMA) has coauthored *The Feldenkrais Method for Instrumentalists: A Guide to Awareness through Movement* (Rowman & Littlefield). A soprano, Elizabeth teaches voice to college and private students.

2007 **John Irrera** '14 (DMA) (see '86).

2012 **Adrian DiMatteo**, a performing and recording artist and sound meditation facilitator, has written *Elements of Sound: A Full-Spectrum Exploration of Sound and Consciousness* (Albion Andalus), exploring the relationship between sound and consciousness. . . . **Annie Stevens** (DMA) (see '86).

2014 **John Irrera** (DMA) (see '86).

2020 **Seiji Yamashita** (see '20 College).

School of Medicine and Dentistry

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1961 **Judy Hood McKelvey** (MD) received the Career Intelligence Medal at an April ceremony to recognize her 38 years of service to the United States government. Judy retired in 2022.

1966 **Hal Kanthor** (MD) writes that he and his wife, Ann, participated in Rochester Global Connections to provide friendship for an international student 13 years ago. They were matched with **Lu Zhang** '16RC in his first year as a student coming from Inner Mongolia. Over the next four years, they provided hospitality at their home, and Lu reciprocated at his off-campus housing. The friendship continued through his graduation, and the Kanthors and Lu continued to meet from time to time—in Baltimore during his post graduate studies and in Shanghai, where Lu settled and where the Kanthors frequently visited their daughter, who lived there. The pandemic interrupted the meetings, but Lu thoughtfully sent masks when there was a shortage in the US. The friends were finally able to get together at a Shanghai restaurant in January after a five-year hiatus. Hal adds, "Lu arrived wearing his Genesee Beer sweatshirt and told us of his love for the University of Rochester, for Wegmans, and for Ann's homemade cookies."

1994 **Steve Pflanz** (MD) writes that he has been named chief of staff of the Syracuse VA Medical Center, which includes 11 satellite locations across a 13-county area of central New York. He retired from the Air Force after 25 years in 2019 in the rank of colonel. Steve is a veteran of Operation Enduring Freedom in Afghanistan.

School of Nursing

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1981 **Polly Straub Spengler** (MS) has retired after 42 years of nursing.

2010 **Orlando Harris** (MS), '14 (PhD) was named one of the UC San Francisco School of Nursing's 24 People to Watch this year for his research and advocacy on behalf of sexual and gender minorities. This year he is co-leading the new California Center for HIV Syndemic Policy Research, which aims to expose the root causes of HIV and syndemic conditions and serve as a leader in HIV policy and practice.

2011 **Kamila Barnes** (MS), '13 (DNP), an associate professor of nursing for the Hofstra Northwell School of Nursing and Physician Assistant Studies, received the President's Award from the Theta Chi Chapter of Chi Eta Phi Sorority, a professional organization for nurses. The honor was given in recognition of her dedication to the growth of the chapter.

2023 **Ashley Jackson** (MS) began a new job as a pediatric nurse practitioner at Adirondack Pediatrics in Glens Falls, New York.

Simon Business School

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1975 **Sandra Bowin Schloss** (MBA) (see '65 College).

Warner School of Education

MELIORA WEEKEND
September 26 to 29
Rochester.edu/melioraweekend

1972 **Mary (MJ) Werthman White** (MA) has published her debut novel, *An Invitation to the Party* (Regal House

1973W **Botzman**

Publishing). In a humorous look at aging, "Garnet, a poet turning 70, and her imperious Great Pyrenees, Vera, look forward to a quiet birthday, but Garnet's family has other plans." MJ has previously published a poetry collection and several short stories.

1973 **Harvey Botzman** (EdM) exhibited his photographs of the New York State canal system at Rochester's Abundance Co-op Gallery & Café in February and March. He has written and published guide books describing bicycle routes along New York State's four canals as well as routes around each of the Great Lakes.

2004 **Shaun Nelms** (MS), '13 (EdD) (see '99 College).

2019 **Vicki Helfer** (MS) was named Colorado's 2023 High School Counselor of the Year by the state division of the American School Counselor Association. Since 2019 Vicki has been a school counselor in Aurora, The association recognized Vicki as a "fierce advocate for diversity, equity, and inclusion."

In Memoriam

Trustees

Ernie Bates '62M (MD), Trustee Emeritus, died in March. A neurosurgeon and entrepreneur, Bates became the first African American graduate of Johns Hopkins University's Krieger School of Arts and Sciences when he earned a bachelor's degree there in 1958. After completing his medical degree at Rochester, he founded American Shared Hospital Services, a publicly traded company that leases medical equipment to hospitals and medical centers. A voting member of the Board of Trustees most recently from 2004 to 2013, Bates also served on the School of Medicine and Dentistry's National Council.

Paul Griner '59M (MD), Trustee Emeritus, professor emeritus of medicine, and former CEO of Strong Memorial Hospital (1985–96), died in June. Griner was a renowned expert on health care policy who consulted in the 1990s with the administration of President Bill Clinton on health insurance legislation. From 1993 to 1994, he was president of the American College of Physicians. A hematologist, Griner was credited with multiple research and treatment breakthroughs.

Faculty

Michael (Jacob) Adams, public health services, April 2024
Jianli (Jack) Chen, pathology and laboratory medicine, January 2024
Neil Lachant, hematology and oncology, April 2024

Faculty Emeriti

Thomas Gunter, biochemistry and biophysics, February 2024
Barbara Ilardi, psychology, February 2024
Sriyalatha (Ira) Nadaraja, anesthesiology and perioperative medicine, February 2024
Seymour Sandler, anesthesiology and perioperative medicine, February 2024

Alumni

Barbara Cummings West '38, February 2024
Edith Doe Ballard '44E, February 2024
Joseph M. Culotta '46, '59 (MS), April 2024
M. Dale Clark '48E, '57E (MM), '62, December 2023
Nathan Glover '48M (PhD), April 2024
Beverly Snyder '48N (Dpl), March 2024
Walter J. Randolph '49, February 2024
Robert C. Frank '50, December 2023
Rika Sarfaty Spungin '50, April 2024
Joanne Menke Zimmerman '50N, February 2024
Oliver W. Beardmore '51, April 2024
Lois Anderson Bemish '51, April 2024
Gay Tapley Carbonneau '51E, March 2024
Philip H. Gerner '51, February 2024
Doris A. Jones '51N (Dpl), March 2024
Kenneth A. Kosbab '51, January 2024
Barbara Strider Kuehn '51, '52N, February 2024
Hollis Troy O'Brien '51, '52N, December 2023
Donald A. Parry '51, February 2024
Eleanor Besemer Smith '51, March 2024
James R. Ullom '51 (MS), December 2023
Herbert A. Bell '52, February 2024
Joan Bennett Kratzert '52E, January 2024
Anne Morgan Stadler '52, October 2023
Edward J. Ackley '53, '64S (MS), January 2024
Gabriella Banks '53E, June 2023
Iva Moore Buff '53, '53E, '74E (PhD), February 2024
Jeanine Robinson Dunn '53, '54N, April 2024
Stephen B. Friedman '53, February 2024
Janet Dapson Hall '53, '54N, April 2024
Rita Breuer Helfrich '53E (MM), March 2024
John P. Hummel '53, February 2024
John E. Kramer '53, April 2024
Claire Forster Latham '53, April 2024
Jeannine Chamberlain Lawrence '53N, September 2022
William H. Marshall '53, '56M (MD), December 2023
Margaret Walsh Palmieri '53E (MM), January 2024
Joyce Popo Bell '54N, December 2023
Harriett Postel Genereux '54, April 2024
James A. Keene '54E, February 2024
A. Karen Kelly '54, January 2024
S. Jack Sandler '54, '58M (MD), February 2024
Maurice L. Sapiro '54E, '55E (MM), March 2024
John S. Short '54, November 2023
Thomas G. Thompson '54, January 2024
Barbara Sieder Treadway '54, March 2023
James M. Fitzsimmons '55, January 2024
Stuart E. Norris '55, February 2024
James E. Bostwick '56M (MD), April 2023
Ann Leland Dixon '56, March 2024
Earl J. Doser '56, February 2024
Barbara J. Grenoble '56E, December 2022
Joan Zabadal Hoeffel '56, '57N, December 2023
Ruth Howell Jobes '56E (MM), January 2024
Gordon B. Peters '56E, '62E (MM), August 2023
Letha Dawson Scanzoni '56E, January 2024
Robert S. J. Sparkes '56M (MD), January 2024
Harry M. Cole '57M (MD), March 2024
Enrico F. Conti '57M (MS), February 2024
Joyce Weiss Goldman '57 (MA), December 2023
Edith Conrad Halbert '57 (PhD), December 2023
Kenley P. Inglefield '57E, January 2024
Donald U. Kreppein '57, March 2024
Arnold R. Petralia '57, February 2024
James D. Rees '57, 65 (MS), January 2024
Mary Mullen Reiffenstein '57N, April 2024
James L. Strause '57E (MM), February 2024
Willard C. Johnson '58E (MM), December 2023
Eugene J. Kehoe '58, December 2023
Jorge C. Mestre '58D (Pdc), April 2023
Martha Roby Miller '58 (MS), January 2024
Judith Frank Pearson '58, February 2024
Patric T. Shea '58, January 2024
Charmaine Strawman Weber '58, January 2024
Sharon FitzSimons Cole '59, March 2024
Robert J. Demuth '59M (MD), '66M (Res), January 2024
Elise Wachenfeld dePapp '59M (MD), '67M (Res), March 2024
Richard A. Leibner '59, April 2024
Henry S. Mather '59, January 2024
Anne B. Mayer '59E (MM), March 2024
Susan Finke McInerney '59, February 2024
Donna Nagey Robertson '59E (MM), December 2023
Stephen L. Russell '59, '79 (MS), January 2024
Marilynn Persse Smith '59 (MA), January 2024
Carolyn Conn Batt '60, February 2024
John M. Covert '60E, '65E (MM), January 2024
David J. Howard '60, '68S (MBA), January 2024
Daniel H. Josephthal '60M (MD), February 2024
Richard L. McGlynn '60, February 2024
Elizabeth Hughes McGuire '60, April 2024
Nancy Gould Nelson '60, March 2024
Edward F. Troicke '60, April 2024
Anne V. R. Egan '61, '61N, December 2023
Alan C. England '61 (PhD), March 2024
William A. Gibson '61 (PhD), January 2024
Joseph F. Hammele '61S (MS), March 2024
Judith Bond Johnson '61, April 2024
Earl V. Lind '61, '72 (MS), February 2024
James D. Murray '61, March 2024
Susan Edelman Ringle '61, February 2024
Merton T. Shatzkin '61E (PhD), January 2024
Myron J. Biggar '62, August 2023
Sarah E. Dorscheid '62, January 2024
John L. Fichtner '62, February 2024
Robert L. Mode '62, January 2024
Marilyn Danielson Moreland '62N, October 2022
Barbaralee Toneatti Purcell '62, April 2024
Frederick Sachs '62, December 2023
E. Linda Lewis Ursprung '62, April 2024
David L. Wolitzky '62 (PhD), April 2024

Arthur L. Carter '63 (MS), March 2024
William L. Courtney '63 (MS), January 2023
John T. Gatzy '63M (PhD), January 2024
Richard M. Goldberg '63, April 2024
Patricia Hager Hinckley '63N, March 2024
Frank C. Lillich '63, February 2024
Arthur J. Silvergleid '63, April 2024
Rachel Einfeldt Capps '64E, January 2024
Thomas W. Dillenburg '64, '66W (MA), April 2024
Donald D. Green '64, March 2024
Richard A. Koubek '64, January 2024
David H. Kramer '64M (Res), '67M (Flw), February 2024
Alan J. Levine '64, '68M (MD), January 2024
Theresa A. Philippone '64E, February 2024
Thomas G. Pretlow '64M (MD), February 2024
George D. Randels '64, August 2023
Jacob H. Schaeffer '64W (MA), February 2023
Robert H. Tichell '64M (Res), March 2024
Kenneth D. Urfer '64 (MS), October 2023
Chung-Chian Wang '64 (MS), January 2024
Tae Byung Whang '64M (Res), March 2024
Salvatore A. Alongi '65, February 2024
James K. Bannon '65 (MS), January 2023
Donald H. Catlin '65M (MD), January 2024
Rosemarie Radesky DeRose '65N, October 2023
Rufus L. Dickey '65E (MM), February 2024
Stanley S. Greenberg '65E (PhD), April 2024
Leonard A. Maley '65 (MA), April 2024
Connie Durfee Marion '65N, February 2024
Walter J. Mikulski '65, April 2024
Laurence C. Older '65, December 2023
Barbara Fairchild Quarmby '65, November 2023
Leslie Thimmig '65E, April 2024
Joseph H. Wojtaszek '65 (PhD), March 2024
David L. Wormuth '65, January 2024
John P. Dundon Jr. '66E, February 2024
Rose Evans '66N (Dpl), April 2024
Kenneth B. Graulich '66, January 2024
Daniel T. Kennelly '66, April 2024
Susan Rottschaefer '66, February 2024
Sandra Bowin Schloss '66, '75S (MBA), February 2024
Allen Ward '66, March 2024
Richard C. Winchester '66 (PhD), January 2024
Dorothy May Melton Abelson '67E (MM), January 2024
Jacqueline Stemmler Adams '67, '80 (MS), February 2024
James R. Bachman '67 (PhD), February 2024
Thomas J. Baker '67 (MA), April 2024
Frank W. Broadbent '67W (EdD), December 2023
Robert N. Burger '67S (MBA), March 2024
Richard S. Chadwick '67, December 2023
S. Eric Childs '67, January 2024
Coralie Gerlitz Hurst '67E (MM), January 2024
Bernice R. Lemley '67W (EdM), April 2024
Ann Lockridge Mower '67W (MA), April 2024
Frederic E. Oder '67M (MD), February 2024
Davis E. Parker '67W (MA), January 2024
Marion Polon '67, January 2024
Karnam R. Rao '67 (MS), February 2024
Paul R. Weinstein '67D (Pdc), January 2024
Mark G. Wolfman '67, December 2023
Donna Greenblatt Goldfarb '68, March 2024
Susan Paris Greenberg '68, April 2024
Mark J. Levenson '68, February 2024
Elizabeth Lamb Lyons '68, October 2023
David A. Mathison '68M (Res), January 2024
James E. Miles '68W (EdM), February 2024
John D. Rossettie '68S (MBA), January 2024
George Yang '68M (Res), February 2023
Lawrence A. Babb '69 (PhD), November 2023
J. Carey Bloomfield '69, February 2024
Janet Rabiroff Hess '69, May 2023
Barbara Nassau Perlmutter '69, April 2024
Dan M. Urquhart '69E (PhD), January 2024
Alice Holloway Young '69W (EdD), April 2024
Christopher C. Eisenhart '70, February 2024
John J. Kelly '70W (EdD), January 2024
Ernest J. Manns '70E, January 2024
Linda Chalecke Meyer '70, March 2024
Mark Sagoff '70 (PhD), December 2023
Rosemary E. Vogt '70, December 2023
Ryuzo Yokoyama '70 (PhD), May 2023
Truman C. Bullard '71E (PhD), March 2024
Richard W. Draper '71 (Flw), January 2024
John H. Fitchen '71M (MD), February 2024
Russell N. French '71, July 2023
David M. Markowitz '71, January 2024
Thomas E. Palmer '71, May 2023
Joseph M. Sasso '71W (EdM), April 2024
James F. Taylor '71S (MBA), March 2024
Stephen C. K. Tsai '71, January 2024
James A. Vertenten '71S (MBA), April 2024
John C. Worzbyt '71W (EdD), November 2023
Arcangelo V. Arecchi '72 (MS), March 2024
Marlene Louise Gordon '72, April 2024
Jane Mason Guyer '72 (PhD), January 2024
Mohan R. Koparkar '72 (PhD), April 2024
Robert C. Marshall '72, January 2024
Julius Orban '72, January 2024
Worthington Schenk '72, February 2024
John R. Schoolmaster '72, April 2024
Russell M. Bliss '73, April 2024
Dilip K. Ghosh '73 (MA), January 2024
Vernon G. Kite '73S (MBA), December 2023
Carol Gingery Achilles '74W (MA), January 2024
R. David Drucker '74 (PhD), December 2023
Christine Thurber Ervin '74N, '76W (MA), April 2024
Bernhard B. Kumetat '74M (Res), February 2024
Pamela Trow Liddell '74, February 2024
Robert J. Markham '74, April 2024
Samuel M. Cohen '75, December 2023
Judy Feret '75, '83N (MS), March 2024
Donald A. Ziegler '75, March 2024
Marie E. Bellomo '76W (MS), April 2024
Susan S. Hartwell '76W (EdM), March 2024
John G. Long '76M (Res), February 2024
Thomas N. Saul '76E (PhD), March 2024
Christine Fliss Kogut '77, March 2024
Jerome D. Kropp '77, January 2024
Joel S. Lind '77, January 2024
David C. Sabin '77E, January 2024
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Ivan H. Zimmerman '78 (Flw), December 2022
Kenneth B. Herdle '79, '83S (MBA), September 2023
Maureen Stewart '79, '80 (MA), January 2024
William J. Troy '79, January 2024
Marya C. Gendzielewski '81, January 2024
Kathy L. Chrismer '82M (MD), '84M (Res), December 2023
Peter J. Turney '83S (MBA), January 2024
Clara Joy O'Brien '86E (MM), December 2023
Gary A. Seffel '86S (MBA), April 2024
David O. Ferguson '88, January 2024
Paul Kerkhoven '88S (MBA), January 2024
Nancy Jane Crandall '89E (DMA), April 2024
Michael L. Sachenik '89M (MD), April 2024
Barry M. Taschman '91S (MBA), March 2024
Edward Katz '92 (PhD), December 2022
Christopher M. Montesano '92 (MA), April 2024
Jeremiah T. Hurd '93, '95W (MS), February 2024
Su Mi Park-Oh '95E (DMA), March 2024
Kathleen Moyse '96, March 2024
Donna Carlson Jones '98 (MS), March 2024
M. Jacob Adams '99M (Res), '03M (MPH), '11M (Res), April 2024
Anton D. Heinrichs '01S (MBA), February 2024
Janice Hanlon Spiess '01N, March 2024
Lisa Ann Dorsey '02W (MS), April 2024
Dawn Anne Revette '02W (MS), January 2024
Trini Vargas '03S (MBA), March 2024
William J. Ferzoco '06, April 2024
Andrew G. Wascovich '06S (MBA), December 2023
Joseph R. Avitable '09 (PhD), February 2024
Renee Niles '19, March 2024

Basic Haircare Is Not Always Cut and Dried

Barbers and stylists connect with us as humans, care for communities, and make us feel whole, says ClipDart founder Kyle Parker ’18.

Interview by Karen McCally ’02 (PhD)

I spent three years at Grinnell College in Iowa before transferring to Rochester. Then I spent two years at Rochester, majoring in biology—I was pre-med—and playing on the basketball team.

I’m from the South Side of Chicago, where I always had a lot of options when I needed a haircut. I went mostly to a Black barbershop growing up, but, if that was not available, I could go to the Puerto Rican neighborhood or a Korean neighborhood, and there was always somebody skilled in cutting coarse hair. Being from such a diverse city, I never had an issue finding a barber.

When I went to Grinnell, I couldn’t find someone to cut my hair. The closest city was about two hours away, and I did not have a car. I felt like college was a really opportune time, and it started to take a toll when I never felt my best for that special someone or for social events or internship interviews.

I also missed the barbershop. In a lot of cities, barbershops and salons are cultural institutions. People have great relationships with their barbers, like I did with mine. They’re places where they’re hiring people struggling with homelessness or food insecurity. In most bigger cities and in Rochester, these places are considered safe havens. And we leave these places better looking but feel even better than how we look.

I had an idea for something like ClipDart when I was still in college. At first, I thought I’d create an on-demand barber app. It would be like Uber or DoorDash, but, instead of delivering food or driving you door-to-door, it would deliver a barber wherever and whenever you wanted. I worked on it for nearly five years, and the launch date was supposed to be March 15, 2020.

It was devastating to be ready to launch and then have the pandemic arrive. But at the same time, it was a really big blessing because it gave me time to think and revamp the mission. What if you didn’t have a phone or internet at home? So, I switched to a model of finding organizations like colleges or hospitals or senior homes, who have a lot of people in need, rather than just going to a single consumer with an app.

ClipDart is now actually two organizations: ClipDart, Inc., a for-profit corporation, and ClipDart Giveback, a nonprofit 501(c)(3). Both organizations provide free, onsite haircare for historically marginalized and underserved communities. However, our nonprofit strictly serves people facing severe socioeconomic inequities such as homelessness and food insecurity.

We started off with one barber in Arizona and he really helped me build the team throughout Phoenix. That’s why our headquarters are there today. And then I just said, “Do you know any hair professionals who’d be great for this in Chicago or New York or California?” We don’t just want highly skilled hair professionals but those who can also really have a conversation. And now we’re working in 26 states with over 100 partners.

The inequity comes from a lot more than race and hair type. There are a lot of low-income students who can’t afford haircuts, around $40 just for a cut. Access to haircare can also be hard for people who are LGBTQIA or who have disabilities. It’s just an equity problem for a lot of people.

Kyle Parker ’18

Home: Chicago

Founder of ClipDart, Inc., providing free, onsite haircare for people with restricted access to haircare, severe economic challenges, and discrimination.

On gaining confidence at Rochester: “I didn’t know anything about the hair industry or about business, but I was passionate about my idea, and I took a business class on entrepreneurship. The professor loved what I was doing and gave me confidence that I really had something here. I applied to the Ain Center’s student incubator through NextCorps and got it. I had access to all these entrepreneurs who worked at Apple or Google, and I could just go to them and they would answer my questions.”

DAVID COWLES FOR THE UNIVERSITY OF ROCHESTER

A legacy with a healing touch

Paying it forward for future nurses

> “This is something that makes it possible for someone to fulfill a dream and contribute to the University of Rochester. We have such fabulous nurses who want to go on for advanced learning and this gives them an incentive and advantage to follow that dream.”

NANCY SWANK ’03N (MS)
Member, Wilson Society
Bonita Springs, Florida

Nancy Swank ’03N (MS) spent almost the entirety of her career at Strong Memorial Hospital. While working in the pediatric emergency department, Nancy became inspired to pursue an advanced degree to become a pediatric nurse practitioner. At the School of Nursing, she was awarded the Carolyn Taksen Friedlander ’68N (MS) Scholarship.

After enjoying a wonderful career, Nancy reflected on her own experiences and decided to pay it forward with what is known as a blended gift, which includes both lifetime contributions and a bequest. Her commitment established the Nancy Morris Swank ’03N (MS) Endowed Nursing Scholarship, supporting students at the School of Nursing.

Just as she found a life-changing opportunity in the Friedlander Scholarship, Nancy hopes her scholarship will allow future nurses to achieve their life goals.

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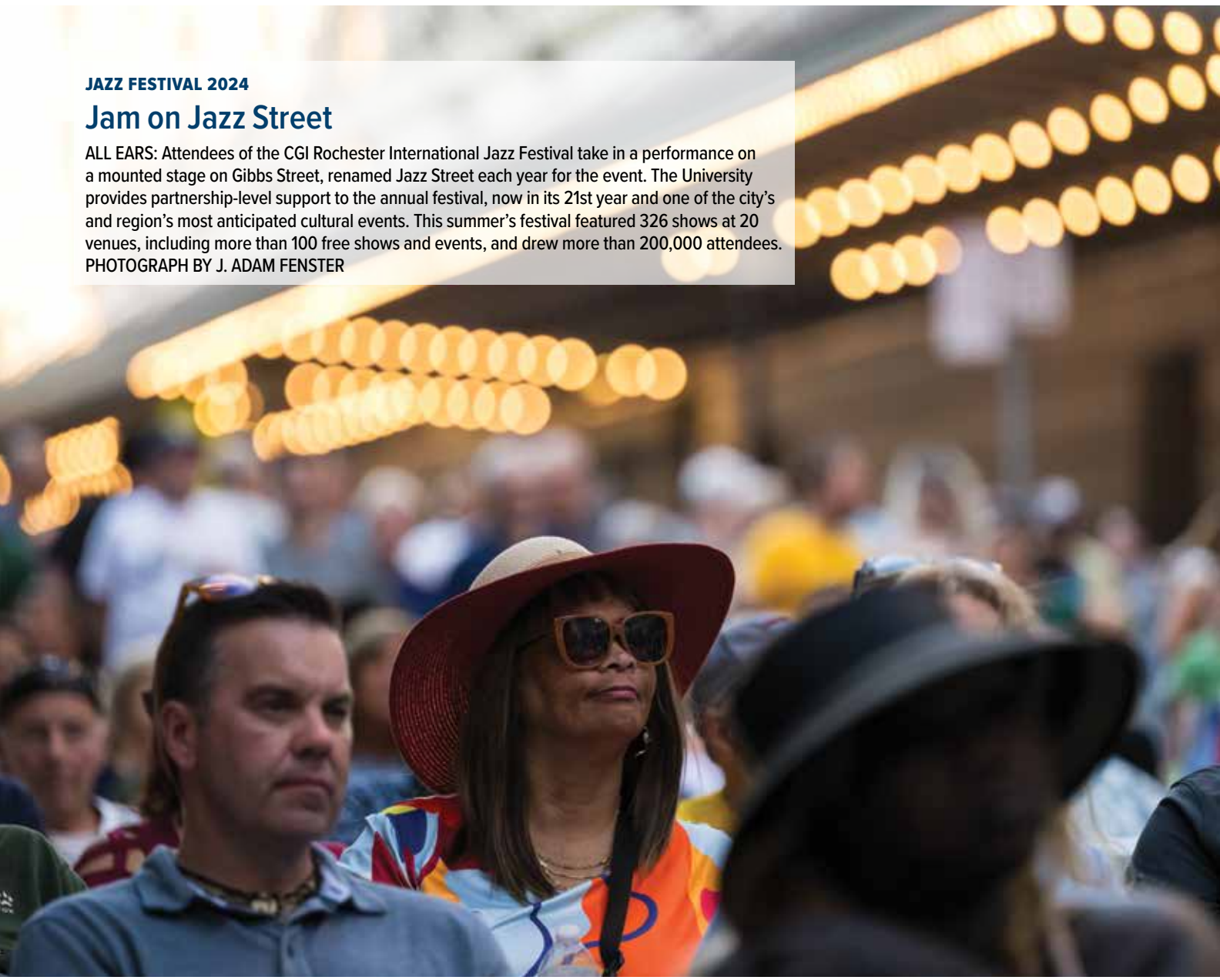

JAZZ FESTIVAL 2024

Jam on Jazz Street

ALL EARS: Attendees of the CGI Rochester International Jazz Festival take in a performance on a mounted stage on Gibbs Street, renamed Jazz Street each year for the event. The University provides partnership-level support to the annual festival, now in its 21st year and one of the city's and region's most anticipated cultural events. This summer's festival featured 326 shows at 20 venues, including more than 100 free shows and events, and drew more than 200,000 attendees. PHOTOGRAPH BY J. ADAM FENSTER

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