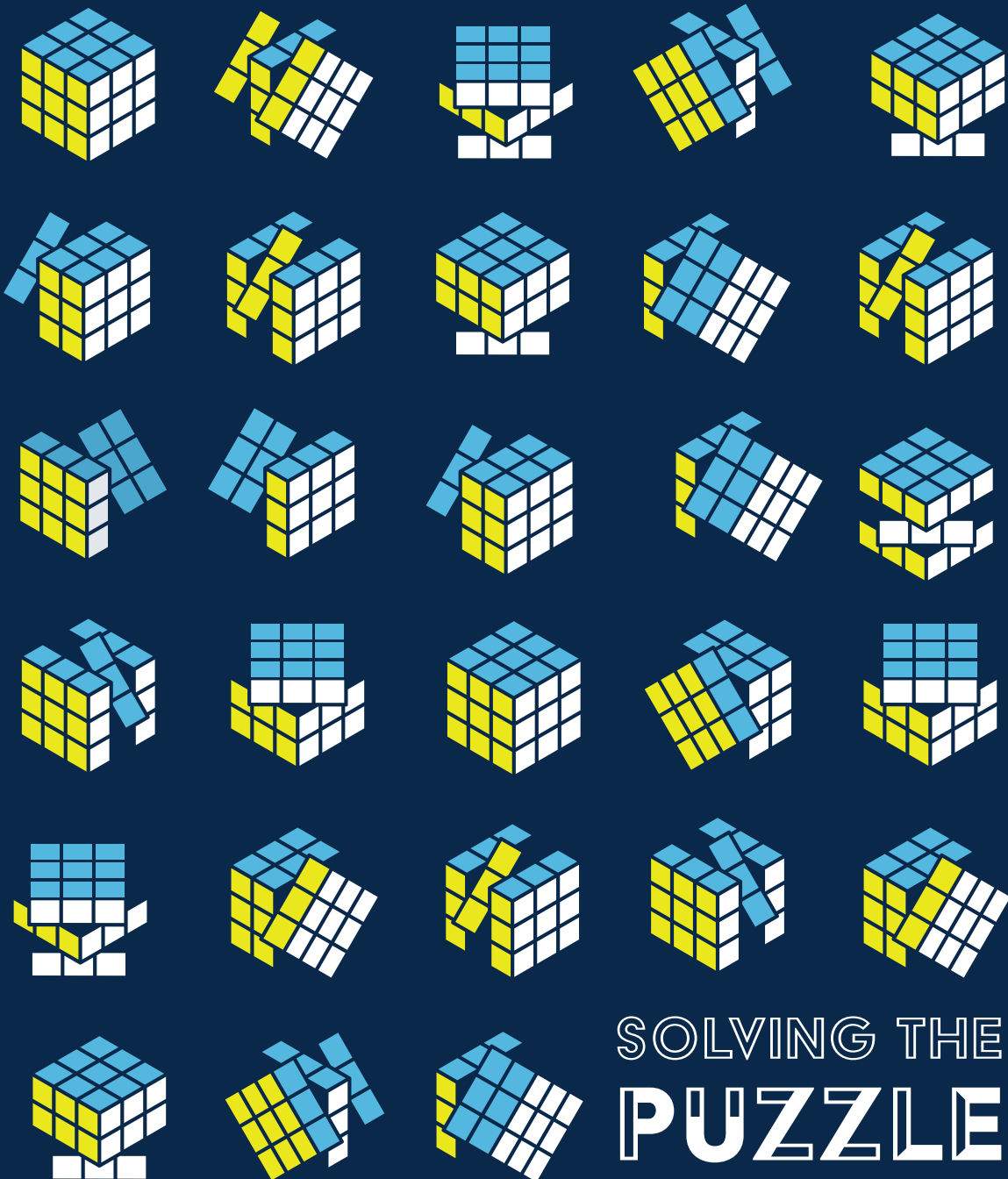


the Bulletin

Winter 2020

Sidney Kimmel Medical College
Thomas Jefferson University



SOLVING THE
PUZZLE



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the Bulletin

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Writers
Joey McDougall
Cindy Lefler
Peter Nichols
Thomas Parry

Photography
Ed Cunicelli
Mabel Luu

Videographers
Emily Butkus
Nicolette Gasiewski

Jefferson.edu/Bulletin
Ali Lubin
Heather Mahon

Communications Project Coordinator
Alison Pajonk

Address correspondence to:
Editor, Alumni Bulletin
Thomas Jefferson University
125 S. 9th St., Suite 700
Philadelphia, PA 19107-4216
215-955-8797
editor@jefferson.edu

Jefferson.edu/Alumni
Alumni Relations: 215-955-7750

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Solving the Puzzle
Shaping Jefferson's
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▲ Jefferson joined the Philadelphia skyline on October 20, 2019. Jefferson Center, previously Aramark, will be the new home for many Jefferson Health and Thomas Jefferson University services.

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Dean's Column



An Acquired Taste

Mergers and acquisitions. It sounds more like a topic for MBAs than MDs. Yet the growing trend across the country is for health systems to merge with, acquire, or be acquired by other health systems. It's the business of medicine and the wave of the future. Jefferson—so often ahead of the curve—has been riding the crest of that wave for the past five years.

From our acquisitions of other health systems in the Greater Philadelphia region and across the river in New Jersey to our merger with Philadelphia University, we have kept an eye on the rapidly changing, quickly evolving healthcare and education landscapes. For our academic medical center, the overarching goal is to provide an

unparalleled education for the next generation of physicians, as we deliver the best patient care and conduct the most groundbreaking research.

Over the past two decades, health system consolidation has gained traction as larger entities purchase or merge with smaller ones, creating a win-win-win situation for patients, hospitals, and staff. Patients benefit from wider access to specialty and subspecialty services, clinical trials, and world-class physicians. Hospitals benefit from increased efficiency and cost savings through economies of scale—such as the consolidation of administrative services, personnel, laboratories, clinical services, and technology—as well as better access to resources for research and programs, and investment dollars to upgrade services at acquired

hospitals. Healthcare professionals benefit through shareable electronic records, more coordinated patient care across the continuum, deployment and recruitment of additional medical staff to the acquired hospitals, and greater educational opportunities.

In 2018, Definitive Healthcare, which collects and analyzes industry trends in the U.S., identified 803 mergers and acquisitions and 858 affiliation and partnership announcements. Industry experts expect that trend to accelerate over the next few years; in 2014, Deloitte predicted that only half of the health systems operating that year would remain independent by 2024. This shift is happening with the approval of both physicians (a 2016 Deloitte survey found that 53% of physicians would consider merging with a larger healthcare

organization) and patients (a recent PricewaterhouseCoopers Health Research Institute survey reports that 58% of consumers are likely to choose a community hospital that is affiliated with an academic medical center).

While Jefferson is following that merger-and-acquisition trend, we are also going one step further to shape how that movement progresses.

Since 2015, Jefferson has been expanding in both size and reach across the Delaware Valley. We are moving and shaking the worlds of medicine and education, disrupting the field of healthcare as we know it in order to create one that is even better.

Over the past five years, we have acquired Abington Health (2015); Aria Health (2016); Kennedy Health in New Jersey (2016); and Magee Rehabilitation Hospital (2018). All told, Jefferson Health now has more than 30,000 employees and is the second-largest employer in Philadelphia. Yet others are now in play, as we are always looking for the next dynamic partnership to add value to our institution and our mission of improving lives.

These mergers and acquisitions have all been accomplished while maintaining a strong balance sheet.

We are one of the fastest-growing health systems in the nation, yet while others have had to make drastic cuts, or have seen their bond ratings fall, we have more than doubled our operating revenue, and have kept our Standard & Poor's rating intact with a solid A. That strong rating, along with financial stability, reinforces our long-term strategy to move forward as a leading, value-based healthcare system. Additionally, it has gained us international recognition as an ecosystem for higher education and

innovation—because health isn't all we do anymore.

Never an institution that is content with the status quo, Jefferson forms associations that transcend the boundaries of medicine and medical education. In 2017, we merged with Philadelphia University, adding its world-class professional education to Jefferson's own, creating the opportunity to combine our health and science expertise with their nationally ranked programs in areas such as design, fashion, textiles, and architecture.

The idea behind our Medicine+Design program is to infuse more creativity into the way we care for patients by bringing a human-centered, design-thinking perspective to healthcare, generating innovative solutions to the challenges caregivers and their patients face every day. Within that program, second-year SKMC students have been teaming up, in four-member teams, with students from our East Falls campus to first identify clinical challenges to be solved and then solve them with design-based solutions. The creativity manifest in these JeffSolves projects has been nothing short of inspiring, generating a flow of biotech start-up concepts.

For example, earlier this year, a team of SKMC medical students and Kanbar College of Design, Engineering, and Commerce industrial design students decided to rethink the anesthesia face mask, with an ingenious design that mitigates the risk of escaping anesthesia gas in the operating theatre. Another student team, including one with textiles expertise, devised an elegant headband with multifunction textile layers that comfortably protect neonates in intensive care units from ambient noise. Other projects over the past few years have been equally far-ranging—from a fundamental

redesign of the standard urinalysis cup to reduce bacterial cross-contamination of urine culture samples, to better layouts for emergency department and hospital rooms coming from teams of architecture and medical students.

We do not live in a world that is neatly compartmentalized—that is why Jefferson's Innovation Pillar exists. It brings together scientists, clinicians, researchers, businesspeople, entrepreneurs, and inventors to create tomorrow's solutions for today's problems. It encourages collaboration with companies to create and manage the production and commercialization of inventions and discoveries. And it allows for the leaders of the future to explore the fields of medicine, design, architecture, engineering, and the like. This is something uniquely Jefferson; we consider it an obligation to serve as a bellwether for the future of healthcare and medical education.

At Jefferson, we are broadening the training of the next generation of healthcare providers, as well as allowing opportunities for cross-education in nonmedical fields to create more worldly professionals with the ability to become global thinkers. When worlds collide, great ideas are born. Jefferson increasingly sees itself as the academic and healthcare equivalent of the Big Bang—expanding horizons that nurture great ideas to make the world a better, healthier place. 



Mark L. Tykocinski, MD

Provost and Executive Vice President for Academic Affairs
Thomas Jefferson University
Anthony F. and Gertrude M. DePalma Dean
Sidney Kimmel Medical College



Sidney and Caroline Kimmel Fund New Biomedical Research Building

Sidney and Caroline Kimmel have once again championed Thomas Jefferson University's mission to improve lives with a \$70 million gift to establish the Caroline Kimmel Biomedical Research Building. The new Locust Street facility will provide

Jefferson scientists with leading-edge technology and laboratories, and will significantly advance medical research at Jefferson.

"This gift will have a profound and lasting impact on Jefferson's ability to further pursue scientific discovery," says Mark L. Tykocinski, MD, provost and executive vice president for academic affairs at Thomas Jefferson University, and the Anthony F. and Gertrude M. DePalma Dean of Sidney Kimmel Medical College. "The Caroline Kimmel Biomedical Research Building will serve as a magnet for scientific talent

and will bolster our status as an R2 National Research University."

The new facility will greatly expand Jefferson's research capacity and, along with the Bluemle Life Sciences Building, will create a "research corridor" along Locust Street.

"I could not be more pleased about this gift; in fact, I am ecstatic," says Sidney Kimmel. "In one act, I have been able to honor my wonderful marriage to Caroline, my hometown of Philadelphia; Thomas Jefferson University, which I call the soul of the city; and cancer research, to which I have devoted so much of my time and resources. What more could I ask for? I am so fortunate, frankly blessed, to have this opportunity."

Research is a cornerstone of the university and Jefferson's \$1 billion Reimagine campaign, focused on four key themes: to support talented faculty and students; to create spaces that heal and inspire; to unite communities for health equity; and to fuel discoveries that will improve lives. The landmark gift will round out Jefferson's distinctive, integrative approach, which includes programmatic basic science as well as clinical and applied research.

"Caroline and Sidney Kimmel have always been able not only to see the future but to make it more optimistic for everyone," says Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health. "It is especially gratifying that this will be called the Caroline Kimmel Biomedical Research Building, as Mrs. Kimmel has been an invaluable leader on the advisory council of the Sidney Kimmel Cancer Center at Jefferson."

The Kimmels have been extremely generous benefactors to Jefferson, giving more than \$200 million over the years. In 2014, they made the largest gift in Jefferson's

history—\$110 million to the medical college, which was then renamed Sidney Kimmel Medical College. In addition, their donations established the Sidney Kimmel Cancer Center and lent transformational support for research into the prevention of cardiovascular disease.

"Sidney has proven once again that he's an incredible humanitarian and philanthropist," says Caroline Kimmel. "But where he really shines is as a husband! I'm profoundly grateful to have my name and our 20th anniversary celebrated in such a meaningful way at Jefferson. This moment forever links our personal commitment to cancer research, our legacy, and our abiding love. I couldn't be happier!"





Jeffersonians Lend a Hand to New Nobel Laureates Researching How Genes and Oxygen Interact

In October the Nobel Committee for Physiology or Medicine highlighted past discoveries by Jeffersonian doctor scientists as crucial forerunners to the work of this year's Nobel laureates. Gregg Semenza, MD, Sir Peter Ratcliffe, MD, and William Kaelin, MD, won the Nobel Prize in Medicine for their separate investigations on how genes react to oxygen levels.

According to the committee, the work of Drs. Semenza, Ratcliffe, and Kaelin continued key findings in the field from Allan J. Erslev, MD, director of hematology and the Cardeza Foundation for Hematologic Research from 1963 to 1985, and his mentee, Jaime Caro, MD, a former fellow at the Cardeza Foundation and currently a lecturer at Jefferson's College of Population Health.

While the Nobel-winning trio dealt with the cutting-edge specifics of oxygen flux and cell survival, Dr. Erslev first made headway into

the same mystery 60 years ago. Around the time Dr. Erslev arrived at Jefferson in 1959, he discovered that kidney cells react to the low oxygen of anemia by releasing a hormone that increases the production of a certain type of red blood cell. This hormone, called erythropoietin, keeps people alive at high altitudes where they may struggle to breathe.

After Erslev discovered how cells manage oxygen-limited environments, a long arc of discoveries remained before science would arrive at the DNA-scale focus of Ratcliffe, Kaelin, and Semenza. Dr. Caro emerged to bridge the gap.

Working with both Erslev and Ratcliffe, Kaelin, and Semenza, Caro pioneered decades of research that illuminated gene "expression," the pattern of how genes are shut off and turned on, in regard to cellular oxygen levels.

The Nobel committee that awarded this year's prize cited Caro no fewer than five times in tracing the research that made the Nobel Prize-winning work possible.

"If they were able to give the prize to four people, instead of the maximum of three, Dr. Caro would have been named," says Steven E. McKenzie, MD, PhD, the Thomas D.M. Cardeza Professor of Medicine and the Tocantins-Haurani Director of the Cardeza Foundation for Hematologic Research and the Division of Hematology.



The Erslev Lecture at Medicine Grand Rounds has featured Ratcliffe and Semenza in the past, and in spring 2020 the series will feature Kaelin, giving Caro the chance to catch up with his newly lauded colleague.

In Joining National Academy, Ophthalmologist Julia Haller Sees an Opportunity

This October the National Academy of Medicine named Julia Haller, MD, professor and chair of the Department of Ophthalmology at Sidney Kimmel Medical College and ophthalmologist-in-chief at Wills Eye Hospital, among its most recent inductees.



| Julia Haller, MD



Educated at Princeton and Harvard, Haller served as the first female chief resident at Wilmer Eye Institute at Johns Hopkins. She's published 350 articles and book chapters, established international renown as a retina surgeon, and as chief ophthalmologist at Wills Eye, she is the first woman to lead a top-tier eye hospital in the U.S.

In joining the academy, Haller is the fourth Jeffersonian and the first female Jeffersonian to receive the honor. While she's excited to boost Jefferson's signal, Haller is also eager to raise ophthalmology's profile. Haller will be one of just 15 ophthalmologists out of the academy's 2,200 members. Eye doctors make up less than 1% of the academy rolls.

"When we talk about quality of life, vision is often left out of the conversation," Haller says. As to why eye health is so often overlooked, Haller says that ophthalmology is a victim of its own success.

"Ophthalmology has been at the tip of the spear," she says, noting that the discipline was the first to utilize gene therapy and among the first to use lasers and minimally invasive techniques. Thanks to these advancements, eye-surgery patients are soon outpatients. Ophthalmology as a whole, Haller says, "doesn't take up a lot of space in the hospital."

In broadening ophthalmology's bandwidth at the academy, Haller sees a chance to talk not only about innovation, but about access.

"There are two ends of the challenge," she says. "Developing new ways to treat blinding diseases, and then on the other side, getting the basic stuff out there to the people who need it and don't have access."

According to Haller, becoming part of the academy, among the most brilliant minds of American medicine, will help to identify the solutions to these and many other challenges. "That's the sort of crucible where you get new ideas," she says.

Jefferson Celebrates Five Decades of Restoring Hope with Rehabilitation Medicine

On October 24, the Jefferson Department of Rehabilitation Medicine celebrated its 50th anniversary and honored the esteemed educator, mentor, and physician John F. Ditunno, Jr., MD, for his leadership as founding chairman of the department from 1969 to 1997.

As the first chair of the Department of Rehabilitation Medicine, Dr. Ditunno incorporated the disciplines of neurology, surgery, speech, social work, and psychiatry into the department's approach to educating physicians to restore patients to health and hope.

"We always envisioned creating a center of excellence," Ditunno says.

At the same time, Ditunno led the department to develop innovative treatments for spinal cord injuries. "Our measures became the standard, nationally and internationally," Ditunno says.

The Department of Rehabilitation, with help from the Office of Alumni Relations, held the anniversary event at the elegant Cescaphe Ballroom in Philadelphia's Northern Liberties neighborhood and treated approximately 150 alumni, staff, family, and friends to hors d'oeuvres, signature cocktails, dinner, dessert, and music.

John Melvin, MD, who succeeded Ditunno as chair of the department, gave a heartfelt tribute to his predecessor and presented him

with an award in recognition of his decades of dedication to the department, its students, and his colleagues

"Dr. Ditunno is a true icon," says Steven R. Williams, MD, the third and current chair of the department and the dean for the College of Rehabilitation Sciences.

As with so much of American medical history, the legacy of rehabilitation medicine runs deep at Jefferson.



On Campus

In the 20th century, Jefferson alumnus Frank H. Krusen, MD '21, transformed the field once known as "therapeutics" by focusing on the restoration of patients' mobility and strength. As the "father of physical medicine," he sought to rehabilitate his patients for the tasks of daily, independent living.

Another Jefferson alumnus, John W. Goldschmidt, MD '54, built on Krusen's innovations by pioneering an interdisciplinary approach that formed the basis of what became the Department of Rehabilitation Medicine at Thomas Jefferson University.

After launching in 1969 under Ditunno's guidance, the department grew to include a training program that has placed decades of Jefferson physicians throughout the area's hospitals, including Magee Rehabilitation Hospital, a flagship of the discipline and a Jefferson partner.

In celebrating the 50th anniversary, the Department of Rehabilitation Medicine raised \$84,000 toward the John F. Ditunno, Jr., MD, Endowed Research Fund. During the event an anonymous alum promised to match all funds up to \$50,000. Once the fund reaches a \$100,000 endowment requirement, Dr. Williams and the rehabilitation medicine faculty will direct \$5,000 of the fund every year toward a research project within the department.

"I feel very honored," says Ditunno on having a fund in his name. "The critical thing is what it will be able to accomplish."

Nationwide Collaborative to Improve Patient Safety Training Taps Jefferson

In September the Accreditation Council for Graduate Medical Education (ACGME) invited a Jefferson team led by Rebecca



| Rebecca Jaffe, MD



Jaffe, MD, associate professor of hospital medicine at SKMC, to join an 18-month nationwide collaboration aimed at developing transformational changes to improve patient safety outcomes.

In organizing the Collaborative on Pursuing Excellence in Clinical Learning, ACGME chose just 10 clinical learning institutions to join the cohort, and selected Jefferson as a "New Pathway Leader" along with institutions such as the David Geffen School of Medicine at UCLA, University of Maryland, University of South Florida Morsani College of Medicine, and University of Tennessee Health Sciences Center.

Over the next year and a half, Dr. Jaffe and a four-member, multidisciplinary team of Jeffersonians will meet with other participants for three three-day sessions to brainstorm and hash out ideas and practices on how to best train medical students to keep patients safe.

ACGME first established the collaborative project in 2017 after it conducted site visits to every accredited teaching hospital in the U.S. To address the needs it

discovered, ACGME tasks groups to find solutions in focus areas such as professionalism, resident burnout, and safety.

Jaffe's a natural fit for the job. Among her roles at Jefferson, she is a safety "bridging leader," meaning that she heads safety initiatives at the hospital while training the university's current and future physicians in safety practices.

With a foot in each world, Jaffe is always searching for a way to integrate the two. Training that fuses theory and lived experience, she reasons, will produce safer, more seasoned physicians.

"Telling people what to do is not that effective. We need to show them why their engagement in safety processes is so meaningful to patients and providers," says Jaffe. "That's the direction that can achieve an attitudinal shift."

At present, a lot of education around patient safety focuses on reporting, Jaffe says. While accurate, helpful reporting of medical errors is indispensable, Jaffe wants to renew focus on mitigation strategies and deeper analysis of errors and

near-misses. Any advance or insight, Jaffe hastens to point out, is most effective when woven into the residents' clinical experience.

Looking forward, however, growth in residents' responsibility and autonomy may meet resistance. As pay structures for medical services shift, so does liability. Hospitals of the future may be reticent to entrust residents with risky, high-impact tasks.

"If that happens, you're looking at graduates of residency programs who are less ready to be doctors," Jaffe says.

Jeffersonians Rise to the Top of Philadelphia "Best Of" Lists

Jefferson doctors, nurses, and educators have received high honors from two Philadelphia-area news institutions, the *Philadelphia Inquirer* and *Philadelphia* magazine.

On August 15, 2019, the *Inquirer* named seven Jeffersonians at its "Influencers of Healthcare" ceremony, a celebration of healthcare professionals who have gone above and beyond to improve the lives of their patients and the health of the city.

At the ceremony, held in the Crystal Tea Room in the historic

Wanamaker Building, the *Inquirer* hailed the city's "heroes of healthcare" naming Bon Ku, MD, MPP, a specialist in emergency medicine, associate professor at SKMC, and star of TNT's *Chasing the Cure*, for an Excellence in Innovation Award. The Excellence in Medical Research Award went to Richard J. Smeyne, PhD, director of Jefferson's Comprehensive Parkinson's Disease and Movement Disorder Center at the Vickie and Jack Farber Institute for Neuroscience, for his research into the cell biology of Parkinson's disease.

For Physician of the Year, the *Inquirer* named Julia A. Haller, MD, professor and chair of the Department of Ophthalmology and ophthalmologist-in-chief at Wills Eye



Hospital. Finally, Austin L. Chiang, MD, MPH, assistant professor, director of the Endoscopic Bariatric Program, and chief medical social media officer, walked away with the night's Rookie of the Year Award.

Other honorees include Marc J. Altshuler, MD, director of the Jefferson Center for Refugee Health, for the Excellence in Patient Care award; Eddie Welsh, RN, a nurse at Jefferson Frankford Hospital, as Nurse of the Year; and Resa E. Lewiss, MD, vice chair and professor of ultrasound point-of-care, for the Outstanding Educator award.

The celebration also featured Jeffersonians Anuj Shah, MD, a physician resident training in emergency medicine at Thomas Jefferson University Hospital, and Brian Sweeney, RN, MBA, FACHE, chief operating officer at Thomas Jefferson University Hospitals, as panelists on a discussion of the effect of millennial consumer behavior and the future of healthcare.

Jefferson physicians also made a strong showing in the pages of *Philadelphia* magazine, where over 500 Jeffersonians appeared in the magazine's 2019 "Top Doctors" issue. These Jefferson physicians were nominated by their peers as providing the very best care available in Southeast Pennsylvania, South Jersey, and Delaware.

Jefferson's "Health Nexus" Podcast Launches, Tackles Hahnemann Shutdown

In September, Jefferson launched the Health Nexus Podcast, a brand new audio platform to highlight the inspiring stories that pass through the hospital and university doors. Each episode offers a rare opportunity to follow physicians, patients, students, researchers, and leaders as they navigate the transforming healthcare landscape.



On Campus

The Health Nexus Podcast took off with a three-part series delving into the Hahnemann University Hospital closure and its impact on Jefferson.

Episode one traces the impact Hahnemann's shutdown has had on the Jefferson Emergency Department. Hospital president Richard Webster, RN, MSN, and department staff members lead listeners through their efforts to deal with the spiked level of activity Jefferson's ER now faces. Jefferson braced for the uptick beforehand with high-level analysis and met the challenge head on. The hospital revamped intake and triage protocol, assigned "vertical attending" doctors to flexibly respond to needs, and worked with the city to streamline the increased flow of ambulances.

In episode two, we meet Adam J. Sagot, MD, who within the space of a few hours witnessed the birth of his daughter, Lennon, and learned that his upcoming fellowship in child and adolescent psychiatry through Drexel University College of Medicine and Hahnemann University Hospital might disappear. Jefferson sprang into action, opened its doors, and found space for Dr. Sagot and more than 70 other postgraduate trainees, salvaging an opportunity from the Hahnemann crisis.

"We care deeply for our residents and fellows," Mark L. Tykocinski, MD, provost and executive vice president for Academic Affairs for Thomas Jefferson University, and the Anthony F. and Gertrude M. DePalma Dean of Sidney Kimmel Medical College, tells the Health Nexus Podcast. "Residency training is what brings the pieces of your [medical school] education together. It not only gives you the clinical perspectives, but continues your development as a person and a professional."

What's more, securing a home for postgraduate trainees displaced by the Hahnemann closure ensures



that those talents will continue to contribute to a healthier Philadelphia, Tykocinski says.

Finally, in its third installment, the Health Nexus Podcast takes us into labor and delivery care, a crucial Jefferson service that faces an approximate 50% surge in volume due to the Hahnemann closure. This summer, with Hahnemann suddenly unable to meet the needs of over 1,000 expectant mothers, Jefferson expedited the onboarding of 12 obstetricians and eight midwives in just over one week.

Each episode of the podcast, available at thehealthnexus.org, delves into the challenges and complexities of contemporary healthcare and brings you the voices at the heart of these transformations.

In other words: "Our stories," says host Gianna DeMedio, "told our way."

Jefferson Appoints John Lauriello, MD, to Chair Department of Psychiatry and Human Behavior



In September John Lauriello, MD, became the chair of the Department of Psychiatry and Human Behavior at SKMC and senior vice president of psychiatry for Jefferson Health. Formerly the chair of psychiatry at the University of Missouri, Dr. Lauriello held the Robert J. Douglas,

MD, and Betty Douglas Distinguished Professorship in Psychiatry and oversaw a major expansion of the department and the opening of the acclaimed University of Missouri Psychiatric Center.

Dr. Lauriello has written and contributed to more than 100 publications and is an expert investigator in the diagnosis and treatment of schizophrenia. Lauriello's dedication has earned him a place among "Best Doctors in America" from 1998 to 2018 and the 2011 Henry P. and M. Page Laughlin Alumnus of the Year Award, the highest alumni honor offered from Temple University's Lewis Katz School of Medicine. Lauriello won election to the American College of Psychiatrists in 2014, and in 2018 was named a distinguished fellow of the American Psychiatric Association.

Before his work at the University of Missouri, Lauriello led the schizophrenia research group at the University of Mexico and later became the executive medical director of the UNM Psychiatric Center. He also served as a UNM site principal investigator for the Mental Illness and Neuroscience Discovery (MIND) Institute, a consortium of universities and institutions in Minnesota, Massachusetts, and New Mexico.

A graduate of Yale University, Lauriello completed medical school at Temple University and residency at New York Presbyterian Hospital's Payne Whitney Psychiatric Clinic. He went on to fellowships focused on psychopharmacology and psychobiology at the University of California, San Diego and Stanford University.

At Jefferson, Lauriello not only hopes to strengthen his department's academic standing, but also plans to partner with clinical pillar leadership to create an enterprisewide behavioral health strategy.

In coming to Philadelphia, Lauriello arrived with his wife, Naomi Lauriello, MD, a neonatologist who will be working in the Department of Pediatrics at Nemours/Alfred I. duPont Hospital for Children.

Wills Eye Hospital Presents Inaugural Awards at Wills Eye Ball

Wills Eye Hospital presented four inaugural awards to honor outstanding leaders and esteemed benefactors at the Wills Eye Ball on Saturday, November 2, 2019, at the Four Seasons Hotel in Philadelphia. The gala celebrated the 60th anniversary of the Wills Eye Retina Service and paid tribute to its innovative breakthroughs, best-in-class fellowship training program, patient-centered service, and life-changing impact.

Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health, and Steven H. Korman, a Wills Eye benefactor, civic leader, and founder of Korman Communities, were recognized with the Strategic Partnership Awards. Dr. Klasko was selected for his visionary leadership in reimagining the intersection of healthcare and higher education and his ongoing support of Thomas Jefferson University's partnership with Wills Eye Hospital. Wills Eye is an

independent ophthalmology hospital and serves as the Department of Ophthalmology for Sidney Kimmel Medical College at Thomas Jefferson University. Korman was recognized for his support of strong and healthy communities through leadership roles in housing, nutrition, and healthcare initiatives in Philadelphia.

Other award recipients include Philadelphia Mayor Jim Kenney, who received the James Wills Leadership Award in recognition of his support of Wills Eye Hospital and the board of directors of City Trusts, which provides oversight to Wills Eye, and Jay S. Duker, MD, director of the New England Eye Center and professor and chairman for the Department of Ophthalmology at Tufts Medical Center and Tufts University School of Medicine, who received the Vickie and Jack Farber Vision Research Award in recognition of his significant contributions to vision research.

"The pioneering Retina Service is a core part of Wills Eye Hospital, and together we are so very proud of our rich history of training, clinical care, and research," says Carl D. Regillo, MD, FACS, chief of Retina Service at Wills Eye Hospital. "We look forward to celebrating this milestone 60th year and ushering in this next exciting era in new treatments and cures for patients confronting eye disease in its many forms."



17TH ANNUAL JEFFERSON GALA

Bright lights, big news, sparkling music, high energy, terrific honorees—the 17th Annual Jefferson Gala was a smashing success. The sold-out hall and record-breaking funds raised, \$1.8 million, were made even better when an anonymous donor made an on-the-spot gift of \$200,001, just so Jefferson could top the \$2 million mark. Proceeds benefited stroke education, outreach, and prevention efforts in underserved Philadelphia neighborhoods, as well as special initiatives of the Farber Institute for Neuroscience.

High points included “breaking news” of a \$70 million gift from the Sidney Kimmel Foundation to fund a new Caroline Kimmel Biomedical Research Building, an announcement that the Reimagine campaign had raised \$703 million of its \$1 billion goal, and the honoring of Robert Rosenwasser, MD, MBA, with the Achievement Award in Medicine and Andréa and Kenneth Frazier with the Award of Merit. Rosenwasser is a neurosurgeon and president and CEO of the Vickie and Jack Farber Institute for Neuroscience. Andréa Frazier is founder of the interior design firm Frazier Designs and a member of the Vickie and Jack Farber Institute for Neuroscience Campaign Committee. Kenneth Frazier is chairman and CEO of Merck.

The evening was topped off with dancing to music by the band Well Strung, which featured Rosenwasser on guitar.



Gala honorees Robert Rosenwasser, MD, MBA, Kenneth Frazier, and Andréa Frazier, with Stephen K. Klasko, MD, MBA







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A Message from Elizabeth A. Dale



Generosity Goes Both Ways

Have you ever felt inspired watching someone act with compassion? Have you been moved seeing a stranger help a stranger? I have. It reminds me of all that's best about humanity.

Psychologists call the experience "elevation." Someone witnesses an act of kindness, and it makes them want to help others and become a better person.

Working with benevolent Jefferson alumni, I'm privileged to have an "elevated" front-row seat for witnessing generosity.

Recently, I had the opportunity to be in the room when a Jefferson scholarship recipient met her benefactor.

For the past three years, Hannah Garrigan has been a Liss Scholar at Sidney Kimmel Medical College, receiving a scholarship established by Amy Liss and her late husband, Henry Liss, MD '48.

When they met, the connection was undeniable. Sitting side by side on the couch this fall, it was clear how grateful Hannah, 26, and Amy, 88, were for one another.

"I would not be where I am today without people like you," Hannah told Amy, explaining that the rising cost of medical education and the expense of living in Philadelphia is overwhelming. "The loans don't always cover what things actually cost—and then there's the loans themselves."

Amy understood, and told Hannah that was why she and her husband started the scholarship.

"Henry started Jeff in '44, and he came to realize how fortunate he and his classmates were in having the GI Bill," she said. Dr. Liss had served as a hospital corpsman in the U.S. Navy during the war, and was able to attend college and medical school without incurring any costs or loans. He went on to be a pioneer in neurosurgery.

"We realized that today's medical students don't have that kind of financial support," Amy said. And so, the couple established the first Liss Scholarship Fund in 1991, designated for students with demonstrated financial need. A second fund was established in 2009 and earmarked for students with an inclination toward the practice of family medicine. To date, almost \$900,000 has been awarded to 70 Liss Scholarship students.


Amy has great hopes for her scholars. "I hope they're fulfilled in whatever path they choose," she said, "and I hope that they will have the same feelings of respect and appreciation for Jefferson that my husband had, and that they will

do whatever they are able someday to support the school."


Generosity goes both ways. A gift fuels positive change for others, and the act of giving uplifts the giver. Generosity makes people better, and it makes better people too. I feel enormously grateful to be part of the Jefferson philanthropic ecosystem.

One of our goals through the Reimagine campaign is to endow 100 scholarships, so that bright students like Hannah will have the opportunity to give back to humanity through the noble profession of medicine.

If you're interested in learning more about how to create a scholarship, or if you'd just like to share a story about something inspiring you've witnessed, please contact me. I'd love to hear from you.

To learn more about Hannah, read "Leaving the Comfort Zone" on page 46, or watch a video of Amy and Hannah meeting each other at jefferson.edu/LissScholarship. 

Elizabeth A. Dale, EdD, MPA
Executive Vice President and
Chief Advancement Officer
Office of Institutional Advancement

215-503-5138
elizabeth.dale@jefferson.edu
 [@elizabeth__dale](https://twitter.com/elizabeth__dale)

Please contact me if you'd like to learn more about the doors you can open and lives you can change. I'd love to hear from you.

Discovery



| Illustration by Shae Berler Goudreau



It Takes a Village

**How does a lab in Philadelphia study a disease endemic to sub-Saharan Africa?
With a lot of help. By Zach Nichols**

In some places, you see children gingerly leading the elderly—their eyes milky blind—to work the fields, dependent on the young to find their way. In other places, whole villages are emptied of people, human sounds replaced by buzzing flies and the rush of a nearby river.

This is onchocerciasis—river blindness—a so-called “neglected tropical disease” that affects 15.5 million people, mostly in sub-Saharan Africa with incidences in South and Central America. The disease is spread by black flies, which breed in fast-moving water, but is caused by *Onchocerca volvulus*, a tiny parasitic worm.

The worm is David Abraham, PhD’s white whale. A professor of microbiology and immunology as well as the associate dean of undergraduate medical education and academic affairs, he has spent much of his career studying *O. volvulus*, part of a group of parasites known as filarial worms, which include well-known pests like heartworms.

Our antagonist begins its byzantine life cycle as a microfilaria, its larval stage, living in human skin tissue until a black fly comes along in search of a blood meal. The larva is ingested by the black fly, moving to the gut, where it matures to its second stage before moving back to the fly’s proboscis (mouth parts). After a few weeks, it is ready to depart its host the next time the fly feeds on a human.

Entering the second human host through the fly’s saliva, the larva takes up residency deep in the skin, forming a nodule, where it remains for the next six to 12 months until it is a fully mature adult worm. If a male and female are present in the



As it turns out, there is an immune response to the worm. The body can “see” it and mount a defense.

Current medical treatments involve delivering doses of ivermectin, a general-use antiparasitic, to at-risk populations every year for up to 30 years. This multidecade horizon—aimed at interrupting the spread of microfilariae—is made difficult by the rural life of affected populations and the need to track them for extended timespans. Vaccination, on the other hand, is a one-and-done preventive intervention that would inoculate children against the infection.

Before developing a vaccine, investigators had to get *O. volvulus* to “hold still,” as the parasite tends to move about once introduced into a host (lab mice in this case), making extraction and monitoring a challenge. To resolve this issue, Abraham and his team utilized tiny diffusion chambers that keep the worms from straying. Covered with microns-wide holes that allow immune molecules and cells to interact with the worm, the minuscule holding chambers allow the team to observe “the scene of the crime” and understand in a fine-grained way what molecules are involved in a protective immune response. (Read “Know Thy Self” in the Fall 2019 issue of *The Bulletin* to learn more about the uses for Abraham’s chambers).

“We were sent antigens from different labs around the world,” recalls Abraham. “It was our job to see what response they elicited, as well as whether the response could be increased in combination with other known enhancers.” The collaborators developed an antiparasite cottage industry, vetting targets and brainstorming possible solutions together.

The Clark Foundation eventually moved on to support other new ventures, having fulfilled its mission of jump-starting research programs for this particular neglected tropical disease. “They’d assembled this whole group of people,” Abraham says. “We now have larvae producers and health screeners in Africa and at universities throughout the world, antigen producers, human immunologists,

same host, the male will make its way through the skin to the nodule that houses the female, where they will mate. After gestation, the female will lay between 700–1,500 microfilariae each day, which will spread throughout the skin until another black fly comes along.

Unsurprisingly, blindness tops the symptoms list, though it typically comes as a kind of parting shot from the adult worms that make their way to a patient’s head and face. When the microfilariae die, bacteria are released from their corpses and the body’s inflammatory response to these bacterial invaders can cause damage to the retinas. Over time, enough damage can lead to full blindness.

Severe as that side effect is, some say the accompanying dermatitis produced by the larvae is even worse. “It’s so bad that people will take hot metal to their skin to find some relief,” Abraham says. The larvae can cause much of a patient’s body to become rough or “lichenized” and depigmented. In more extreme cases, the skin become so inelastic that organ hernias form.

Abraham’s work on a river blindness vaccine—none currently exists—began in 1988 when the Edna McConnell Clark Foundation offered to support his research. They asked, “Does the immune system respond to *Onchocerca volvulus* larvae?”

and my parasite group—all arranged around this one goal.”

The National Institutes of Health took up the challenge next, providing support to continue the basic science research required for the *O. volvulus* vaccine’s development. A Small Business Innovation Research (SBIR) grant enabled the *O. volvulus* collaborators to finalize their list of antigen targets and to optimize the “recipe.” Now partnered with PAI Life Sciences, a Seattle-based health sciences firm with expertise in vaccine development, the team is on its way to market.

But before they could finish, they wanted to ensure that their treatment would work against the hardest possible specimen. This is essential to developing a working vaccine that can kill not just sickly, weak worms out of place but healthy parasites in their native habitat. A species like *O. volvulus*, with its just-so life cycle, makes this of the utmost importance, as the conditions under which they flourish are nothing if not particular.

Funded by the Bill & Melinda Gates Foundation, the Abraham lab engineered immunodeficient mice with a human immune system by injecting them with human umbilical cord stem cells, populating their bodies with the usual cast of T and B cells. The team went further by grafting human skin and muscle cells into their humanized mice to better replicate where *O. volvulus* spends much of its life, lengthening the worms’ life spans to over three months and increasing their size fourfold.

They are currently testing the vaccines in collaborative cross-mice models to determine the most effective combination of antigens and adjuvants (immune enhancers). “These mice are bred to be as genetically diverse as possible with the aim of getting reproducible results,” Abraham explains. “The idea is to replicate as closely as possible the kind of diversity you’d find in a population of people.”

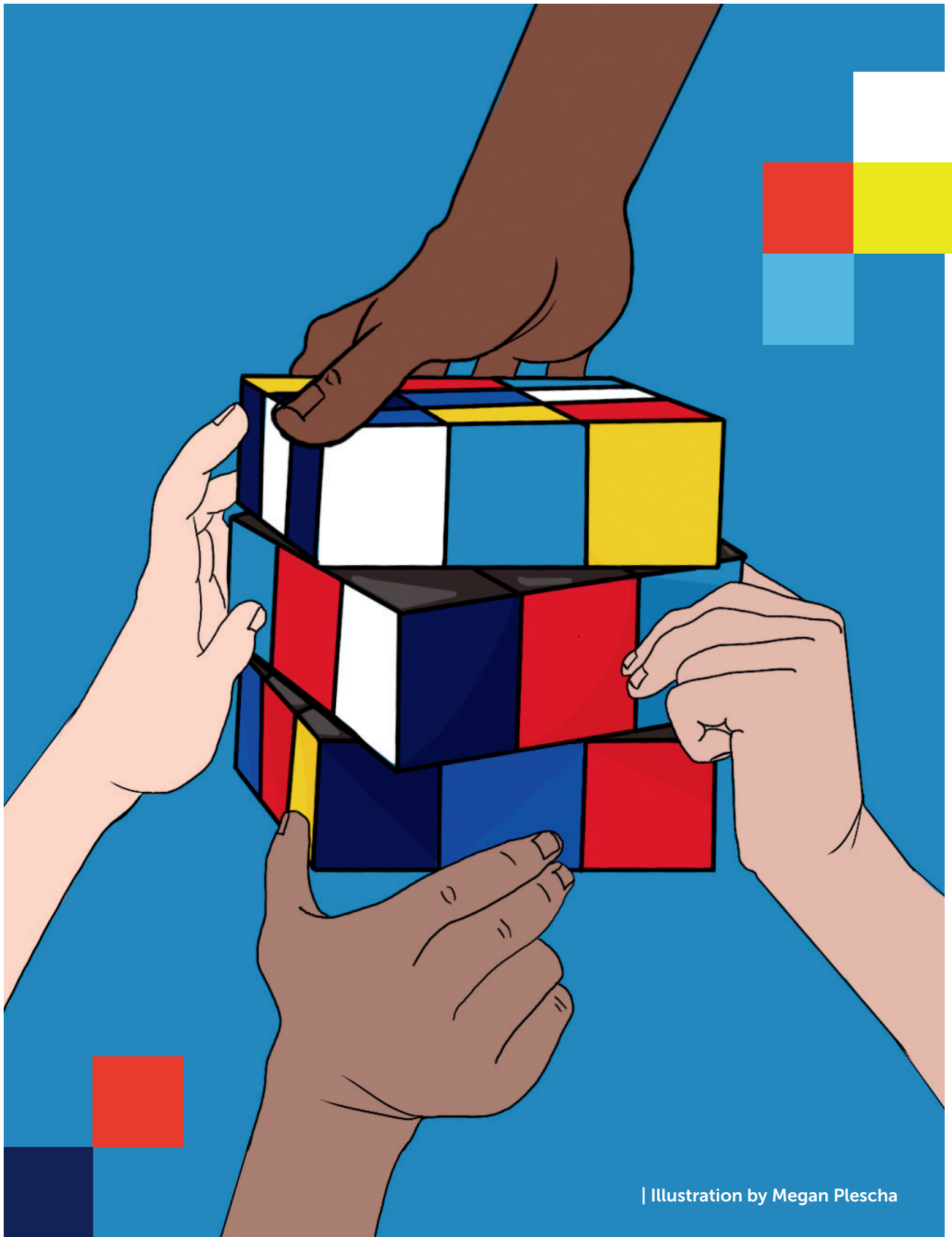
The aim is to understand which molecular target works best and how that “best vaccine” functions. This last

piece, aside from satisfying curiosity, will let them know their vaccine is working once it’s finally administered to the public. This will save valuable time, as they can determine through a simple blood test whether immunity has taken hold rather than waiting a year for the worms to complete their life cycle.

There is still some distance to go, more tests to be done, and regulators to satisfy, but Abraham and the international team he is a part of are closing in on the vaccine that’s been decades in the making.

Onchocerca volvulus has left countless individuals sightless and homeless, and entire villages empty and silent. But on the horizon the researchers can see a vision of what is to come: A world where the young look at their elders and have their gaze met in return, and villages where rivers do not mean foreboding, where the air is once again filled with voices. 🗣️





| Illustration by Megan Plescha



SOLVING THE PUZZLE

Jefferson Neuroscience Leads the Way in “the House that Rosenwasser Built”

BY CINDY LEFLER

Robert Rosenwasser, MD, MBA, is part neurosurgeon, part historian. He revels in telling the tale of how Jefferson vaulted into medical history in the late 19th century by performing the first-ever brain tumor surgery in the country. With just a mere mention of “The Gross Clinic,” he launches into a TED-like talk full of trivia nuggets about the painting—including how artist Thomas Eakins inserted himself into the piece. And he can spout every detail of a little-known, but medically pioneering, Civil War-era hospital in Philadelphia.

Rosenwasser, the Jewell L. Osterholm, MD, Professor and Chair of the Department of Neurological Surgery, is the president of the Vickie and Jack Farber Institute for Neuroscience at Jefferson Health. He is also the architect of the institute, stacking the building blocks to create the world-class program recently named “best in the region”—and number 21 in the country—for neurology and neurosurgery in *U.S. News & World Report’s* 2019–2020 “Best Hospitals” listing.

Sporting a gleaming gold brain lapel pin that boasts membership in the W.W. Keen Society—named for the pride of Jefferson, pioneering surgeon William Williams Keen—Rosenwasser is quick to enthusiastically tick off fun and fascinating facts from more than a century and a half of Jefferson’s history, leading up to today’s litany of “firsts”: first in the region to perform stereotactic radiosurgery for brain tumors and vascular malformation; first to offer

the Gamma Knife; first in Philadelphia to perform asleep deep brain stimulation surgery for Parkinson’s disease; first dedicated stroke center in Philadelphia; first in the region to establish a university-based mobile robotic healthcare teleconsulting system; and first academic medical center-based mobile stroke unit in the region, just to name a few.

It is that enthusiasm that has transformed the neurosciences from individual departments to the all-encompassing, nationally renowned Vickie and Jack Farber Institute for Neuroscience. Dubbed “the House that Rosenwasser Built,” it is an institution where all departments in the neurosciences have a seat at the table, and a place that encourages a cohesive, collaborative atmosphere to foster great ideas.

“When I got here [in 2008], the hospital and university leadership made the commitment to invest in structured, formal clinical service lines—one of them was the neurosciences,” says Mark L. Tykocinski, MD, provost and executive vice president for academic affairs at Thomas Jefferson University, and the Anthony F. and Gertrude M. DePalma Dean of Sidney Kimmel Medical College.

“The logical place to start was with neurosurgery because we had this incredible and unique chair in Robert Rosenwasser,” Tykocinski says. “Robert got it right from the beginning. He hit the ground running, and as he ran, we ran with him. Robert catapulted us forward, and continues to do so today.”

A DISTINGUISHED HISTORY

Jefferson's rise to the top of the field of neurosurgery began in the 19th century when Jefferson Medical College (now Sidney Kimmel Medical College) professor of surgery Samuel Gross, MD 1828, penned his pioneering textbook, *System of Surgery*, which focused on disorders of the nervous system. His work paved the way for William Williams Keen, an 1862 alumnus who earned the sobriquet "America's first brain surgeon" when, in 1887, he became the first surgeon in the country to successfully remove a primary brain tumor. Adding to his celebrity, Keen also secretly operated on President Grover Cleveland on the presidential yacht, *The Oneida*, to remove verrucous carcinoma from the roof of his mouth, and later served as a consultant to President Franklin Delano Roosevelt after he contracted poliomyelitis.



| Jewell L. Osterholm, MD

During the Civil War, Keen joined fellow surgeons George Read Morehouse and S. Weir Mitchell at the Turner's Lane Hospital in Philadelphia (located on a then-country estate between Girard College and Eastern State Penitentiary), where they cared for soldiers with peripheral nerve injuries. Keen and his colleagues authored several papers, including *Gunshot Wounds and Other Injuries of the Nerves*, which introduced medical concepts such as causalgic pain, reflex dystrophy, and paralysis. The authors' groundbreaking work effectively led to the founding of American neurology.

Keen served as the chairman of the division of surgery at Jefferson from 1889 until 1907. Despite its reputation for excellence in neurosurgery, an official division within the Department of Surgery wasn't established until 1943, and didn't become a separate department until 1969. The next five years saw tremendous growth, with a move to larger facilities that incorporated research laboratories, an overhaul of the residency program that included collaboration with the neurology department, and the addition of its own residency program.

In 1974, Jewell L. Osterholm, MD, became the first chairman of neurosurgery at Jefferson, and the growth continued. Osterholm instituted changes that improved medical education, residency, and research programs, and increased the number and types of surgery performed. He also oversaw the addition of a neurosurgical intensive care unit and dedicated operating room, and the establishment of the Regional Spinal Cord Injury Center of Delaware Valley.

Osterholm left the chairmanship in 1994, but remained active in academic and research areas for years afterward. In 2010, Jefferson established the first endowed chair in neurosurgery in his name. Osterholm passed away in 2017.

Throughout the next decade, the department continued to grow clinically and academically. A spine fellowship was created to allow orthopaedic and neurological surgeons to train collaboratively, and the endovascular and cerebrovascular divisions expanded.

"We had first-mover advantage not only in technology, but in skill set," Rosenwasser says. "There were specialized types of neurovascular procedures only offered here at Jefferson."

...all the moving parts and cross-department teamwork have culminated in great achievements in education, research, and patient care.



| Robert H. Rosenwasser, MD

While neurosurgery was flourishing, the rest of the neurosciences were making great strides in research, clinical care, and education. There was no organized neuroscience department at the time, but work was being done in the areas of biochemistry, pathology, and others affiliated with the specialty. The department of psychiatry was small, but active in both patient care and physician and researcher training. Each department had its own strengths, but operated separately with no cross-interaction.

Neuroscience got a boost in 2001 when longtime Jefferson benefactors Vickie and Jack Farber made a \$10 million gift to establish the Vickie and Jack Farber Institute for Neuroscience. The institute opened its doors in early 2002, supporting basic, translational, and clinical research for treatments of neurodegenerative disorders, including Parkinson's disease, amyotrophic lateral sclerosis (ALS), Alzheimer's, multiple sclerosis (MS), and more.

In 2004, Rosenwasser, who was serving as professor of neurosurgery and division chief for Jefferson's cerebrovascular division, was awarded chairmanship of the Department of Neurological Surgery. One of the first dual-trained vascular neurosurgeons in the country, Rosenwasser took the helm of the section just as its staff and faculty numbers started to dwindle.

Unfortunately, Rosenwasser explains, what made Jefferson a top-in-the-country organization also made it a target for other universities and healthcare systems.

"Jefferson did a very good job of training people, and that made them very attractive to prestigious institutions throughout the country," Rosenwasser says. "They became valuable assets, and other institutions began recruiting them away for division chief and chair positions."

Several faculty members left for leadership positions at other distinguished universities, including Stanford, Duke, Tulane, and University of Pennsylvania.

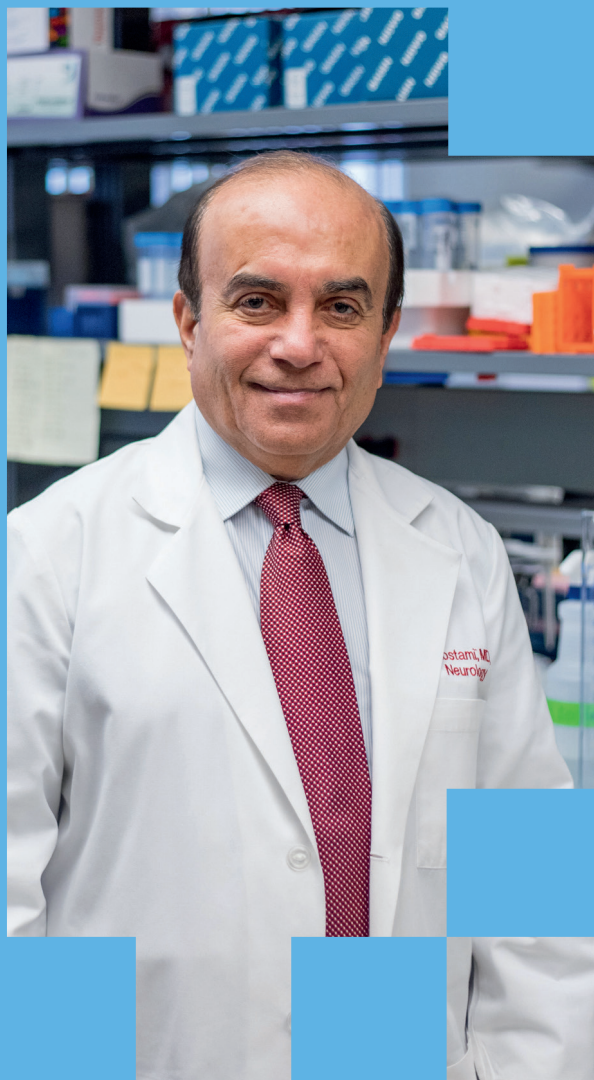
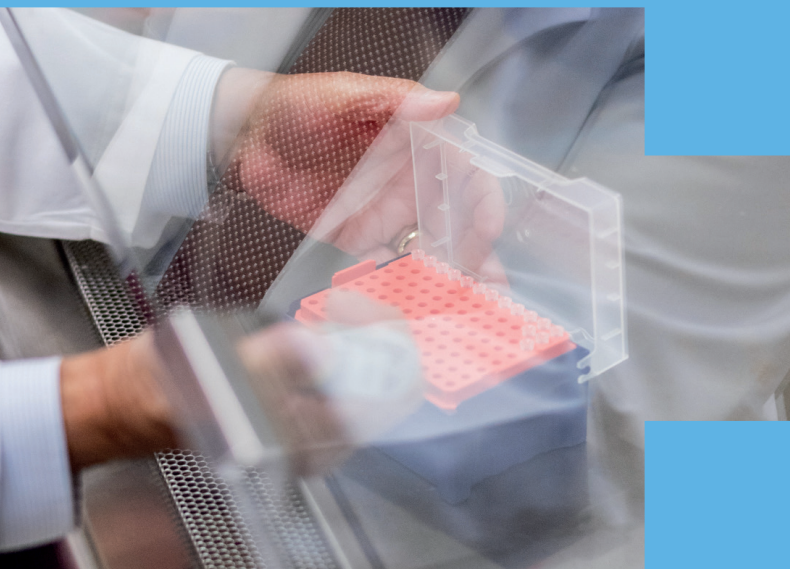


Tykocinski recounts the story of a chair of neurosurgery at another institution taunting him about raiding Jefferson's best and brightest: "He said, 'Lots of luck, because we decimated your neurosurgery department,'" he recalls. "But I'm a pretty competitive guy, and took that as throwing down the gauntlet. I decided to take up the challenge."

That challenge was not only to bolster the neurosurgery division, but to take it one step further and create an all-encompassing neuroscience service line at Jefferson that would elevate every division and subspecialty. Luckily, he says, Jefferson's reputation for excellence made it possible to attract other talented people to replace those who had left.

In 2014, Tykocinski and Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health, decided that a "CRISP" approach was necessary. CRISP—Clinical and Research Integrated Strategic Program—is an innovative method of organizing healthcare based on disease focus rather than by departments or specialties.

"We set out to create a true institute in the model of having basic science, hardwiring in the clinical side as well, and also bringing together the four lead departments—neurosurgery, neurology, neuroscience, and psychiatry," Tykocinski says. It was time to start putting into place the building blocks of what would become a nationally renowned program.



| Abdolmohamad Rostami, MD, PhD

BUILDING BLOCK—NEUROSURGERY

The keystone was neurosurgery. Tykocinski says Rosenwasser was already known for his skill as a surgeon, but a unique talent for entrepreneurialism—he has an MBA from Villanova University—and dedication to his field made his department a good place to start.

The initial goal, Tykocinski notes, was to see the department doubled in size; instead, it more than tripled.

Aside from recruiting topflight surgeons, physicians, and researchers, Rosenwasser put his business acumen to work. He began reaching out to smaller hospitals in the region that didn't have neurosurgery practices, offering to cover their needs either on-site or through telepresence support. Through this, he created Jefferson Expert Teleconsulting (JET), the region's first university-based mobile robotic teleconsulting system. It allows community hospital physicians to remotely consult with a Jefferson Health neurologist or neurosurgeon to medically evaluate neurovascular events, such as stroke or aneurysm, in real time to determine whether to continue treatment at the community hospital or to transfer the patient to a facility that could provide more advanced care. The JET network has grown to include 37 hospitals in Pennsylvania, New Jersey, and Delaware.

This technology made the region's first academic medical center–based mobile stroke unit (MSU) possible. The specially outfitted ambulance is fully equipped with a CAT scan machine to bring diagnosis and care right to the patient's door, expediting treatment for a time-sensitive disease. The goal is to eventually add more mobile stroke units to serve the Philadelphia region and South Jersey.

With Rosenwasser's expertise in both clinical care and entrepreneurialism, neurosurgery was thriving, says Tykocinski. "But neurosurgery doesn't exist in a vacuum. It's highly dependent on having strong neurology and neuroscience programs."

BUILDING BLOCK—NEUROLOGY

Jefferson's department of neurology has a long and storied history in the United States. Established in 1824, it was the first division of neurology in the country, and S. Weir Mitchell, MD, 1852, a Jefferson graduate, is considered "the father of American neurology," says Abdolmohamad M. Rostami, MD, PhD, professor and chair of the Department of Neurology and director of neuroimmunology and the multiple sclerosis laboratory.

In 2003, Rostami took the leap from the University of Pennsylvania to Jefferson because he “saw an opportunity to build a department.” And build it he did.

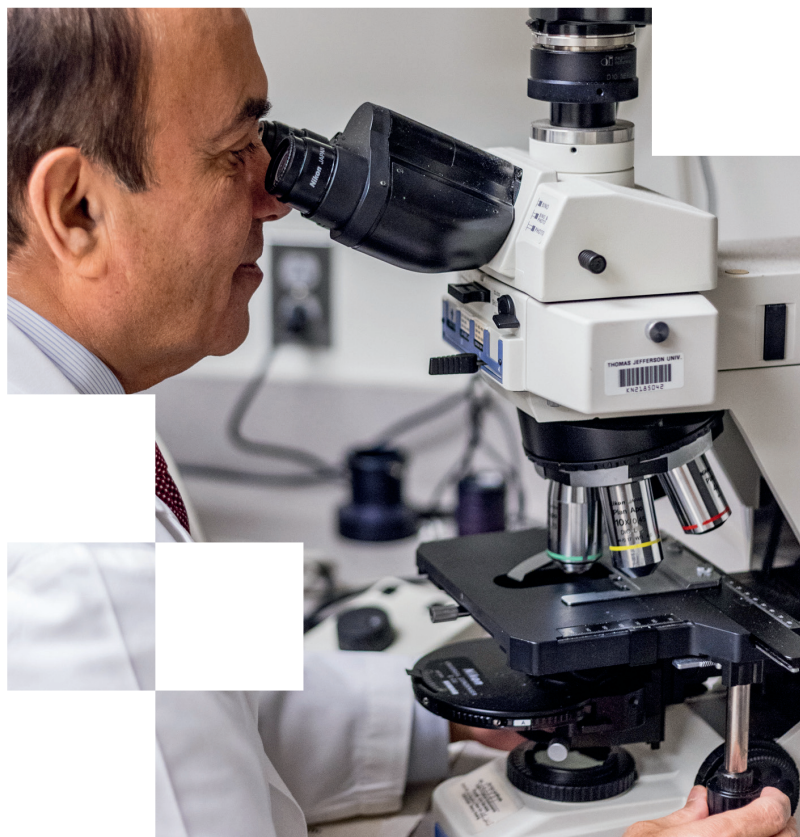
When he arrived, there were only eight faculty members, nine residents, and seven clinical and research fellows. With the backing of hospital and university leadership, he began recruiting. The department is now more than 70 faculty strong, and consists of some of the best-funded research laboratories in the institute. More than 70 clinical trials are ongoing to find the answers to Alzheimer’s disease, epilepsy, stroke, Parkinson’s disease, headache, and neuromuscular diseases.

In addition, the department enjoys a robust and well-respected training program for the next generation of physicians and researchers. The department has 27 residents and 25 postdoctoral clinical and research fellows. Each year, it receives more than 750 applications for residency slots from students at the country’s top medical schools.

“Residents and fellows who graduate from Jefferson’s program are highly sought after by institutions such as the National Institutes of Health, Harvard, Columbia, Johns Hopkins, and of course, some stay at Jefferson,” Rostami says.

We try to not only help our patients, but also to move the boundaries of research...

He also began a mandatory neuroscience/neurology rotation for medical students at Sidney Kimmel Medical College because “they are such important aspects of medicine that even those who do not want to go into neurology should have good knowledge of the nervous system,” Rostami says. There are also specialized academic programs for nurses and physician assistants. “My goal was to create a state-of-the-art department that would include all the subspecialties of neurology, and also create an educational



environment for all residents, fellows, and junior faculty,” he says. He credits his success to his talented faculty and staff—and to the hospital and university leadership for “understanding the value of neuroscience.”

Rostami says the bench-to-bedside achievements can be directly attributed to the four departments being brought together at the Vickie and Jack Farber Institute for Neuroscience to work as partners in promoting science, furthering education, and improving lives. “We try to not only help our patients, but also to move the boundaries of research—to understand the neurological diseases, and find the therapies for these diseases,” he says. “And although we have achieved a lot, we know we need to do even more. And we will.”

BUILDING BLOCK—NEUROSCIENCE

In January 2010, the Department of Neuroscience was officially established, bringing together neuroscientists who previously had primary appointments in other departments, including neurological surgery, neurology, pathology, and biochemistry. Internationally renowned researcher Irwin Levitan, PhD, was recruited to become the new department’s founding chair.

Levitan, who holds the title of Paul C. Bucker Professor and Chair of Neuroscience, had built the neuroscience department at the University of Pennsylvania and served as its chair for a decade. He was looking for a new challenge, and “starting a new department from scratch sounded like fun,” he says.

"Before about 2001, there was no organized neuroscience research community at Jefferson. There were neuroscientists, but their faculty appointments were in biochemistry or pathology or neurology or neurosurgery," Levitan explains. "The original establishment of the Farber Institute (for research) in 2001 provided some structure for the neuroscience research community. By the time the department of neuroscience was founded, the Farber Institute had a brand for working on neurodegenerative diseases, and so my goal was to build on that strength."

Jefferson is an extremely collegial and cooperative place to work. People here are really eager to pitch in and participate and be part of a community.

He set about the task of recruiting scientists for his department to complement Jefferson's existing and established core group of neuroscience researchers. Their goal was to do "basic research" that would have implications for fundamental understanding of the brain in health and disease. Currently, the department has 14 faculty members, and between 30 and 50 basic science projects running at any given time with a principal investigator and postdoctoral or graduate student workers. In addition, two academic psychiatrists have recently joined the research team; although their primary appointments are in the psychiatry department, they conduct research in the neuroscience laboratories.

Levitan says the neurosciences at Jefferson are on a "very positive trajectory" due to an atmosphere that allows for the sharing of ideas and working toward common goals. Along with the executive committee, consisting of the chairs of neurosurgery, neurology, neuroscience, and psychiatry meeting weekly, faculty members are free to reach out to other departments at any time.

"Jefferson is an extremely collegial and cooperative place to work," Levitan says. "People here are really eager to pitch in and participate and be part of a community."



| Daniel E. Kremens MD,JD

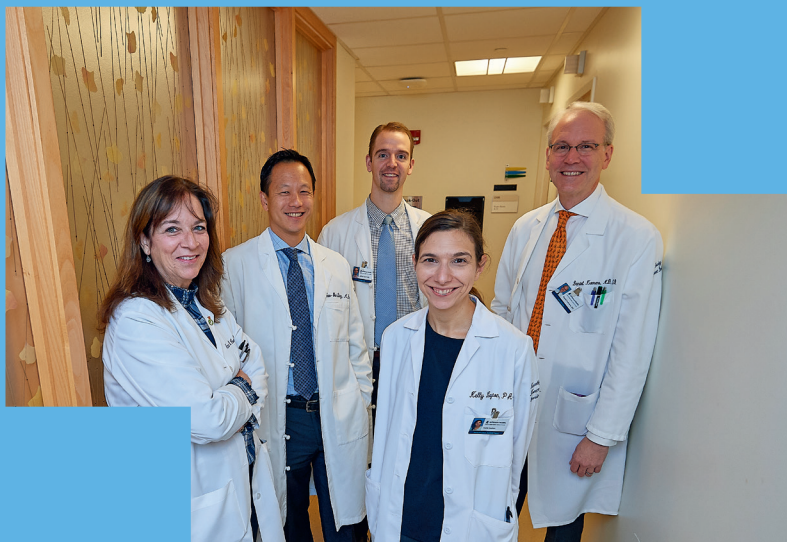
BUILDING BLOCK—PSYCHIATRY

In order to create a complete institute that focused on mind-brain disorders, psychiatry had to be part of the plan, Tykocinski says.

Established in 1942, the Department of Psychiatry at Jefferson had experienced more than 50 years of growth and innovation when Michael Vergare, MD, was recruited to become chair of the Department of Psychiatry and Human Behavior in 1998.

"We were smaller then, and the focus was more on education and clinical care," he says. However, because of insurance company reimbursement rules, there were severe limits on the services the department could provide.

That changed with the integration into the Vickie and Jack Farber Institute for Neuroscience. Being brought under the umbrella of the institute in 2016 transformed the way Jefferson viewed psychiatry services, allowing for wider access to care. It also provided new resources for research and recruitment.



In addition, the department recently added two researchers whose work is anchored in psychiatry and neuroscience, exploring the genetic and protein metabolism associated with psychosis and depression.

Vergare says becoming part of the institute “encouraged collaboration among departments and around all programs so we could support each other and share faculty and ideas,” and he credits Rosenwasser’s vision for the advances in the psychiatry department.

“Through Robert’s leadership we coalesced,” Vergare says. “His emphasis has always been on advancing excellent patient care through strong teams that draw on the best of science. His style is to roll up his sleeves and work hard in the background to strengthen those around him.”

In September 2019, Vergare became chair emeritus and passed the baton to John Lauriello, MD, now professor and chair of the Jefferson Department of Psychiatry and Human Behavior, and senior vice president of behavioral health.

Lauriello says that psychiatry has an important place with the other three departments.

“Psychiatry bridges both issues of the brain and the mind, and offers a complementary perspective on the underlying pathology and clinical care,” Lauriello says, adding that he hopes

to help the already well-respected department grow even further. “I want to help rationalize and standardize the delivery of clinical psychiatric/behavioral care across the entire enterprise [so that we can become] a national leader in this endeavor.”

UNDER ONE ROOF—THE HOUSE THAT ROSENWASSER BUILT

With the four departments securely under one roof and working as a cohesive entity, the blueprint for an all-encompassing program came together.

In 2015, the mission of the Vickie and Jack Farber Institute for Neuroscience was expanded beyond research to include clinical care and training for the next generation of physicians and scientists. In 2016, the founding benefactors made another transformational \$20 million gift, and Rosenwasser was named president and CEO of the institute.

“Research into devastating neurologic diseases was gaining momentum at Jefferson for years. Vickie and I chose to make the investment because we want to be part of the transformation we know is in process,” says Jack Farber, who has served as a member of Jefferson’s board since 1984, including five years as chairman.

“Our hope is that no family has to watch a loved one disappear into the darkness of Alzheimer’s or ALS or





Parkinson's or any brain disease," adds Vickie Farber, whose father succumbed to amyotrophic lateral sclerosis (ALS, also known as Lou Gehrig's disease), and whose mother suffered from Alzheimer's disease.

Also in 2016, the Jefferson Weinberg ALS Center was established through a merger between the Farber Institute for Neuroscience and the Frances and Joseph Weinberg Unit for ALS Research. In July 2018, the center was named an ALS Association Certified Treatment Center of Excellence.

But there is more to the neurosciences than the Farber Institute, Tykocinski says. In addition to the work at the institute, there is much being done across a multitude of departments at Jefferson, including biochemistry, radiology, anatomy and cell biology, neuroradiology, neuropathology, and neuro-oncology.

"There are a lot of moving parts to the neurosciences," Tykocinski says. "And all the moving parts and cross-department teamwork have culminated in great achievements in education, research, and patient care."

For example, combining the strengths of the neurosciences and the Sidney Kimmel Cancer Center (SKCC) has resulted in a possible vaccine for glioblastoma, the most aggressive type of primary brain cancer.

The Farber Institute also partners with Wills Eye Hospital in research. The collaboration has resulted in a breakthrough eye-saving treatment for children with retinoblastoma.

Further collaboration with Wills Eye was established in May 2019, when the two institutions opened the William H. Annesley, Jr., MD '48 EyeBrain Center. It is the world's first facility focused on exploring the visual signatures of neurological diseases—specifically, the connections between the retina and the optic nerve and disorders of the brain.

Add to that its 15 specialty centers, including epilepsy, spine, sleep medicine, and the Jefferson Headache Center, and the neurosciences at Jefferson are opening up new frontiers in research, education, and patient care.

With all the parts moving in unison, Tykocinski predicts advancements in the neurosciences will progress at a dizzying rate—including novel technologies for brain imagining, a greater understanding of molecular defects at the gene and protein levels, futuristic surgical and ultrasound therapies, and new immunotherapies.

"The momentum is there," he says. "And we're going to keep that momentum by continuing to do unique, world-class, cutting-edge kind of things that you're just not going to find anywhere else." 📺



**To see a video featuring
The House Rosenwasser Built,
visit Jefferson.edu/Bulletin**



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ALL THE RIGHT MOVES

BY CINDY LEFLER



Jefferson's
Movement
Disorders Center
Takes Top Honors

It is September 26, 2018, and Jim McKenna is sitting on the edge of the exam table, waiting for the doctor to arrive. His left hand is shaking uncontrollably, his right hand only slightly less so. At today's consultation, the 76-year-old will learn the details of his upcoming brain surgery. In spite of the somberness of the topic, McKenna has an upbeat attitude, a mischievous gleam in his eye, and a wickedly dry sense of humor. Even Parkinson's disease can't take that away from him.

McKenna, from Warwick, Pennsylvania, will undergo deep brain stimulation (DBS) surgery in a few weeks to alleviate the ever-increasing symptoms of Parkinson's disease—including tremors and stiffness—and he will do it under anesthesia. That's not unusual for most surgeries, but it is for DBS, which is traditionally performed while the patient is awake.

"Doing the surgery under anesthesia alleviates a lot of stress for the patients," explains neurosurgeon Chengyuan Wu, MD, MSBmE, who will perform the operation. During DBS surgery, leads (wires with tiny electrodes) are implanted in a specific area of the brain. The leads are attached to a wire that runs under the scalp and beneath the skin of the neck, and is connected to a neurostimulator just below the collarbone under the skin. Like a pacemaker, the neurostimulator delivers electricity to the lead, which normalizes brain signals in the affected areas. This regulates the abnormal brain cell activity, and can greatly reduce symptoms.

Jefferson was among the first medical centers in the country to offer the asleep technique.

"We strive to offer novel treatments and surgical techniques, complementary therapies, and pioneering research and clinical trials for our patients with Parkinson's disease and other movement disorders," says Daniel E. Kremens, MD, JD, co-director of the Movement Disorders Program.

Approaching neurological disorders from many different vantage points is what sets Jefferson apart from other institutions, says Richard J. Smeyne, PhD, director of Jefferson's Comprehensive Parkinson's Disease and Movement Disorders Center at the Vickie and Jack Farber Institute for Neuroscience – Jefferson Health. It has earned the Movement Disorders Center recognition from the Parkinson's Foundation as a Center of Excellence, an elite designation reserved for just 34 centers in the U.S. and 48 worldwide.

Jefferson's three-year-old center, a nationally recognized facility for patients with Parkinson's disease and Parkinsonism, dystonia, Huntington's disease, tremors, ataxia, and tics or Tourette's syndrome, received the designation in August 2019. Smeyne says that collaboration among all departments at Jefferson—both inside and outside the Vickie and Jack Farber Institute for Neuroscience—helped the center become the youngest ever to achieve the designation.



It's a powerful program that really integrates what a true center of excellence is—not by thought, but by deed.

"Neuroscience is a multidisciplinary field," says Smeyne, who received his PhD in neuroanatomy at Jefferson in 1989. "It's great to have all disciplines together under one umbrella so that you can have within one center all of the expertise and viewpoints you need for the full picture." Viewpoints, he notes, are just as important as expertise, as seeing all the different sides of an issue—clinical, research, patient care—helps each participant better understand what is needed to accomplish a goal.

To that end, Smeyne takes his graduate students out of the lab, bringing them into the operating room to watch DBS surgery and into the clinic to observe movement disorders specialists working with patients. He also invites neurology and neurosurgery residents into the lab to conduct research.

"We have four basic science labs here at Jefferson that are studying Parkinson's disease, and we do not work in isolation. We are in constant communication with the clinicians, and they are in constant communication with us," Smeyne says. "It's a powerful program that really integrates what a true center of excellence is—not by thought, but by deed. After all, we are not here to solve Parkinson's in mice—we are here doing work to better the condition of humans."

THE PARKINSON'S JOURNEY

Jim McKenna's Parkinson's journey began six years ago when he noticed the telltale signs of the disease. First, his pinky began to twitch; then his arm began to tremor; eventually the involuntary and uncontrollable movements migrated to other parts of his body. As the symptoms got worse, he sought medical care with Kremens.

McKenna began taking medication, and later signed up for Rock Steady Boxing, a noncontact exercise program that focuses on balance, strength, agility, motor skills, and flexibility for Parkinson's patients. Over the past few years, clinical studies have shown that vigorous exercise is neuroprotective in animal models of Parkinson's disease. The research into the effects of exercise on Parkinson's began 15 years ago in Smeyne's laboratory in the Department of Developmental Neurobiology at St. Jude Children's Research Hospital in Memphis, Tennessee, and came with him to Jefferson.

"While we know exercise doesn't cure the disease, recent studies have suggested that vigorous exercise might slow the progression, while other studies show that exercise can greatly improve quality of life," Smeyne says.

While the combination of medication, boxing, and other daily exercise helped McKenna for a while, as time wore on it became increasingly apparent he would need more. Kremens suggested DBS.

"What do you hope to get out of this surgery?" neurosurgeon Wu asks McKenna during the DBS pre-op visit.

McKenna thinks for a moment, looks at his trembling hand, and says, "I guess I shouldn't expect to be able to put electrodes in someone's head."

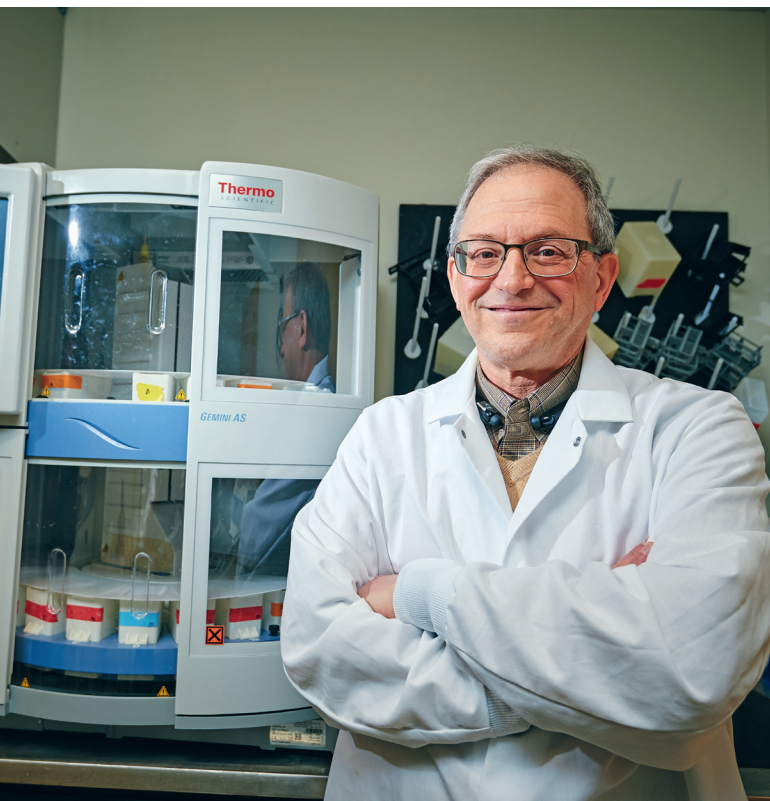
"So your surgical career isn't taking off right now?" Wu teases.

"Nah, it's been a little slow," McKenna shoots back.

For all the joking and levity in the exam room, Parkinson's is no laughing matter, and McKenna is pinning a lot of hope on the surgery. Of all the things DBS promises, the patient says the most important thing to him is simply to regain the ability to write. "I want to be able to sign my name again."



| Chengyuan Wu, MD, MSBmE, James (Jim) McKenna Jr. (son), and Jim McKenna



| Richard J. Smeyne, PhD



| Abdolmohamad Rostami, MD, PhD

“BECAUSE THERE WAS A NEED”

The Jefferson Movement Disorders Center was born out of the Movement Disorders Program, the brainchild of Abdolmohamad M. Rostami, MD, PhD, chair and professor of the Department of Neurology and director of neuroimmunology and the multiple sclerosis laboratory.

“Parkinson’s is a very common neurological disease,” says Rostami, explaining that, like many neurological diseases, Parkinson’s is a “disease of aging.” As the population ages, the need for care, specialists to administer that care, and research to find better ways to treat—and possibly cure—the disease is central to the goal of his department.

The Parkinson’s Movement Disorders Program was created “because there was a need for it,” he says.

According to the Parkinson’s Foundation, more than 10 million people worldwide are living with the disease. In the United States alone, approximately 60,000 are diagnosed with it each year. In addition, a recent study by the foundation predicts that by 2030, an estimated 1.2 million Americans will be living with Parkinson’s.

“The disease affects about 2% of all people over 50 years old, and that’s only going to be getting greater as our healthcare gets better and people live longer,” Smeyne says, adding, “It is a disease that affects everyone. It knows no boundaries—not socioeconomic, religious, racial, or anything else.”

In 2005, Rostami reached out to neurologist Tsao-Wei Liang, MD, and invited him to join the department; a few months later, Liang reached out to Kremens, who had completed a residency in neurology followed by a fellowship in movement disorders.

“It was an exciting opportunity to get in on the ground floor of something new,” says Kremens, a third-generation Jefferson Medical College (now SKMC) alum.

Together, they built the program that would eventually lead to the creation of the center, providing care for an increasing number of patients.

While the center treats those with a multitude of movement disorders, the majority of the patients have Parkinson’s, Smeyne says. “It is the second most common neurodegenerative condition in the world—just behind Alzheimer’s—and it’s growing fast.”

In the early days of caring for patients at Jefferson, Kremens and Liang became involved in clinical drug trials and device trials, eventually teaming up with Ashwini D. Sharan, MD, director of functional neurosurgery and the Neuroimplantation Center, to create a DBS program. Wu

came a few years later, bringing with him the asleep DBS expertise.

Soon, other pieces of the Movement Disorders Center puzzle began falling into place. The next step was to collaborate with those in basic science, including researchers such as Lorraine Iacovitti, PhD, who had been conducting studies in understanding how neurons differentiate into dopamine neurons during development of the brain.

...doing the work with the ultimate goal of helping the patient

The problem, says Kremens, was that the components were working independently of one another: “It was clear the departments needed to integrate.”

To do that, Jefferson recruited Smeyne, who had been studying the cell biology of Parkinson’s disease at St. Jude.

“He helped coordinate all the efforts—the clinical, the research both at basic level and clinical level, the patient care—bringing them all together. Once we had that, Jefferson designated us as a center,” Kremens says.

Throughout the years prior to the designation as a center, personnel were added, including a nurse practitioner, an administrative assistant, and a social worker. A fellowship program was established, and Jefferson’s neurology residency program grew to become one of the largest in the country, with 27 residents.

“It’s truly comprehensive in terms of neurology, neurosurgery, basic research, and rehab. We are focused on doing the work with the ultimate goal of helping the patient,” Smeyne says. “And that’s why we do everything we do—to help the patient.”

Currently, the components of the Movement Disorders Center are located in several places on the Center City campus, but future plans include expanding services and bringing everything under one roof—a kind of one-stop shopping center that would geographically bring together clinical services, rehabilitation therapies (physical, occupational, and speech), and research.

Care to Cure, a grassroots group of Movement Disorders Center patients and their families and friends, is

spearheading fundraising efforts to help the new center become a reality—something Rostami says he is looking forward to.

“As quickly as we have grown, so has the list of patients waiting to be seen,” he says.

HOPE AHEAD

In October 2018, McKenna underwent the three-hour DBS surgery; a month later, the physicians and nurse practitioner began the process of programming the unit.


“DBS programming requires patience,” Kremens says. “Unlike what patients see on TV or the internet, where results often appear instantaneous after surgery, results from DBS can take up to six months of programming sessions. However, once the programming is completed, most patients need follow-up appointments only twice a year.”

By April 14, 2019—the sixth and final visit to tweak the programming—McKenna is more relaxed than in previous visits. With Sheila, his wife of 57 years, by his side in the exam room, he is pleased to report his progress. His tremors are greatly diminished. His gait is smoother. He is sleeping better. He is looking forward to spending time at his family’s summer home on Lake Champlain and taking the helm of his boat for the first time in four years.

Six months later, at an October 9, 2019, visit to the doctor, McKenna reports that his summer was everything he had hoped it would be. The best part, he says, was being able to take his Zodiac out on the water while two of his grandchildren rode WaveRunners alongside him.

“It was freedom,” he says of his ability to get back out on the boat. He is grateful for the care he receives at Jefferson that makes his progress possible—progress that includes being able to sign his name again.

McKenna knows the DBS surgery is not a cure. Neither is the medication. Nor the Rock Steady boxing. But all those things together have given him back much of what Parkinson’s robbed from him. And he is optimistic that ongoing research will provide breakthroughs that will continue to improve his life.

When asked what he would say to someone who just found out they have Parkinson’s, McKenna thinks for a moment, then smiles. “What would I say to them? I’d say there’s hope ahead.” 



To see a video featuring Jim McKenna, visit Jefferson.edu/Bulletin



How One Doctor
Helps Patients'
Voices Be Heard

BY KAREN BROOKS

Kristin Rising, MD, thought she was doing things the right way.

Early in her emergency medicine career, Rising would tell patients who lacked a clear diagnosis at the time of discharge that she had a lot of good news and a little bit of bad news—the good being that testing revealed no serious conditions, and the bad being that she didn't know what caused their symptoms.

"It turns out that, from the patient perspective, this was often the worst news possible," she says. "Diagnostic uncertainty can be intolerable for some people experiencing symptoms. A woman in one of my studies said she would rather be diagnosed with cancer than get discharged without an explanation. While this seemed unbelievable to me at the time, it is something that I have come to understand much better as it has been expressed by many others in different ways since."

Rising, an associate professor of emergency medicine and director of acute care transitions, examines the drivers of recurrent emergency department visits and has found that uncertainty tops the list. Frustrated by those in the healthcare system who approach patient recidivism with a "shame on you" attitude and deem their returns inappropriate, she started asking patients what kind of support they needed to stay healthy outside of the hospital.

"I hate that word, 'inappropriate,'" she says. "Because it's entirely relative to the perspective from which it is assessed. Any patient who comes back to the emergency department has made a decision that is appropriate for them considering their needs and resources. When a patient returns to the emergency department after a recent visit, I see it as a flag that the system is failing the patient. We need to figure out how we can fix the system to better assist people in having a safer transition home from their first ED visit, or in never needing to visit the ED in the first place."

As Rising surveyed returning patients, the same kinds of questions surfaced again and again, particularly among those who were discharged with a symptom-based diagnosis (such as "chest pain" or "abdominal pain")—one out of every three ED visitors. Why aren't my medications working? What else can I take? Is it safe for me to travel? Am I contagious? Is there a test you could have run, but didn't? Will I still feel sick in a week? A month? A year?

"Not being able to plan and not knowing what to expect can be debilitating," says Rising. She notes that some people report choosing the ED because they fear primary care physicians won't have the tools to get quick enough answers: "If someone thinks they might have a brain

tumor, they want immediate answers and think that the ED will have all the testing options they want."

Since joining Jefferson in 2014, Rising—who earned her MD at the University of California San Francisco and has a master's degree in health policy from the University of Pennsylvania—has received \$5.6 million in research funding awards for which she is the principal investigator, and is currently leading or co-investigator on nine grant-funded studies. Her research focuses on the design and redesign of the care delivery system to incorporate the unique circumstances and preferences of patients and their families. Rising has served on multiple national expert panels and is on the editorial boards for two journals. Her research has been funded by the National Institutes of Health, the Patient-Centered Outcomes Research Institute, the Agency for Healthcare Research and Quality, the Pennsylvania Department of Health, and multiple foundations.

"Not being able to plan and not knowing what to expect can be debilitating"

One project funded by the Agency for Healthcare Research and Quality involves developing a checklist for emergency medicine residents to use with patients who have diagnostic uncertainty. The checklist improves communication with these individuals and helps clinicians manage their expectations and give explicit guidance for the days following discharge. Through prior funded work, Rising also developed the Uncertainty Scale (U-Scale), a tool to help quantify individual patient needs related to experiencing symptoms. The U-Scale helps identify different types of patient uncertainty, such as "symptom management" versus "financial implications," which may benefit from different types of interventions.

Although Rising initially resisted focusing her research on a specific disease, she has increasingly focused on patients with Type 2 diabetes, a condition she says exemplifies the disconnect between medical goals and patient goals. The year after she finished her undergraduate degree, she worked as a research assistant at San Francisco General Hospital and met a patient with poorly controlled diabetes and a chronic leg wound that just wouldn't heal. While interviewing the patient to explore his barriers to staying healthy, he explained to



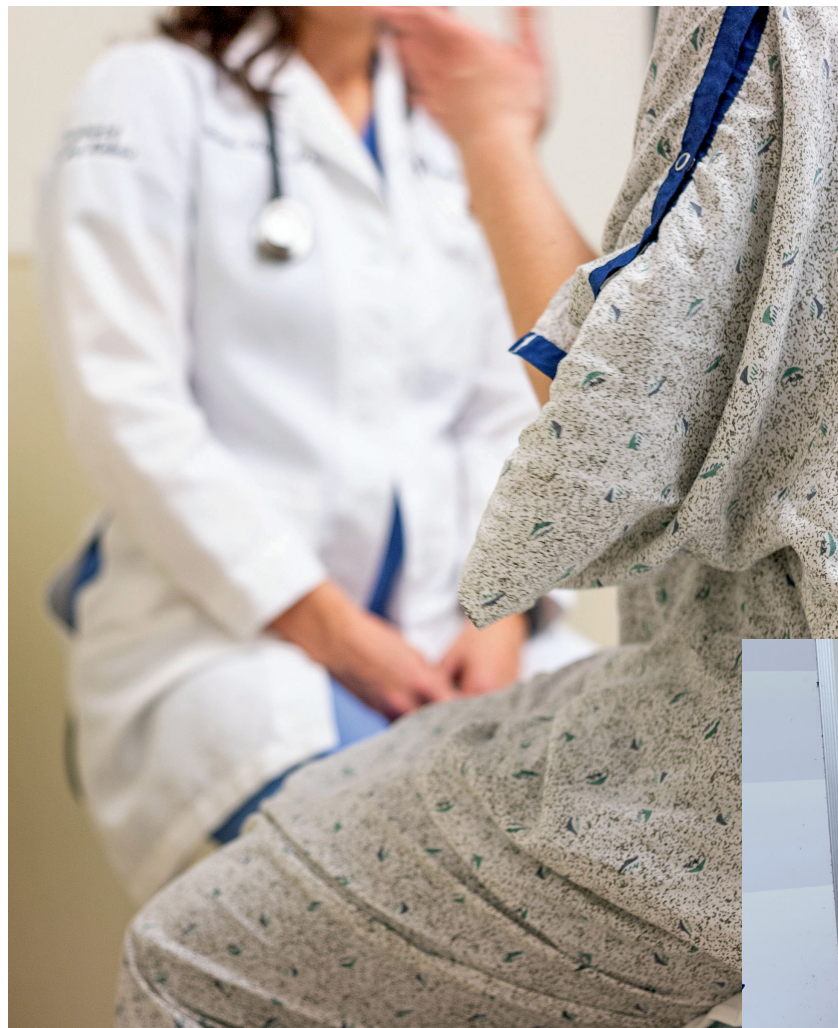
Rising that the clinicians kept insisting that he stay off his leg and eat more nutritious meals—but he was homeless and spent his days searching for safe places to sleep and whatever food he could get. The man responded that he could not afford to rest, or to be picky. That encounter sticks with Rising to this day, nearly 20 years later.

“How could anyone argue with such a real and honest response?” she laments. “We have well-established, evidence-based treatments for diabetes, but they’re not just pharmacological, and success involves active participation from patients who might not have the foundation to carry out the ideal protocol. I want to know how we can better tailor interventions for these patients to meet their personal goals and get to better medical ends.”

“...my projects are all focused on patient engagement...”

Rising recently began a trial to determine just that, securing her largest funding award to date—a \$3.3 million grant from the National Institute of Diabetes and Digestive and Kidney Diseases supporting a comparison of two different diabetes interventions focused on addressing social determinants of health. One group of patients will receive traditional care; a second will pair that same care with 12 weeks of medically tailored meals delivered by the nutrition nonprofit MANNA; and a third will receive traditional care and MANNA meals while also participating in a telehealth-delivered nutrition education program. This study includes a cost-effectiveness analysis, with the ultimate goal of influencing policy change to cover these interventions, if shown cost effective, as routine benefits.

“We have some evidence from prior work that medically tailored meals are effective at improving outcomes for patients while also reducing costs, but it is not rigorous enough to inform widespread policy change. With this study, in which we will follow 600 patients for 12 months, I hope to show that the meals along with nutrition counseling lead to cost-effective and sustained change,” she says, adding that Aetna, Independence Blue Cross, and Health Partners Plans have all committed to considering expanding their benefits coverage based on the findings. “Patients have told us they don’t know enough about nutrition—that the healthcare system is good at telling them what not to eat, but not at telling them what to eat. They need to get a sense of how much food is OK and what a balanced diet looks like, and we can teach them that.”



Making sure patients’ voices are heard is among Rising’s greatest passions, but it’s not quite the greatest. That honor goes to her family: husband Louis and 2-and-a-half-year-old twins Stella and Cora, whose wake-ups and bedtimes are her favorite times of day. A musician since childhood—she played the violin, flute, and organ—she also started taking guitar lessons last winter in order to carve out some occasional “me time.”

Her daughters routinely sleep through the night, but Rising still lies awake sometimes, ruminating about her work—and how she can use it to improve healthcare delivery and change people’s lives. Her passion has been recognized in many ways, including with Jefferson’s Outstanding Research in Telehealth Award, which she has received three times, as well as the Marjorie A. Bowman, MD ’76, Early Career Investigator Award for Primary Care Research. The Pennsylvania Medical Society named her a Top Physician Under 40 in 2017.

Rising's vision is to establish a center to promote further development of her research portfolio through a multidisciplinary approach. The center's goal would be to develop the rigorous evidence needed to build a health system truly capable of fulfilling each individual's needs, including a focus on addressing the social determinants of health as part of routine healthcare. She would love to find an investor (or two) to launch the initial phases of this center, which she believes can be transformative to the way we approach healthcare delivery.

"What it comes down to is that my projects are all focused on patient engagement to inform a more patient-centered delivery system and address the social determinants of health," she says. "We continually develop new, fancy medicines and push more medicine, more medicine, more medicine—but if we could just listen to patients and get to the foundation of what they need to be healthy on a daily basis, we would accomplish so much more." 📌



“Sharon’s Daughter”

Kristin Rising, MD, can’t count how many times she’s met a fellow healthcare professional who exclaimed, “Wow—you’re Sharon’s daughter!”

Their awe makes sense, considering that Sharon Rising is a celebrated nurse-midwife who in the 1990s developed a prenatal care model that has since been implemented in OB/GYN departments nationwide, including at Jefferson. Tired of rushing from exam room to exam room and having a mere 10 minutes with each patient, she began grouping women by due date for two-hour sessions during which they received care, and also built relationships and shared pregnancy-related questions and concerns with each other.

CenteringPregnancy, as Sharon Rising coined her approach, led to a 33% drop in preterm births compared to the traditional prenatal care system and has evolved into the Centering Healthcare Institute, an organization that also facilitates CenteringParenting and CenteringDiabetes programs.

“I grew up watching my mom doing this innovative care delivery, and then my dad was a crisis counselor and a minister who also had a strong focus on serving people in need,” Kristin Rising says. “Their efforts to identify the unique needs of underserved populations clearly influenced my path and helped me become the provider I am today.”



People

Knowing the Half of It

Neal Flomenberg, MD '76
2019 Alumni Achievement
Award Recipient

BY KAREN BROOKS



“

There was once a man named Paul Revere who rode under the midnight moon. He knew he might never return, but he went riding, riding, riding—because he wanted a country without a king, a country where all men would be free.” These opening lines of *Walt Disney’s Paul Revere*, a children’s book about the famed silversmith’s journey to warn American patriots of incoming British troops on the cusp of the Revolutionary War, grabbed preschooler Neal Flomenberg instantly. Captivated by Revere’s fearlessness, but unable to read on his own, he made his mother repeat the story over and over until she became hoarse.

“I was taken by Paul Revere’s courage and drawn to people who exhibited courage in real life. Even as a kid, I wanted to hang with people like him,” Flomenberg, MD ‘76, recalls.

And, in a way, he does. As chair of Jefferson’s Department of Medical Oncology and director of the Blood and Marrow Transplant Program, Flomenberg treats patients who bravely face what he calls “some of the riskiest procedures a person can undergo.” His work to advance these procedures led to his recognition as the 2019 Alumni Achievement Award recipient during SKMC Alumni Weekend in October.

If Flomenberg—a graduate of the joint Jefferson–Penn State accelerated medical degree program—had to credit a single date with charting his career trajectory, it would be September 13, 1979. That day, the “father of bone marrow transplant,” E. Donnall Thomas, MD, reported curing close to two-thirds of acute myelogenous leukemia patients who underwent transplantation when their disease was in chemotherapy-induced remission. Previously, transplant had been used only as a last-ditch effort in late-stage disease, with survival rates hovering around 15%. The publication had a profound effect on the field and on Flomenberg, a fellow in his first month on the bone marrow transplant unit at Memorial Sloan Kettering (MSK) Cancer Center in New York.



“Going forward, every transplant consult ended in tears—one-third because there was this curative treatment and patients were lucky enough to have a family member who was a match, and the other two-thirds because there was this curative treatment, but it was not available to them because they didn’t have a match,” Flomenberg says. “We recognized quickly that we had to find ways to cross the matching boundary.”

“We” in this case included Flomenberg’s mentors, MSK pediatric oncologist Richard O’Reilly, MD, and immunogenetics researcher Bo Dupont, MD, along with a large number of MSK transplant team members. Together, they explored ways to transplant marrow from unrelated donors, as well as from donors who were not a perfect match.

Flomenberg continued these studies at Memorial Hospital for Cancer and Allied Diseases in New York and the Medical College of Wisconsin. He then returned to Jefferson, where he was charged with building a bone marrow transplant program from the ground up. He arrived in fall 1994 and spent his next birthday—September 20, 1995—performing Jefferson’s first bone marrow transplant. By that time, a national registry of bone marrow volunteers was well established, but he still saw an urgent need to expand the donor pool.



"For reasons known only to God, people of African descent are much more diverse in terms of HLA [human leukocyte antigen, the cell surface markers used to match patients and donors for bone marrow transplants] background than Caucasians, so donors for these individuals were very limited," he says.

Institutions had been exploring half-matched bone marrow or stem cell transplants for blood cancer patients for years with largely disappointing outcomes. Results showed more promise, however, when a team from Johns Hopkins began administering one chemotherapy drug, cyclophosphamide, after transplant rather than before. When Flomenberg and his "right-hand person," Dolores (Lori) Grosso, DNP, CRNP, heard the Hopkins clinician-scientists present their findings at a meeting, light bulbs flashed in both of their heads.

"When you performed a transplant, you always gave both components of a graft at once: stem cells and T cells, a type of immune cell that fights infection," Grosso says. "I was flummoxed because you didn't give a specific dose of T cells and just took however many tagged along for the ride, even though T cells are so important.

"And now, we were concerned by this new idea because stem cells were being exposed to a chemotherapy drug that could harm them. Neal mentioned the possibility of splitting the procedure into two parts so the stem cells could remain untouched. It was a real 'eureka!' moment," she remembers.

The colleagues conceptualized the first iteration of the protocol for a new two-step half-match procedure in the car on the way back to Jefferson. Their plan was for



Paul Revere got up on the horse and made the ride, but he couldn't have pulled it off without his team.

patients to receive chemotherapy or radiation before an infusion of donor lymphocytes that contained an optimized number of T cells to attack their cancer. A subsequent round of cyclophosphamide would then temper those T cells to curb graft-versus-host disease, a condition in which donated cells view the recipient's body as foreign and turn against it. Next, patients would receive a donor's hematopoietic stem cells, which would replenish their marrow and enable them to generate their own healthy stem cells within a matter of weeks.

"This was night-and-day different," Flomenberg says. "We had started trying to deal with half-match transplants in the early 1980s and had struggled to make it consistently successful, and here we were putting our two-step program together in 2005." They did their first transplant using this approach in 2006 and have performed nearly 400 to date at Jefferson; success rates are on par with transplants from fully matched donors.

Flomenberg refers to the procedure as "the equalizer," since it puts transplant within reach for minority and

mixed-ancestry patients, many of whom lack a full match. A person has a guaranteed half-match in their parents and children. Moreover, while two siblings have only a 25% chance of being fully matched, they have a 75% chance of being fully matched or half matched and thus representing a viable donor.

The two-step protocol also benefits older patients, Flomenberg notes. "When I started, we never, ever, ever, did a transplant in someone over 40—that was considered advanced old age in our world. The oldest person we successfully transplanted here in our program was 77," he says.

As he continues to refine bone marrow transplantation, Flomenberg, who became chair of medical oncology in 2008, puts just as much energy into leading his department. The administrative responsibilities can be draining, he admits, but time in the clinic leaves him revitalized.

"Neal can come in after some rough early-morning meeting about something tedious like our budget, but after a minute in a patient's room, he is smiling," Grosso says. "People tell me that when they are with him, they feel like they are his only patient. He remembers their families, their interests, what they do for fun. He gives them hope and the best possible care, but they give him something, too, and I think they can feel that he is drawing strength and energy from them."

She recalls tearing up at the Eastern Pennsylvania Chapter of the Leukemia & Lymphoma Society's 2019 Red & White Ball, where he received the Lifetime Achievement Award and dedicated it to his patients, several of whom he'd brought to the event as guests, along with his wife, Phyllis Flomenberg, MD, a professor of infectious diseases at Jefferson, and two of their three children.

As for Paul Revere: Flomenberg has been rapt by his heroic acts since childhood, but he is well aware that Revere did not work alone—and that he doesn't, either.

"Paul Revere got up on the horse and made the ride, but he couldn't have pulled it off without his team. There were the people who rowed him across Boston Harbor, the ones who set up the light signal in the church tower ... in the kids' version of the story, the family dog even played a role," he says. "It's like that with bone marrow transplant, which is the ultimate team sport in medicine. Let me be very clear: I could not do this work without Lori and the rest of our team."

Then there are his patients' teams. "The patients have to get up on the horse and undertake the ride, but their family and friends display a different kind of courage. In some respects, it can be easier to deal with your own problems than those of someone you really care about. My patients are inspiring, but the people around them are inspiring in a different way," he says. "It is truly amazing what you can accomplish with the combination of courage and teamwork." 🐾



Study Group

If you want to work with Neal Flomenberg, MD, you'll have to do your research.

That was among the first lessons Lori Grosso learned after joining Flomenberg's bone marrow transplant team. A critical care nurse who thought she had signed on to work in the clinic, Grosso was stunned when she saw her name on a research protocol Flomenberg was sharing with colleagues.

"I thought to myself, 'This is not my work'—but in his eyes, the whole team should be doing research to help advance science and improve care for patients," she says. "So I tried to participate and got really interested, and he became my mentor."

Thanks to Flomenberg along with her own hard work and determination, today Grosso leads many of their program's studies. In 2009, she completed her doctorate in nursing practice, a terminal clinical degree that Flomenberg nonetheless considered a credential for becoming a principal investigator. After she defended her capstone, he saw to it that she was promoted to research faculty member at SKMC.

"Neal was my cheerleader the whole way through. I am where I am because of him—everything he's taught me and all of the opportunities he's given me," she says. "I thought he was a little crazy when I met him, but here we are, 23 years later, and I'm just as much of a research zealot as he is."


People



LEAVING THE COMFORT ZONE

SKMC Student's Winding Path to Becoming a Doctor
BY CINDY LEFLER





There is a plaque in Hannah Garrigan's bedroom, strategically placed so that it is the first thing she sees when she wakes up in the morning. It simply states: "Life begins at the end of your comfort zone." It serves as both a reminder of what she has accomplished by pushing herself beyond boundaries, and encouragement for what she can achieve by continuing to do so.

"It's been the theme of my life," says the third-year Sidney Kimmel Medical College student. So far she has challenged herself to leave the security of her family and suburban Chicago home for college in Boston; to move to yet another unfamiliar city for medical school; to veer off of her previously planned-out path of high school–college–medical school–residency–work in favor of a gap year to study public health issues; and to trek across the globe to work with the underserved.

"I find that when I put myself in situations that are unfamiliar—that are uncomfortable—that's when I grow the most," Garrigan says.

In the past year alone she has deviated twice from the route to becoming a doctor that she's had mapped out since kindergarten: first, she put her last year of medical school on hold to pursue a Master of Public Health degree at Thomas Jefferson University's College of Population Health, and second, she traveled halfway across the world to spend a month volunteering at an eye hospital in Hyderabad, India.

"You just can't predict where life is going to take you," says the 26-year-old native of Oak Park, Illinois, who is planning a specialty in ophthalmology. "And that's the fun part!"

But she wasn't always so adventurous and open to the unknown. Growing up in an economically diverse suburb of Chicago, Garrigan carefully charted out each step of her life to achieve the dream of becoming a doctor.

LIFE BEGINS AT THE END OF YOUR COMFORT ZONE

"You know those elementary school posters that said, 'What do you want to be when you grow up?' Mine always said 'doctor,'" she says. "So I put myself on the straight and narrow path—do well in school, go to college in Chicago, then med school, then residency, then get a job..."

But the self-proclaimed "homebody" found that pursuing her dream meant jumping off that straight and narrow path to follow the advice on her bedroom plaque. The first step away from her comfort zone was leaving Chicago to become a biology major (pre-med track) at Boston College. "I just had this realization in my senior year (of high school); I knew I had to push myself and not go along with what was safe," she says. "I had this opportunity to go to Boston College and I took it."

At first she was nervous about being alone in unfamiliar surroundings and felt overwhelmed by the difference between her outgoing and friendly Midwest ways and the slightly aloof Northeast attitudes: "It was a real culture shock. I was the weirdo in the hallway enthusiastically saying 'Hi!' to everyone and talking to people in the elevator."

In time, she settled in, made friends, and started as a volunteer clinical researcher at Shriners Hospital for Children—Boston. After graduation, she again took a detour from her plans and spent a gap year at Shriners as a clinical research coordinator before applying to medical

school—a move that brought into focus her reasons for wanting to become a doctor.

"I realized watching the doctors there what it really means to be a doctor," she says. "It's being there for people when they're lost and vulnerable, and connecting with them to make things better. That's the incredibly special part of being a physician."

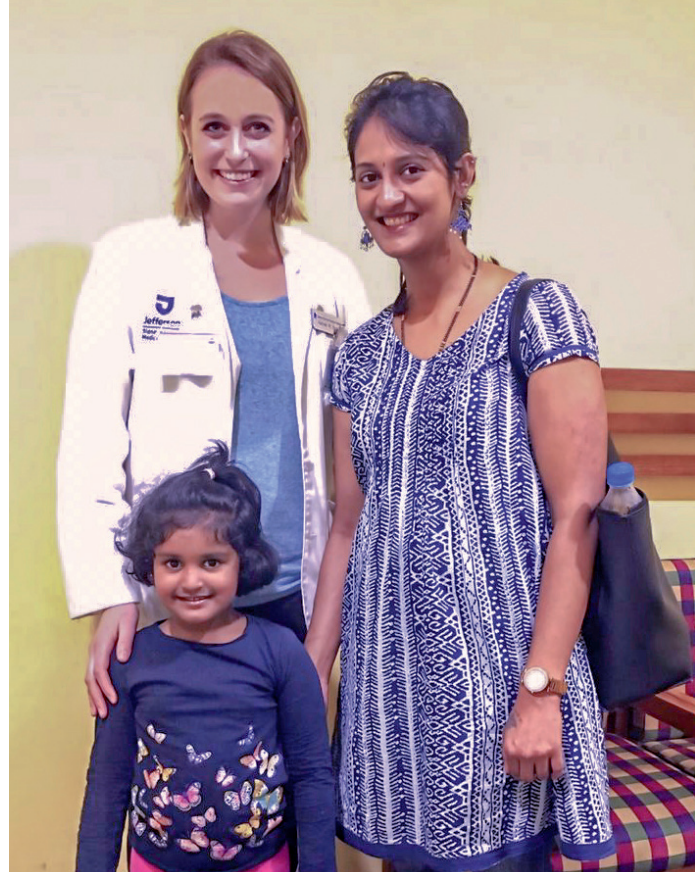
When it came time to apply to medical school, she said the last place she expected to end up was Philadelphia. But when she visited SKMC, she fell in love with the "warm, welcoming environment" and the connection she felt with the students she met.

Although she was starting to see her dream become a reality, she had one major obstacle to overcome—her own apprehensions.

"I don't come from generations of doctors like some of the students I met," she says. "I'm from a blue-collar family—it was really intimidating to feel so different. I constantly had to remind myself I am worthy of this."

Jefferson agreed, not only inviting her to join the class of 2020 (now 2021), but awarding her the Liss Scholarship for three years straight.

The scholarship was established by Amy Liss and her late husband, Henry Liss, MD '48, almost 30 years ago for outstanding students with financial need. Garrigan says she was thrilled to travel to



| Garrigan with patients at LV Prasad



| Garrigan and her mentor, Dr. Anthony Vipin Das, at LV Prasad



| Garrigan dines with Dr. Vipin and his wife, Dr. Deepti Raj, a family medicine physician, at a traditional South Indian restaurant



| Garrigan visits with Amy Liss

the Summit, New Jersey, home of her 88-year-old benefactor, in August 2019 to thank her in person.

"I honestly can't thank her enough. I would not be where I am today without people like her," Garrigan says, explaining that the rising cost of medical education and the expense of living in Center City can be overwhelming. "Her kindness and support mean a lot to me on both a financial and an emotional level."

At the end of her first year of medical school, she was given the opportunity to pay forward that kindness and travel to Nicaragua with Jefferson's chapter of Global Brigades. The international organization consisting of students and medical professionals works in remote, rural, and under-resourced communities in Honduras, Panama, Nicaragua, and Ghana to implement sustainable health systems.

At first, she was hesitant. "I wanted to do it, but I thought to myself, 'Just stay in the lane, be comfortable, follow the path.'" But at the constant urging of a friend, she relented, and spent a week working with a group of physicians delivering medicine, running clinics, and helping with manual labor in a small village.

"It was an incredibly life-changing experience," she says. "It was something I didn't anticipate, but something I needed to do."

Another experience that unexpectedly altered her life was an ophthalmology rotation. She originally planned on a career in internal medicine; however, all that changed after a short time on the ophthalmology service of James P. Dunn, MD, director of the Uveitis Unit at Wills Eye Hospital. After a lengthy conversation with him about the specialty, Dunn invited Garrigan to spend a month-long rotation with him. She was sold—ophthalmology had everything she was looking for in medicine.

By her third year of medical school, Garrigan was getting used to the idea of diverting from her original plans, and decided to take a giant leap from her comfort zone after reading Michelle Obama's memoir, *Becoming*.

In the book, the former first lady writes about a friend who took "a swerve"—putting his professional studies on temporary hold to pursue a long-held dream of serving as a sports team's mascot.

"I wanted to do my own kind of swerve," Garrigan says. "I read the book and asked myself, 'Do I need to rush into residency or should

I WOULD NOT BE WHERE I AM TODAY WITHOUT PEOPLE LIKE HER

I take some time to develop as a human being, as an intellectual? Do I want to explore a plan B?"

After working diligently in school from first through 12th grade and graduating among the top in her class, cramming for the MCAT, and plugging away in medical school for three years, she decided it was time for a break to pursue a plan B—completing a 10-month program for a master's degree in public health.

"An MPH gives you this lens into medicine that's different from the view you get in med school," she says. "It opens up new avenues in policy and advocacy, ethics, quality and safety, and analytics that add to your overall education."

The MPH swerve led to another—in December 2019, she traveled to India to volunteer at the LV Prasad Eye Institute in Hyderabad, spending a month conducting

| An evening out to visit the iconic Charminar in Hyderabad



| In the operating theater with Dr. Sunita Chaurasia, cornea and anterior segment specialist at LVPEI

research, working with patients, and studying public health initiatives.

The opportunity arose out of the blue when she mentioned her interest in global health, her experience in Nicaragua with Global Brigades, and her desire to pursue ophthalmology, to Rosie Frasso, PhD, MSc, MSc, CPH, the program director of Public Health at the Jefferson College of Population Health.

By coincidence, Dr. Frasso had a meeting scheduled with people from India who were visiting Jefferson for the 19th Annual Population Health Colloquium. One of the ophthalmologists from India, Dr. Anthony Vipin Das, presented at the event.


"All of a sudden, we're meeting with someone and I'm invited to India to work on public health initiatives and the delivery of care," Garrigan says. While Jefferson has hosted students from India, Garrigan is the first student from Jefferson to travel to India to work at the eye hospital.

Today, Garrigan's original straight and narrow path to her dream of becoming a doctor looks more like a long and winding road. And that's OK with her.

"If I've learned anything these past few years, it's that you can't predict the future. You can plan, but the world is so dynamic that you have to be open-minded to changes and accept that it's OK to not know where you're going," she says.

As for her future? Garrigan says she's constantly—and pleasantly—surprised by what happens.

"You just have to be open to where life takes you in this crazy world and know that opportunities present themselves in weird ways, and you can either take them or not," she says.

She does know one thing for sure—she will keep stepping outside of her comfort zone and taking those opportunities. After all these years, the advice on that plaque in her bedroom hasn't steered her wrong yet. 



To see a video featuring Hannah Garrigan, visit Jefferson.edu/Bulletin



BY JOEY MCDUGALL

There are no green jackets or golf clubs to be found among the masters at Jefferson. Instead, you'll find white coats, stethoscopes, and a group of doctors who have dedicated their lives to furthering the field of internal medicine.

Mastership is the highest honor that can be bestowed upon a physician by the American College of Physicians and is a testament to a doctor's contributions to and achievements in the field of internal medicine. Masters have earned recognition as industry leaders and are often viewed as the physician's physicians.

Looking Back, Moving Forward

To understand the place of the master in the future of healthcare, it's important to understand its role throughout history.

Positioned between the tail end of the Renaissance and the advent of the scientific revolution, the 16th century was a period of economic prosperity, artistic expression, and scientific discovery. Yet, the "physicians" of the time

were often killing as many people as they saved. In an attempt to distance themselves from the plague doctors, "balancing of humors," and bloodletting of old, a group of physicians—led by scholar Thomas Linacre—gathered together to legitimize medical practice and education in England.

of the **29** active masters practicing in Pennsylvania today, **5** internists call Jefferson home.

The Royal College of Physicians (RCP)—originally just the College of Physicians—was established in 1518 by King Henry VIII to raise the standard of healthcare. The RCP is the oldest medical college in England and still plays a major role in public health, medical education, and research in the United Kingdom and throughout the world.

The American College of Physicians (ACP) draws on influences from the RCP after Dr. Heinrich Stern—German-born physician and eventual founder of the ACP—attended a conference in England in 1913. That conference convinced him that it was vital to have a similar institution stateside; two years later, the ACP was established with the mission to “enhance the quality and effectiveness of healthcare by fostering excellence and professionalism in the practice of medicine.” With nearly 160,000 members, the ACP is the largest medical-specialist society and second-largest physician group in the country. Since its inception, the ACP has served in an educational and advocacy role for U.S. internal medicine physicians and their patients.

There are several levels of membership in the ACP: medical student, associate, member, fellow (FACP), and master (MACP). To become a fellow, a member must be recognized by their peers and endorsed by their local chapter, and have their credentials reviewed by a national subcommittee. Masters are recognized for their continued excellence through scholarly inquiry, publications, leadership, and dedication to the field of internal medicine.

Jefferson Masters

Of the 29 active masters practicing in Pennsylvania today, five internists call Jefferson home. As with all masters of the ACP, these Jeffersonians were elected to the level of master because of their “integrity, positions of honor, eminence in practice or medical research, or in attainments in science or the art of medicine.”

Mastership at Jefferson is nothing new. Willis Maddrey, MD, who sat as chairman

of the Department of Medicine from 1982 to 1990 and served as president of the ACP from 1992 to 1993, was elected to mastership in 1993. Thomas Nasca, MD '75, the former dean of Jefferson Medical College (now Sidney Kimmel Medical College) and CEO of the Accreditation Council for Graduate Medical Education (ACGME), became a master in 2006. Two more Jeffersonians joined the ranks in 2013 when both Drs. Howard Weitz, MD '78, MACP, FACC, FRCP (Lond.), and Geno Merli, MD '75, MACP, FHM, FSVM, were elected to the rank of master.

Dr. Weitz, the Bernard L. Segal Professor of Clinical Cardiology, has spent decades advocating for ACP's educational mission. For more than 20 years, Weitz has contributed to the *Annals of Internal Medicine*, the ACP's flagship publication, which is the most-cited general medical journal in the world, and served as a long-term associate editor for the ACP's Medical Knowledge Self-Assessment Program, a resource physicians use to keep up to date with internal medicine and its subspecialties.

“It's an amazing acknowledgement for us to be among the less than 1% of all fellows to be recognized above the crowd,” Weitz says of mastership. “We feel this responsibility to uphold the duty of elevating the field of internal medicine and, in doing so, enhancing the care for patients in America.”

Dr. Merli, senior vice president and associate chief medical officer at Thomas Jefferson University Hospital, co-director of Jefferson Vascular Health, and the division director of vascular medicine in the Department of Surgery, is a nationally recognized expert in the prevention and management of deep vein thrombosis and pulmonary embolism. Dr. Merli is both a contributor and a dedicated reviewer for *Annals of Internal Medicine*.

“It's an acknowledgement that our focus at Jefferson is education,” Merli says. “It recognizes that we spend time investing in the careers and training of our future physicians and healthcare leaders.”



Howard Weitz, MD '78



Geno Merli, MD '75

The Consult Guys

Both Drs. Weitz and Merli—who have been friends for more than 40 years—are Jeffersonians through and through. They are both graduates of Sidney Kimmel Medical College and have each spent their entire professional careers at Jefferson.

While both are accomplished doctors in their own right, the tag-team duo has been a force in bringing the ACP's educational mission to audiences around the world for more than 20 years. Now, Weitz and Merli are known among the ACP community for the “Consult Guys”—their monthly web series that mixes medical education with a healthy dose of humor.



Gregory C. Kane, MD '87

The next Jeffersonian master designation came in 2018, when Gregory C. Kane, MD '87, MACP, the Jane and Leonard Korman Professor of Pulmonary Medicine and chairman of the Department of Medicine at Sidney Kimmel Medical College, was elevated to master in the ACP. Currently, Dr. Kane sits as the treasurer of the ACP, and is the immediate past-governor and local membership chair for the Southeastern Pennsylvania Region chapter of the ACP.

"The unique position of Jefferson with three masters in medicine and two in medical oncology underscores Jefferson's commitment to strong clinical education and patient-centered care," Kane says. "It reflects Jefferson's national reputation for excellence in clinical care."



Ana María López, MD '88

In 2018, Ana María López, MD '88, MPH, MACP, professor and vice chair of medical oncology at Sidney Kimmel Medical College and chief of the New Jersey Division of Sidney Kimmel Cancer Center, was also elevated to the level of master. Dr. López is the immediate past president of the ACP and served as chair of the Ethics, Professionalism, and Human Rights Committee and governor of the Arizona chapter of the ACP. Lopez's passion and commitment are to improve care, to improve access, and to improve outcomes. Dr. Lopez's clinical expertise is in women's cancer and integrative oncology. Her research has focused on cancer health equity, symptom management, and access to care, and employs novel technologies and innovations in care delivery.

Dr. López notes; "I joined ACP as a resident. It was one of the 'must-dos' that Dr. Maddrey, the chair of internal medicine when I was a student, recommended, and like his other words of wisdom, they were right on the mark! The ACP is a community and what binds us together—globally—is our commitment to our patients. ACP policies and efforts hold the patient as the North Star. Sharing this passion with colleagues is an honor of a lifetime."



Edith Peterson Mitchell, MD

Most recently, Edith Peterson Mitchell, MD, FACP, FCPP, the director of the Center to Eliminate Cancer Disparities, was welcomed into the ranks of ACP masters. Dr. Mitchell has been a trailblazer for women and minorities in the medical profession, as well as a champion for underrepresented populations in her battle against inequity in healthcare. Throughout her storied career, Dr. Mitchell was the first female physician to achieve the rank of brigadier general in the U.S. Air Force, the first female medical oncologist to serve as president of the National Medical Association, and the first black woman to receive Thomas Jefferson University's Academician of the Year and PHL Life Science's Ultimate Solution Award. In 2019, Dr. Mitchell was elevated to the level of master in the ACP.

"As there is a continuously increasing minority population in the United States, it is important to apply precision medicine standards and know differences in prevention, diagnoses, and appropriate therapeutic interventions," Mitchell says. "Moreover, it is also important to increase diversity in the pipeline of trainees in internal medicine and its subspecialties to match the percentage representation of minorities in the population."

With backgrounds in cardiology, vascular medicine, pulmonary medicine, and medical oncology, the masters at Jefferson bring together a wealth of knowledge and experience from their subspecialties. Each master still believes it's essential to approach patients with the mindset of a general internist and treat each patient comprehensively, and that is part of the reason they consider mastership such an honor.

The Future of the Master Clinician

Since the first master, Dr. James M. Anders, was elected to the ACP in 1923, the medical field has drastically changed and the role of the master clinician has changed alongside it.



Historically, the master was a “groundedly learned” physician with a photographic memory who could make a quick, accurate diagnosis, but whose bedside manner left something to be desired. In the modern era—thanks to advances in technology and access to information—the role of the master is changing once again.

There’s no denying that accurate identification and timely treatment are still vital requirements, but the master clinician now needs to view patients as more than simply a disease and a diagnosis. Physicians now have the entirety of the National Library of Medicine at their fingertips, and establishing a trusting patient-physician relationship and treating a patient holistically are of growing importance in the master clinician’s skill set.

As a master himself and a senior associate dean of Sidney Kimmel Medical College, Dr. Weitz understands the need to keep the patient-physician relationship paramount, and is building an educational program for young faculty and physicians so they can sustain and grow their connection to patients in an ever-changing healthcare landscape.

“It has to come out of Jefferson, because Jefferson lives the life of the patient-focused, patient-oriented medical school and academic healthcare center,” Weitz says. 📖



“A Toast to the Queen”

In September 2019, Dr. Weitz achieved another milestone when he was elected as a fellow of the Royal College of Physicians (RCP) of London.

In 2016, the RCP started a joint program with the American College of Physicians to share resources and nurture the common goals of both colleges. Each year, 25 physicians who have reached the highest level in their institution are nominated to receive a fellowship within the partner organization. Dr. Weitz, one of five current ACP masters at Jefferson, is the first within the university to achieve this new honor.

Of the nearly 160,000 members of the ACP, less than 1% have been designated as masters. Since 2016, the RCP has elected approximately 5% of ACP masters as fellows of the RCP.

Dr. Weitz was elected to the RCP based on his research on the identification and reduction of risk for patients with heart disease who undergo noncardiac surgery, his contributions to the ACP, and his commitment to the continued medical education of the next generation.

“Jefferson lives the life of the patient-focused, patient-oriented medical school and academic healthcare center,” Weitz says. “We put so much effort into focusing on the knowledge, the teaching of the students in terms of science, and a humanistic approach to the patient.”

Dr. Weitz’s contributions to the field of cardiology and medicine, and his commitment to training the next generation of master-class physicians, can’t be overstated. Dr. Weitz’s recognition as an American master and a British fellow demonstrates his—and Jefferson’s—dedication to becoming a force for good and reimagining the future of healthcare for patients around the world.

Class Notes



Nicholas J. Ruggiero II, MD '01, FACP, FACC, FSCAI, FSVM, FCPP

Director, Structural Heart Disease and Non-Coronary Interventions

Director, Jefferson Heart Institute Vascular Laboratory

Associate Director, Cardiovascular Diseases Fellowship

Associate Professor of Medicine, Sidney Kimmel Medical College

President, Sidney Kimmel Medical College Alumni Association

Dear Fellow Jeffersonians,


The SKMC Alumni Association had the great honor of holding the 2019 SKMC Alumni Weekend at the close of this last October. SKMC alumni who graduated with class years ending in 4 and 9 reunited, reconnected, and reminisced over our history with our beloved alma mater. In attendance was Mark L. Tykocinski, MD, provost and executive vice president for academic affairs for Thomas Jefferson University and the Anthony F. and Gertrude M. DePalma Dean of Sidney Kimmel Medical College. Dr. Tykocinski chatted with our fellow Jeffersonians and shared his keen insight on where we have been and where we are going.

Amid the good times and cheer, we were honored to present the Alumni Achievement Award to Neal Flomenberg, MD '76, professor and chair of the Department of Medical Oncology and director of the Blood and Marrow Transplant Program at Thomas Jefferson University Hospital. The gathered alumni were also privileged to confer the Distinguished Alumni Award on Jonathan Letterman, MD 1849, the medical director for the Army of the Potomac during the American Civil War and the "father of battlefield medicine."

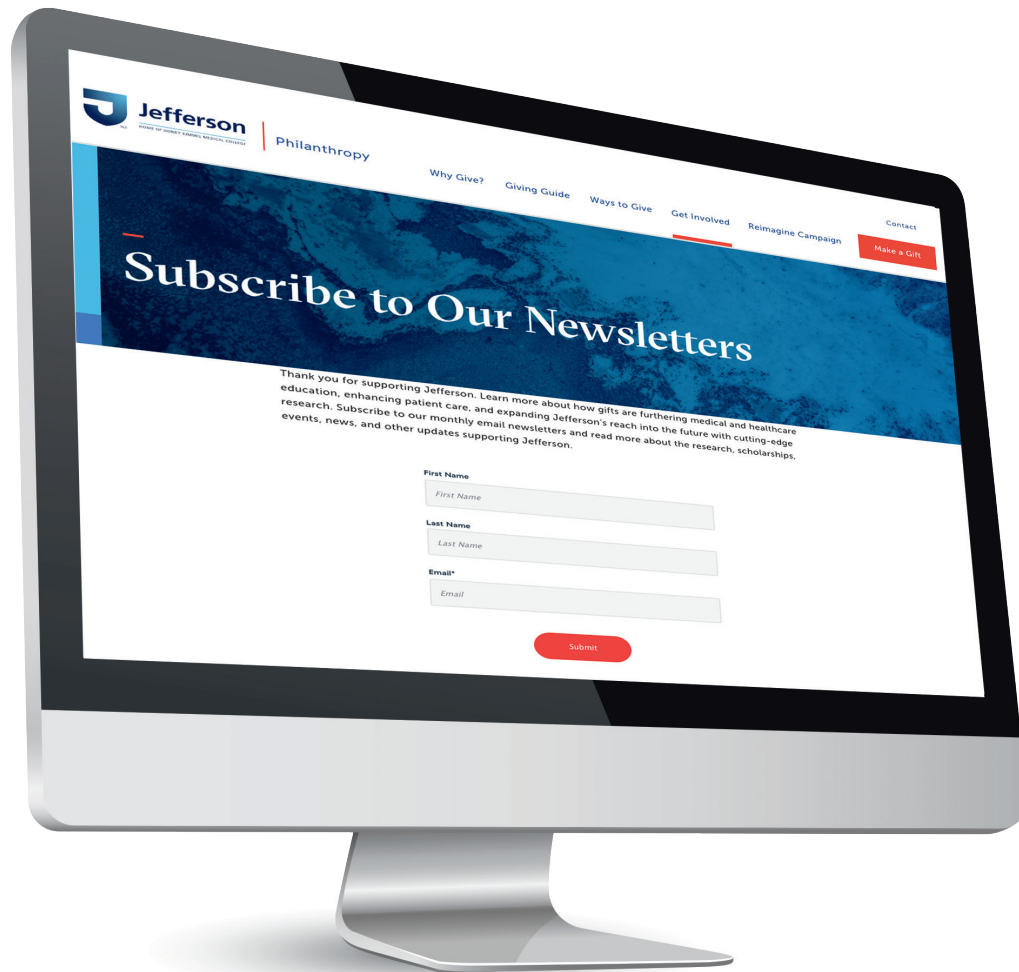
At the Pinizzotto-Ammon Alumni Center, the Rieders Family Alumni Art Gallery rang in its inaugural exhibit with the watercolors of Gerald Marks, MD '49. Dr. Marks' paintings brought to life yet another Jefferson story, one that traces a vibrant journey from Philadelphia to Paris, Rome, and beyond, chronicling Marks' travels as

an educator and pioneering surgeon. The Rieders Family Alumni Art Gallery features rotating exhibitions of art from alumni, and submissions are open for future shows. We invite you to contact Louisa Kopp at louisa.kopp@jefferson.edu or 215-955-2171 to learn more.

In our commitment to preserve our past, the association's Strategic Initiatives Committee has embarked on creating an oral history of Jefferson from the alumni perspective. We've enlisted the help of university archivist and special collections librarian F. Michael Angelo, MA, and have already collected a range of powerful stories from alumni, including those of Victor Greco, MD '51, who was Muhammad Ali's personal physician and took part in the first successful open-heart surgery using the Gibbon heart-lung machine. Beyond tales of the past, Dr. Greco shared stirring words of wisdom for the medical students of today and tomorrow. If you are interested in preserving your Jefferson stories with the project, please reach out to the Alumni Office at alumni@jefferson.edu so that we can schedule a session.

Here at the SKMC Alumni Association, we are forging ahead with new programs, and we're always thrilled to hear from our alumni. You can reach out to me or Cristina Geso, associate vice president of Alumni Relations, at cristina.geso@jefferson.edu or 215-955-7750 with any questions or concerns. Jeffersonians are a spirited, engaged group, and it's that spirit and engagement that guarantees not only the vitality of our events, but the future of our association and the health of our broader Jefferson family. 

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20 ALUMNI 19 WEEKEND



1. Elizabeth Schroeder Bussard, MD '69, Frederick Ifft, MD '69, and Suzanne Zeok, MD '69, visit the photo booth during the Welcome Reception.

2. Thomas Moore, MD '84, and Susan Moore.

3. Michael Ginieczi, MD '69, Michele Ginieczi, John Schiro, MD '69, SKMC Alumni Board & Alumni Awards Committee chair M. Dean Kinsey, MD '69, Jonathan Kaplan, MD '69, and Karen Kaplan gather during the Dean's Luncheon and Alumni Awards Presentation.

4. Nivedita Chander, MD '94, and Suprith Badarinath, MD '94.

5. The class of 1994 celebrates a joyful 25-Year Reunion at the Reunion Dinner.

6. Evans Webb, Elizabeth Webb, MD '69, Linda Weinberg, MD '69, and Paul Weinberg, MD '69.



On October 25 and 26, Jefferson celebrated the 4s and the 9s as SKMC alumni from 1949 to 2014 returned to their alma mater to reconnect with old friends, reminisce on their days as medical students, and revisit their old stomping grounds.

This year, the class of 1969 was officially welcomed into the prestigious 50-Year Society. Celebrating the 50th anniversary since graduating from Jefferson, this milestone is commemorated with a special alumni pin and an exclusive reunion ceremony.



7. SKMC Alumni Board member Galicano Inguito, MD '90, and son, Kai Inguito, SKMC class of 2022.

8. SKMC Dean Mark L. Tykocinski, MD, M. Dean Kinsey, MD '69, Neal Flomenberg, MD '76, and SKMC Alumni Association president Nicholas Ruggiero, MD '01, at the Dean's Luncheon and Alumni Awards Presentation, during which Dr. Kinsey presented Dr. Flomenberg with the Alumni Achievement Award.

9. Alan Schein, MD '69, Caren Schein, Linda Weinberg, MD '69, and Paul Weinberg, MD '69.

10. K. Ellen Frank, MD '69, and Elizabeth Schroeder Bussard, MD '69, celebrate their induction into the 50-Year Society in Eakins Lounge.



11

11. M. Dean Kinsey, MD '69, presents the Reunion Giving Campaign check to Dean Mark L. Tykocinski, MD.

12. Thomas Stephens, Mary Stephens, MD '94, Jean Rosenbaum, and Robert Rosenbaum, MD '94.

13. Jay Skyler, MD '69, and Mercedes Skyler pose for a photo at the Reunion Dinner.

14. Ramon Molina, MD '59, receives his 50-Year Society pin with Nicholas Ruggiero, MD '01, Mark L. Tykocinski, MD, and Elizabeth Dale.

15. Gerald J. Marks, MD '49, and Mercedes Skyler, wife of Jay Skyler, MD '69, discuss his portfolio of artwork displayed in the inaugural exhibit of the Rieders Family Alumni Art Gallery.

16. The class of 1969 celebrates its 50-Year Reunion while posing for their class photo at the Reunion Dinner.



12

“It’s great to see the growth of Jefferson over the past half century. The campus is much bigger and has a real campus feeling. It was really nice catching up with many people that I haven’t seen in years.”

— Jay Skyler, MD '69



13



14



15



16



17



SAVE THE DATES!

Alumni Weekend 2020

October 16–17



18



19

17. The 40-Year Reunion class gathers for its class photo during the Reunion Dinner.

18. Steven Kazenoff, MD '79, and Sonya Kazenoff at the Loews Philadelphia Hotel during Saturday evening's Reunion Dinner.

19. Mahesh Krishnan, MD '94, and Jeffrey Chao, MD '94, mingle with current medical students during the Jefferson-Penn State Alumni Reunion in Jefferson Alumni Hall.

20. The class of 1984 joins together for its 35-Year Reunion at the Reunion Dinner.

21. Mike Chen, MD '06, and Rupal Chiniwala, MD '94, take time to meet with future graduates of Sidney Kimmel Medical College.



20



21

Class Notes

'64

Don B. Knapp, II says, "I closed my ophthalmology practice in April 2019 and retired after 46 years in the same location as a sole proprietor."

'65

J. Dennis Steen has retired from actively practicing ophthalmology, after having practiced in Kentucky from 1972 to 1981 and in California from 1981 to 2010. He says, "My wife, Betsy, and I are now full-time residents in Arizona, building our new home in the Preserve at SaddleBrooke."



'67

Elliot J. Rayfield's endowed scholarship has reached its goal. The "Class of 1967" scholarship was launched with a gift from Dr. Rayfield on November 18, 2009. During SKMC Alumni Weekend 2019, a gift was made that pushed the scholarship fund to its \$100,000 goal.

'69

Suzanne Springer Zeok, MD, '69, and **John V. Zeok, MD, '67,** established the Springer-Zeok Scholarship at Sidney Kimmel Medical College in 2019 in celebration of their 50th Jefferson graduation anniversary and their 50th wedding anniversary. Their \$100,000 gift to create the scholarship was matched at \$50,000 by the Keller-Gonnella Endowment matching program.



'74

John P. Lubicky says, "I turned 70 on September 23 (same birthday as Bruce Springsteen). Still working full-time as chief of pediatric orthopaedic surgery at West Virginia University. Hoping to hold on until our new children's hospital opens in June 2021!"

'76

Kenneth W. Sommerville says, "I was blessed to have a satisfying career as a practitioner in neurology before joining the pharmaceutical industry. In that career, I was involved in developing multiple drugs for various conditions, primarily in epilepsy."

'81

Richard F. Spaide recently gave the 103rd Annual Doyne Medal Lecture at Oxford University. In addition, he was made a fellow of the Association for Research in Vision and Ophthalmology; received the Jack Guyton Lectureship Award at Henry Ford Hospital and the European VitreoRetinal Society Award in Prague; and was the Paul A. Chandler Visiting Professor at Massachusetts Eye and Ear, Harvard University.

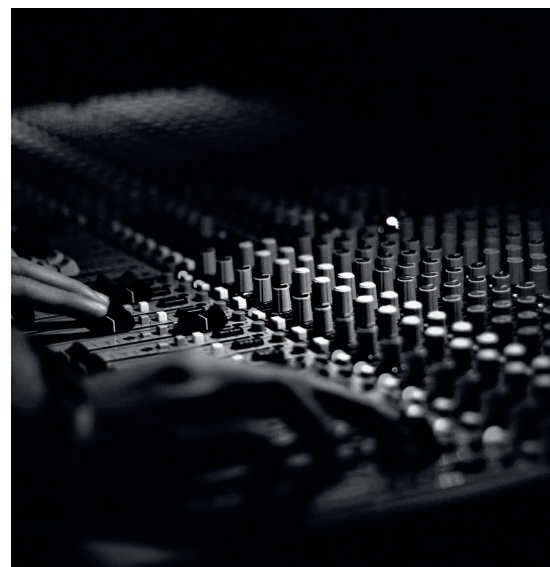


A comprehensive rating of 7 million scientists around the world in 22 fields and 176 subfields in science was done by John Ioannidis, MD, DSc, at Stanford University (*PLOS Biology*, August 2019). The research

work rated the scientific impact of research publications by the scientists. Dr. Spaide had special recognition in that he was in the top 0.01% of scientists—he was rated 677 out of the 7 million. He was the second-highest-rated ophthalmologist in the report.

'82

Joseph P. Walls says, "After graduation from Jefferson and an orthopaedic residency at the Medical College of Virginia, I served four years active duty in the U.S. Air Force. That included an eight-month deployment to the Middle East during Desert Storm. Upon leaving the Air Force, I finished a fellowship at Penn State University. After 26 years in private practice in Carson City, Nevada, I retired from my practice in 2018."



"I enjoyed downhill skiing, scuba diving, and animal rescue during that time. I now participate in an orthopaedic clinic once each month for the state of Nevada. My new endeavor is as a volunteer on-air disc jockey at a local radio station, KNVC, on a show called 'Your Music Prescription with Dr. J.' You can stream the music show on Wednesday afternoons from 4 to 7 p.m. East Coast time, 1 to 4 p.m. West Coast time at www.knvc.org by

clicking the 'Listen Live' button on top of the screen. There is a new theme each week."

'85

Guy Hewlett was appointed assistant dean of diversity affairs at Cooper Medical School of Rowan University in September 2019.

'90

Mohan Suntha was named president and CEO of the University of Maryland Medical System in November 2019. Prior to the new role, he has held positions as president and CEO of the University of Maryland Medical Center, and president and CEO of University of Maryland St. Joseph Medical Center.

'92

Michael Angelis says, "I have performed over 1,000 abdominal transplants (liver, pancreas, kidneys) since joining AdventHealth Medical Group Transplant at Orlando in 2003."

'08

Aimee Ostick opened Health and Healing Direct Primary Care in Woodland Hills, California, on September 1, 2019. Dr. Ostick is excited to offer high-quality and affordable primary care to the local community she lives and works in. She considers direct primary care a way to both address physician burnout and reduce the incredible expense of our United States healthcare industry.



'13

Tara Spencer (Hennig), class of 2013, and **Morgan Spencer**, class of 2015, were married on November 4, 2018. They celebrated their first wedding anniversary this past November.



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—Leonard A. Erdman, MD '50



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- The gift must be made on or before December 31 for the 2019 tax year.
- Transfers must be made directly by your IRA administrator to Jefferson.
- Gifts must be outright. The rollover must be from a traditional IRA, not a 401(k), 403(b), or other retirement plan.

Benefits

- You can transfer up to \$100,000 annually from your IRA to Jefferson; spouses can each transfer up to \$100,000.
- Rollovers are free of federal tax.
- Rollovers qualify for your "required minimum distribution" for the year.
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To learn about making a gift through your IRA and other planned giving opportunities, contact:

Lisa W. Repko, JD
Vice President, Thomas Jefferson University and Planned Giving
lisa.repko@jefferson.edu | 215-955-0437

Class Agent



Bernard L. Lopez, MD '86

Associate Provost, Diversity and Inclusion
Associate Dean, Diversity and Community Engagement
Professor and Executive Vice Chair, Department of
Emergency Medicine
Sidney Kimmel Medical College at Thomas Jefferson
University

Jefferson graduate, class of 1986. A residency in emergency medicine at Thomas Jefferson University Hospital right after. Affiliate faculty in the Department of Emergency Medicine for three years after residency while I worked at Brandywine Hospital in Coatesville, Pennsylvania. Full-time Emergency Medicine faculty at Jefferson since 1992. A variety of leadership roles in the medical school over the last 18 years. I am a Jefferson lifer with no plans to leave.

Why am I still here? Mostly, it is the friendly environment over the last 37 years. While there has been much change—we are now a 10-college, 14-hospital enterprise—the friendliness is the constant. The mission of the medical school—to train clinicians to provide the best patient care—remains unchanged (and is near and dear to my heart). I've seen my classmates, and succeeding medical school classes since, transform from eager students into outstanding clinicians and create the most welcoming educational and patient

care environment possible. I have been fortunate to have watched my oldest son (class of 2021) get a great education in the new JeffMD curriculum. Just as importantly, I watch as he forms the special bonds with his classmates that will remain with him for his lifetime.

By virtue of my work, I am part of the Jefferson present. I've greatly enjoyed my role as the class of 1986 agent as it keeps me connected to the past (and my past keeps growing as the years pass by!). Hearing tidbits of information from my classmates, whether it be professional or personal accomplishments, always makes my day and brings me back to my Jefferson past. Keeping our class together (even if it is virtual) has been one of my most rewarding activities as we share a bond in becoming doctors. It is truly special.



In Memoriam



'44

James "Jim" Geyer Dickensheets, 99, of Hilton Head Island, South Carolina, died August 11, 2019. Raised in Gloucester, New Jersey, he attended Gettysburg College, then Jefferson, where he was a member of the Samuel Gross Surgical Society and Alpha Kappa Kappa fraternity. Jim completed an internship at Cooper University Hospital, Camden, New Jersey, and served in the U.S. Army Medical Corps with duties at Camp Butner Army base and Fort Dix. In 1954, he completed a residency in internal medicine at Jefferson Medical College and also did additional training in pulmonary medicine at the University of Pennsylvania, where he worked with Harold Israel, MD. Jim worked in a private practice in internal and pulmonary medicine at Cooper University Hospital, moving to Hilton Head Island with wife, Lois, in 1973. There he was instrumental in the opening of Hilton Head Hospital in 1975 and maintained a busy practice there until his retirement at the age of 72.

Jim had a great love for the practice of medicine and was devoted to his patients. He was always proud of his associations with Jefferson, both from his training years and through a faculty position teaching

Jefferson medical students at Cooper University Hospital. He often recounted his training and ongoing working relationships with medicine chairs Dr. Hobart Reimann and Dr. John Dietrick, with whom he maintained a friendship for many years. His retirement years included golf, the beach, gardening, and playing bridge, which he enjoyed until his final days.

Jim is survived by his daughter, Lynn, and sons James Jr., Robert, and David, as well as many grandchildren. He was predeceased by his wife, Lois.

Harold Wilf, a native and longtime resident of Philadelphia, died on December 8, 2018, at the age of 99. He received his undergraduate degree from the University of Pennsylvania and attended Jefferson in uniform as part of the Army Specialized Training Program. Upon graduation, Harold received both his degree and a commission as a first lieutenant in the Army. While at Jefferson he was a member and president of the Phi Delta Epsilon fraternity. He did his internship at the Philadelphia General Hospital and was chief resident at Northeast Hospital, before serving as a transport surgeon in the South Pacific, sailing to Okinawa.

After the war, in addition to having a practice in the Brewerytown section of Philadelphia, he trained in the much sought-after program at the graduate school of medicine at the University of Pennsylvania, focusing on ENT. He later took externships with Matthew Ersner at Temple University and at the Lempert Institute of Otology in New York City.

Having specialized in ENT, Harold at one time was on staff and operating at many of the hospitals in Philadelphia, including Children's Hospital of Philadelphia, St. Christopher's Hospital for Children, and Temple, performing tonsillectomies on a generation of children. Eventually settling his practice in Northeast Philadelphia, he became chief of ENT at Einstein Northern and on staff at Jeanes and Rolling Hill Hospitals. Harold performed countless stapedectomies and rhinoplasties, ultimately naming his boat "The Stapes." Retiring at the age of 72, he spent his remaining years with his extended family and playing golf. He was preceded in death by his son, Edward, and is survived by his wife of 67 years, Constance, and by his daughter-in-law and two granddaughters.

'50

Sonia Schorr Sloan, 91, scientist, political activist, fundraiser, and first woman graduate of Jefferson Medical College, died October 19, 2019.

On June 9, 1950, Sonia made history when she stood among 152 male graduates of Jefferson Medical College to accept her master's degree in bacteriology. A month later, she began her career as an instructor at Temple Medical School and assistant in its new virus diagnostic laboratory. Two years after that, she became the first woman hired to work in DuPont's Central Research Laboratory. After seven years at DuPont, she left to become a stay-at-home mom when her first son was born.

Sonia worked tirelessly to improve the lives of others, helping to establish organizations such as the Wellness Community (now Cancer Support Community of Delaware), Public Allies Delaware, Agenda for Delaware Women, and the American Civil Liberties Union of Delaware. As a volunteer and professional fundraiser, Sonia brought in approximately \$100 million for organizations including the Food Bank of Delaware, the Delaware College of Art and Design, and the West End Neighborhood House. She also served as president of the board for Planned Parenthood of Delaware.

Sonia is a member of the Hall of Fame of Delaware Women, and was recognized with the state of Delaware's highest honor, the Order of the First State.

In April 2019, she received the Jefferson College of Life Sciences' Alumni Lifetime Achievement Award. She was the first student—male or female—to earn a degree from the graduate program that eventually became the College of Life Sciences.

Sonia, a lifelong Democratic activist, was a close friend to former Vice President Joe Biden, working on every one of his campaigns since 1970.

Sonia is survived by her husband of more than six decades, Gilbert; two sons; five granddaughters; and three great-grandchildren.

'52

Arthur N. Avella, noted psychiatrist and former hospital director, died on Jan. 30, 2019. Born June 20, 1923, in Manville, New Jersey, to Rose and Paul Avella, Arthur served in the U.S. Navy in the Pacific theater during World War II and retired from the Naval Reserve as a lieutenant.

He received his BA from Oberlin College and his MD from Jefferson Medical College, now Sidney Kimmel Medical College. He interned at Muhlenberg Regional Medical Center in Plainfield, New Jersey, and St. Joseph Hospital in Philadelphia. He was a resident in psychiatry at the Menninger School of Psychiatry in Topeka, Kansas, and the Roosevelt Hospital (later Mount Sinai St. Luke's hospital) in Manhattan. His post residencies included the Roosevelt Hospital (fellow in psychiatry), the William Alanson White Institute, and Harvard University's program for health systems management.

From 1953 to 1957, he had a general practice in Westfield, New Jersey. In 1960, he joined Robert Laidlaw, MD, in a psychiatric practice and, eventually, opened his own private practice in psychiatry and psychoanalysis in Manhattan in 1969. During this period, he was also director of clinical services and assistant clinical director and education coordinator at Roosevelt Hospital. Subsequently, he became the director of residency training at Manhattan Psychiatric Center. In 1980, Arthur returned to New Jersey to become medical director

at the Essex County Hospital Center until 1986, when he became hospital director. He retired in 1991.

Always the academic, he was a clinical associate professor of psychiatry at NYU Medical Center (now NYU Langone Health), assistant clinical professor and associate in psychiatry at Columbia University's College of Physicians and Surgeons (now Vagelos College of Physicians and Surgeons), and clinical assistant professor at the University of Medicine and Dentistry of New Jersey.

In retirement, Arthur never lost his love of learning. He was a student of comparative religions, the Italian Renaissance, music history, opera, and philosophy. He traveled extensively and was an avid concertgoer and theatergoer. He also had a keen interest in the piano, playing frequently for family and friends.

Between 1993 and 2013, he maintained a winter residence in West Palm Beach, Florida. He moved to Crane's Mill retirement community in West Caldwell, New Jersey, in 2005.

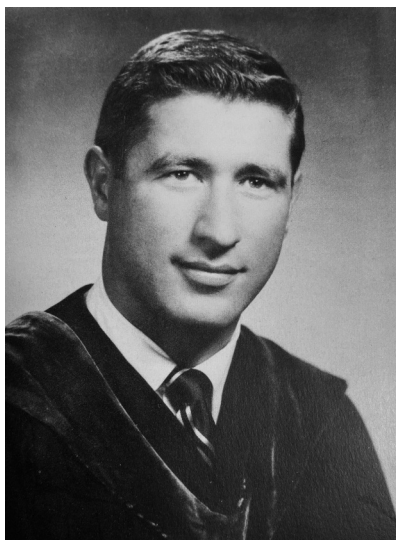
Arthur was predeceased by his sisters, Nina, Mildred, and Antoinette, and by his brothers, Nathaniel and Joseph. Those who mourn his passing include his nieces, nephews, great-nephews, and special friends Bill Hagel, George Bales, and Dr. Susan (Skalsky) Bales. He will be especially remembered for his quick wit, spirit of adventure, and the tenaciousness that allowed him to achieve top rankings in many diverse endeavors.

'54

Edward Tober, 90, of Exeter, New Hampshire, died on May 20, 2019. Born February 12, 1929, in Portsmouth, New Hampshire, Edward graduated from Harvard University before attending Jefferson Medical College. While

In Memoriam

at Jefferson, he was a member of the student council and Kappa Beta Phi fraternity, and maintained a junior internship at the Episcopal Hospital of Philadelphia. Following a one-year internship at Mount Sinai Hospital in New York, Edward served two years in the United States Navy. He practiced general and thoracic surgery in Lowell, Massachusetts, for 30 years. He was a dedicated physician who enjoyed spending time with his patients.



After retirement, Edward attended grand rounds with the surgeons at Dartmouth-Hitchcock Medical Center in New Hampshire to discuss cases and to keep his hand in medicine. The rest of his retirement time was spent attending opera, ballet, concerts, and the symphony with his wife of almost 58 years, Linda, and devoting time to his five adoring grandchildren.

Some of Edward's fondest memories were of his time at Jefferson. He and Linda regularly attended reunions to reconnect with classmates.

Aside from his wife and grandchildren, Edward is survived by two children.

'56

Jean Mountain Miller, 85, died on March 8, 2019, in Cleona, Pennsylvania. Jean received

her BS from Wooster College before coming to Jefferson. She graduated with a diploma in medical technology from Jefferson Medical College in 1956. While there, she met her husband, Claude J. Miller, MD '59. Jean's father, Dr. Walter Scott Mountain, was a 1926 graduate of Jefferson and practiced in Gettysburg.

Upon graduation from Jefferson, Jean gained employment at Graduate Hospital in Philadelphia and assisted Dr. Bazar in directing the work of the laboratory there. She often mentioned how grateful she was for all the excellent training she received at Jefferson, especially from Dr. Carlos Aponte.

Apart from her love of her work as a medical technologist, Jean was involved in every facet of church life at St. Andrews Presbyterian Church in Lebanon, Pennsylvania, for more than 50 years, including singing in the choir.

Jean is survived by her husband, Claude; her two daughters, Julie Kramer and Karen Anderson; seven grandchildren; and one great-grandchild.

'66

Henry H. Hood died at his home on May 31, 2019. Born on June 30, 1939, in Washington, Pennsylvania, Henry received his high school diploma from Millbrook School in Millbrook, New York. After receiving an undergraduate degree from Brown University in 1961, he spent a year at Washington & Jefferson College in preparation for medical school at Jefferson Medical College in Philadelphia, where he graduated in 1966. Prior to moving to Lancaster, Pennsylvania, in 1974 to open a private practice, he completed residencies in Akron, Ohio, Chicago, and Toronto; served two years in the Air Force at the Minot Air Force Base Regional Medical Hospital; and taught at the University of Florida College of Medicine.

Henry was passionate about teaching and mentoring. Throughout his career in private practice, he welcomed numerous medical students into his office who would spend months learning new skills. For 18 years, he spent Sunday mornings at the New Life Church in Columbus, Ohio, offering medical services to the homeless and destitute, while simultaneously mentoring medical students from Ohio State University's College of Medicine who volunteered at the clinic. He also started a free medical clinic for local residents at Maywood Mission.

In 1984, Henry met Dr. Robert Simon, founder and chairman of the board of the International Medical Corps (IMC), and a lifelong friendship and partnership was born. For 35 years the two worked to build the IMC into an organization which has provided medical relief, education, and training to 51 countries around the globe. Through IMC, Henry worked in a number of war zones, including Afghanistan, Somalia, Nicaragua, Pakistan, and disaster areas such as Haiti and Indonesia, helping to train doctors and medic trainees in vital surgical skills. To train Afghan medics he invented a traction device made of bamboo shoots and ties that remains in the manual he helped write 30 years later. The reduction of common dislocations was taught using techniques he invented, such as using a tree limb and lever system he developed to reduce complex dislocations and fracture dislocations. In addition to being a founding board member of IMC, Henry was the chair of its international operations committee.

Henry is survived by his wife, Eleanor Hood; his son, Henry H. Hood III, and his family, including wife Diane Hood, children Garrett and Meredith, and stepchildren Chasity and Jennifer; his daughter, Elise Hood Egan, and her family, including husband Michael J. Egan and children Michael "Jay," Halie, and

Annabel; his brother, Paul B., and his wife, Molly Hood; and his loving cat, Jasper.

Richard A. Ulrich died on October 17, 2019, after a long battle with heart disease. Born on May 25, 1941, in Norfolk, Nebraska, he grew up on a 160-acre farm with his twin brother and younger sister. Richard completed a BS at Houghton College, an MD at Jefferson Medical College (now SKMC), and an internship at Geisinger Medical Center. He joined the Air Force as a flight medical officer and served as the only doctor at Kimpo Air Base, South Korea, from 1967 to 1968. He then transferred to McCoy Air Force Base, where he married Angelia Sue Carthen. Richard trained in ophthalmology at the University of Iowa and served at Maxwell Air Force Base and as chief of hospital services at Offutt Air Force Base. He retired as a colonel and moved to Georgia in 1987, where he worked with Dr. J. L. Gayton and Dr. M. Gary Carter in Warner Robins.

Richard is survived by his wife, Angelia Ulrich, and their four sons and families: Dr. Lane Ulrich, MD, his wife, Debra, and children Lydia, Colin, Elise, and Celia; Dr. Marc Ulrich, PhD, his wife, Rebecca, and children Karis, Stephen, Andrew, Timothy, Joshua, Samuel, and Addy; Dr. Paul Ulrich, PhD, his wife, Rachel, and children Annalise and Lauren; and Dr. Luke Ulrich, PhD, his wife, Megan, and children Caleb, Eli, and Seth. He is also survived by his twin brother, Dr. Wesley Ulrich, MD, and his sister, Mrs. Mary Ulrich Gustafson.

Those who knew Richard are likely to remember his avid interest in the Bible, family, Shirley Hills Baptist Church, medicine, music, science, tinkering, Gansu Inc., the Gideons, Christian Medical Dental Association, history, and computers. His motto was "Just do it God's way." He was utterly grateful for life with God, family, friends, and patients.

'79

Noah Allan Babins died on June 29, 2018. He was born November 2, 1956, in Philadelphia, Pennsylvania, to Louis and Joan Babins. Noah was a brilliant student who was accepted during high school to the medical school bridge program at Penn State University and Jefferson Medical College (now SKMC). This allowed him to become a medical doctor at the age of 22.

In 1985 Noah moved to Orlando, Florida, where he met the love of his life, Kary Alger Babins. They married in 1987. Shortly after, they moved to Bowling Green, Kentucky, where Noah established his own anesthesiology practice. In 1989 the family moved back to Orlando, where Noah worked as an anesthesiologist at Orlando Health until the time of his passing. Noah was a mentor to many and a friend to most, always willing to take time to provide thoughtful advice or guidance.

Noah was an avid fisherman and a world traveler. He loved the Bahamas and spent a substantial amount of time traveling throughout Spain and Spanish-speaking countries, where he learned the language. He was a lifelong Philadelphia sports fan and was delighted to see his Eagles win the 2017 Super Bowl.

Noah loved and adored his three children: Shanna Gatton and husband, Brady Gatton; Aaron Babins and his wife, Musy; and Jacob Babins and his wife, Kelli. Noah was known as Zaydee to twin grandchildren Myles and Graham Gatton. Noah was also survived by his mother, Joan Babins; sister, Irene Repka, and her husband, Dr. Mark Repka; and brother, Dr. David Babins, and his wife, Rhonda. He was also loved by so many more family members, including cousins, nieces, and nephews.



WHAT'S NEW?

To submit a class note or obituary for *The Bulletin*, contact the Office of Institutional Advancement:

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editor@jefferson.edu

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By the Numbers



The Vickie and Jack Farber Institute for Neuroscience



2002



Founded by
Vickie and Jack Farber



\$10 MILLION
initial gift

2016



\$20 MILLION
transformational gift

82,643
outpatient visits

146
clinical trials

106
clinicians

NO. 1
in Pennsylvania

\$17.7 MILLION
in sponsored research

3,082
telehealth
consultations



NO. 21

neuroscience program in the U.S.
according to *U.S. News & World Report*



▶ **Tanzania Wildlife Safari**
October 6–17, 2020

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July 11–20, 2020
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August 2–8, 2020
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September 7–20, 2020
 - ▶ **Tanzania Wildlife Safari**
October 6–17, 2020
-

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