the Bulletin

Fall 2019
Sidney Kimmel Medical College

SEEING THE HOLISTIC PICTURE

Cover: Mixed media collage illustrating the creativity, diversity of disciplines, and range of talent of Jefferson alumni, faculty, and students (by Shae Berler Goudreau and Megan Plescha).

the Bulletin

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May 22, 2019
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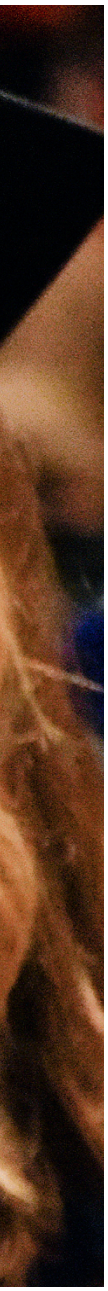
Anthony F. and Gertrude M. DePalma Dean, SKMC



You're off to see the world! As you set sail, two seemingly simple messages about seeing: see more; see openly.

Let's start with "see more." *The Catalogue of Shipwrecked Books* was published just this year about Christopher Columbus' son, Hernando. Turns out, both father and son were gluttonous information gatherers. While Christopher, the intrepid ocean voyager, gathered information about the New World far across the Atlantic, son Hernando stayed closer to home, but with a gathering exercise no less ambitious. A great librarian, Hernando crisscrossed the European continent, decade upon decade, gathering a breadth of printed materials—books, prints, political pamphlets, guidebooks, posters, musical scores, ballads, pornography, newsletters—any printed material, in any language, on any subject.

Unlike his predecessors and contemporaries, Hernando didn't limit himself to classics. His Noah's Ark of civilization-in-print constituted the most comprehensive such collection of his day. His information avarice presaged our 21st century information age, accompanied by a 16-volume, cross-referenced index—a primitive search engine of sorts.

So the seeds were sown for our information-rich world, a world with a smartphone—a magical device created by our honorary degree recipient John Scully's progeny at Apple—that offers us all a portal to the world at all times, in our pockets and just a hand motion away. A device that allows us to see the entirety of the world's information on a little screen right before our eyes. Hernando's library, magnified a trillionfold.

But sometimes you have to look past your screen and dig through basements for items to feast your eyes.

Last year I saw a fascinating exhibit at the Israel Museum, *No Thing Dies*. Artist Ilit Azoulay rummaged through thousands of objects and artworks in the museum's storerooms, from prehistory to the present day, uncovering many valuable artifacts never publicly exhibited. She collected stories and photographed the objects, and then created mesmerizing photographic collages, merging histories and contexts, and proposing new scenarios—some dreamlike, some apocalyptic. Azoulay expanded our visual horizons by digging deeper and redefining the past. She literally unearthed visuals to see anew.

Sometimes we need to pioneer entirely new technologies to see anew. We do so because we are wired to believe—truly believe—only what we see with our own eyes. Seeing equals confirmation.

On April 10, we achieved an unparalleled feat of sight. We actually saw a most wondrous celestial entity: a black hole. A region of space-time deformed by an ultra-dense compact mass, exhibiting gravitational acceleration so strong that nothing, not even light, can escape from it. Black holes had bubbled up almost a century ago, mysteriously, from abstruse mathematics of relativity. Indirect evidence for their existence had been trickling in—most notably three years ago, a dramatic recording of sounds of gravitational waves—but this time, from sound to sight.

Eight radio telescopes, linked together to form a giant Earth-sized virtual telescope, transmitted a bona fide image of a black hole—an actual picture of a supermassive black hole at the core of supergiant elliptical galaxy Messier 87 in the Virgo cluster, with a mass about 7 billion times the sun's, sitting way out there, 312 trillion miles away. The hot, shadowy edges of a light-sucking monster of the cosmos, theorized by Einstein, were now visible. A lighted donut encircling a lightless core.

Why the fanfare? Because we could finally see what had been unseeable. No longer an artist's impression or computer simulation, but an actual picture of the abyss itself. Seeing is believing. While the mathematics and sounds had been compelling, seeing the celestial object clinched it.

Dean's Column

We love seeing things, and the more the merrier. We crisscross continents to assemble print libraries, comb museum storerooms for forgotten objects, and probe the outreaches of space using dazzling technological tools to photo-document the cosmic predictions of our mathematics. Mankind has an almost insatiable appetite for gathering things to see. In our hunter-gatherer days, it was things for sustenance; now it's also the ethereal. Books, objects, photos: We are information-gatherers in extremis, gluttons for information. We want it all, right there before our eyes. And we want it now.

And that's a good thing! You can learn from this. Diversify your information sources; don't limit yourselves to information that happens to seep in. Rather, aggressively seek out new information sources. Invest the effort. You owe your eyes the full spectrum.

Second message: see more, yes, but see openly. We are no smarter for all the pixels we process if what we see is bound and constricted by what we believe. The paradox: We go to such great lengths to secure visual evidence—we want to see it with our own eyes, we want to see it all—and yet, too often, even when things are right there before us, we refuse to really see them. Instead, we visually process only that which is compatible with our beliefs.

Stated another way, while seeing is indeed believing, what we believe too often frames and confines what we see. If seeing is believing, believing is not always seeing.

This past November, Steve Klasko and I found ourselves in the Anatomical Theatre of the Archiginnasio at the University of Bologna. This in-the-round amphitheater, dating back to 1637, showcases an elaborate dissection table at the center—mechanically configured to rise up from below to convey the cadaver from the basement morgue.

But more interesting than this contraption, jutting from a far wall of the amphitheater, one story up, is a wood-carved parapet. There the papal overseer would stand as he monitored each public dissection and ensured that all was proceeding in sync with church dogma.

By example, during the Middle Ages, church teachings spoke to a seven-chamber uterus—three on the right available for a developing male embryo, three on the left for a female embryo, and one in the middle for a hermaphroditic one. Seven chambers, a number considered sacred, giving the uterus a holy symmetry. The demonstrator would hold up the organ at the dissection table, and right there—before the eyes of medical students and spectators—was a dissected uterus with not seven, but one, internal chamber. Yet, without skipping a beat, the professor of anatomy, sitting in a large, ornate chair elevated above the dissection proceedings, and reading from an anatomical text with commentary, would describe the "seven-cell uterus."

All is well with the papal overseer. Belief in a seven-cell uterus is affirmed. Visual inspection be damned. Clearly, seeing is not always believing. There are times when dogma overrides one's very own eyes.

But no need to go that far back. There's a contemporary example, one that will resonate with our second honorary degree recipient, Walter Ricciardi, the champion of childhood vaccination in Italy. Hundreds of children are now coming down with measles, here in the United States and in Europe, right before our eyes. Reams of ironclad scientific data for all to see, and yet some parents, many highly educated, refuse to vaccinate their children. These anti-vaxxers somehow don't see these measles-ridden children; they don't see the data. Their line of sight is muddied by dogma pinned to stray articles peddling unsubstantiated findings.

Clearly, too often, seeing is not believing. Seven-cell uterus, vaccine-induced autism, all the same—beliefs disconnected from sight.

That's just one example of the emerging threat of science denial: a techno-scientific age on overdrive, yet with dwindling authority for that science. Science denial thrives when hard-set beliefs—dogma—wall off the visuals of science.

Class of 2019, dogma is not just political and religious. Scientific dogma can be just as limiting. That is, while science aims to overturn dogma, some dogma is itself scientific. Call it scientific correctness, decoupling scientists from what they see, sapping their will to seek out the unseeable. We scientists are enmeshed in our mythologies as much as the ancients. Not as enlightened as we'd like to think, we physician-scientists, reared in the science-centric Flexnerian tradition, at times unconsciously fighting off that which is glaring before our eyes.

The world of physics gets it—that scientific concepts are meant to be in constant flux, that today's scientific dogma is tomorrow's discredited belief. Think black holes, gravitational waves, quantum weirdness; physics loves that kind of stuff. But the world of biology, not so much. It is far more resistant to radical paradigm shifts. In biomedicine, we love dogma, and often let it shape—and sometimes limit—our lines of sight.

Take neo-Darwinism. By now, it's bread-and-butter high school stuff: the notion that lifeforms on this planet have arisen through natural selection among mutational variants. What could be more central to our 21st century perspective of the living world? Genes mutate, cause phenotypic changes, and the useful ones get selected and propagated. After a few billion years, the biological world we now see has unfurled. So intuitive, so obvious. Case closed.

But is it? In a provocative book released this year, *Darwin's Doubt*, University of Oxford's Stephen Meyer argues it is not. While neo-Darwinism can reasonably explain microevolution, like how giraffes' necks get longer or how the beaks of finches diversify in color, it's an entirely different story when it comes to macroevolution, how we go from amoebae to slugs to chimpanzees—the big leaps. Interestingly, Meyer's starting point is the visual evidence, keying in on a puzzling gap in the observed geologic record. One moment the body forms are simple. The next layer up, explosive complexity: the Cambrian explosion. No intermediate species in the geologic strata. That's the visual puzzle. And an equally head-scratching molecular genetic puzzle also stares neo-Darwinism down.

By no means is this the forum to litigate neo-Darwinism. I raise it simply to reinforce a larger point: eyes wide open, not shut. Every dogma can be and should be challenged, even scientific dogmas. That is where breakthroughs happen.

Class of 2019, you are the generation that will be pondering, well into the 21st century, some of the most tantalizing questions in biomedicine like differentiation and development, emergent properties of complex biological systems, and consciousness. I urge you to be open to radically new ways of viewing such phenomena.

Noted physicist Paul Davies argues recently in *The Demon in the Machine* that new laws of physics will be needed to explain the spooky complexity and demonic magic of biology. Like this physicist, be brave enough to ask dogma-defying questions, even when they beckon entirely new laws as strange as information-driven genesis of lifeforms or adaptive Lamarckian mutagenesis. And when what you observe doesn't fit neatly into that which is generally believed, don't stop looking. Be willing to let in what you see, even if it threatens to shatter foundational beliefs. Rock those foundations. Challenge science with science.

To sum things up in two overarching messages: first, gather things for your eyes to see, diversify your sources, and even look to uncover things deemed invisible. Strive to see the unseeable. On a wall in the home of my lifetime mentor, Bernard Lown—a renowned Harvard cardiology pioneer, 1985 Nobel Peace Prize winner, and former Jefferson honorary degree recipient—there's a framed letter from a colleague with the phrase, "Only those who see the invisible can do the impossible."

And second, believe what you see, even if it challenges dogma. That dogma can be science itself. You must be willing to challenge biomedical science premises. Recognize that science can often wall itself off from things that are in clear sight. Scientific cocoons morph into stubborn scientific correctness. Observation trumps narrative. Liberate your sight. Wander into uncharted and strange territories freely. From *Darwin's Doubt*: "You must not fool yourself, and you are the easiest person to fool."

Graduates, go out and see the world!

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

Jefferson Reacts to Hahnemann's Closure

Faculty and staff respond to what the closure means for them, for Jefferson, and for Philadelphia

Peter Sacci, SKMC '17

I and a lot of my co-residents were heartbroken. We'd really come to love Hahnemann. And of course there's the added question of, "What are we going to do next?" The great thing about Philadelphia is there are so many hospitals and opportunities for specialty medicine. I got a handful of offers and decided to come back to Jefferson. It's a great institution, a great hospital, and I'm excited to be able to continue practicing emergency medicine here.

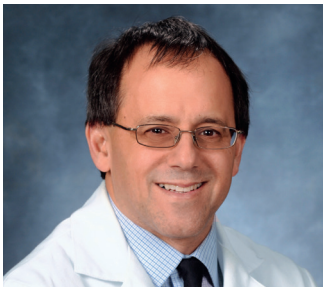
Third Year Emergency Medicine Resident

Robin Naples, MD

Jefferson's emergency department has seen a significant increase in EMS volume as well as walk-in patients. We have had to reconsider our staffing of the ED to safely care for the influx of patients. Within the emergency medicine residency, we have absorbed the largest contingency of residents within Thomas Jefferson University Hospital. This was a huge undertaking which required planning and organization.

Residency Program Director, Clinical Associate Professor, Department of Emergency Medicine, SKMC

Judd E. Hollander, MD



The Hahnemann closure highlights a larger problem. Whether you have commercial payers or a single-payer system, if there is not enough reimbursement for care to pay the bills, health systems simply cannot stay afloat. At the end of the day, the Hahnemann closure represents a failure of society to cover the necessary costs of care for our citizens. It is critical that someone pays for the costs of care before another hospital has the same fate.

Senior Vice President, Healthcare Delivery Innovation Associate Dean, Strategic Health Initiatives

Earlier this summer, Hahnemann University Hospital—a for-profit Philadelphia hospital about one mile from Jefferson's Center City campus—announced it would cease operations after providing care for more than 170 years. Giving fewer than 90 days' notice, the closure came as a shock to the people of Philadelphia—and to the patients, residents, and staff who depended upon the hospital for their health, education, and livelihood.

When the bankruptcy petition was filed on June 30, Thomas Jefferson University Hospital jumped into action. Within the first month, daily emergency department arrivals increased by 40, three more babies were delivered each day, dozens of displaced residents were brought in, and ambulance volume jumped 67 percent.

"The closure of Hahnemann is a tragedy for all of Philadelphia, but it is also an object lesson that we cannot wait for a solution to come to us," said Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health. **"Hope is not a strategy."**

The impact of the closing has been felt at all levels of Jefferson. Here is what some of those affected are saying.

Stephanie Conners, MBA, BSN, RN, NEA-BC

Jefferson had minimal time to react to the crisis, yet did so immediately due to our close proximity to Hahnemann. As a team, we rallied to create ease of access for any patients who needed care. We formed action-oriented committees to develop strategies to prepare our very busy hospital for the anticipated surge of patients—and we have done so seamlessly. We have onboarded more than 150 employees from Hahnemann because not only do we care about the patients, but we also care about the employees. The entire Jefferson family is committed to doing the right thing.

Executive Vice President, Chief Operating Officer, Jefferson Health

Bruce A. Meyer, MD, MBA

The closure of Hahnemann hospital is a sad day in Philadelphia, as a 171-year-old institution ceases to exist. At Jefferson, our response has been to ensure that the people of our community who were served by Hahnemann can continue to access and receive high-quality care. This has required sometimes-Herculean efforts by our staff who have uniformly risen to the occasion and managed the stressors successfully with empathy and quality.

Senior Executive Vice President, Thomas Jefferson University President, Jefferson Health

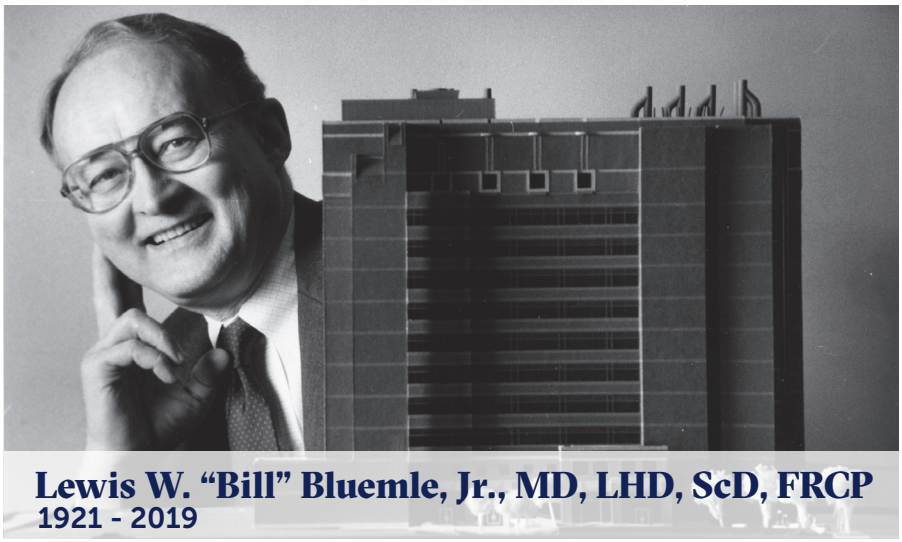
Edmund Pribitkin, MD, MBA

We are incredibly proud of our own providers and staff who have leaned in to this crisis with a positive, caring spirit that underscores our commitment to putting patients first and doing the right thing. We remain firmly committed to providing safe, quality care to all of Philadelphia's residents while shepherding the resources required to thrive in this new environment.

Chief Medical Officer, Thomas Jefferson University Hospital
President, Jefferson Medical Group

To see a video with more about the Hahnemann closing, visit Jefferson.edu/Bulletin

On Campus



Lewis W. "Bill" Bluemle, Jr., MD, LHD, ScD, FRCP
1921 - 2019

Writing in his forward to the 1989 retrospective *Thomas Jefferson University: Tradition and Heritage*, Lewis W. Bluemle, Jr., MD, observed, "However powerful our basic understanding of health and disease may become, its application will always depend on the institutions that create that understanding and pass it on to the next generation of students."

Bluemle, who served as president of Thomas Jefferson University from 1977 to 1990, passed away peacefully with his family at his side on August 13, 2019. He was a brilliant, gracious, and self-effacing gentleman, whose monumental accomplishments at Jefferson still reverberate today.

Born and raised in Williamsport, Pennsylvania, Bluemle earned both his undergraduate and medical degrees at Johns Hopkins University, where he was Phi Beta Kappa and Alpha Omega Alpha. He served his internship and a residency at the Hospital of the University of Pennsylvania (HUP).

A kidney researcher, Bluemle was a pioneer in the development of the artificial kidney, a prototype of today's dialysis procedure. The story goes that one night in 1951, he and his assistant, Dee, whom he later married, snuck into a cadaver room at HUP, scrubbed and painted it clean, and with an odd assortment of spare parts from his phonograph, assembled Philadelphia's first kidney dialysis unit.

Bluemle came to Jefferson from the University of Oregon Health Sciences Center, where he also served as president. Prior to that, he was president of the Upstate Medical Center of the State University of New York.

The "Bluemle Era," as it came to be known at Jefferson, was shorthand for the period of explosive growth and excellence that he launched and presided over.

During his tenure, Bluemle tripled the endowment, raising more than $100 million through the Your Decade Fund. He oversaw a series of strategic real estate acquisitions, paving the way for campus expansion. Likewise, he expanded medical programs, opening Jefferson's Level 1 Trauma Center, the regional spinal cord injury center, the liver transplant program, and the extracorporeal membrane oxygenation program. He grew full-time faculty positions by 72 percent and the number of full-time workers by 47 percent. At the same time, Bluemle invested in then-progressive worker benefit programs such as on-site daycare, a health awareness program, and a smoke-free environment. He was a firm believer in the importance of heritage and formalized the university's historical collections and archivist position. A keen administrator, Bluemle did all this and more while growing operating revenues by 340 percent.

In Jefferson's 1989 Annual Report, the current, previous, and future chairmen of the Board of Trustees wrote, "Bill has exercised a quiet, collegial style, always trying to develop a consensus among the major parties on any significant decision."

Even as he was leading Jefferson to new heights, Bluemle found time and energy to provide leadership in civic and cultural affairs. He was a fierce advocate for nuclear arms control and an early voice of reason in the difficult debate on cost and quality in the delivery of healthcare—a debate that continues today.

Bluemle said the biggest addition during his "Jefferson lifetime" was the Bluemle Life Sciences Building, which added 11 stories and some 280,000 square feet for frontier-pushing research and discovery. The Connelly Foundation, a long-standing supporter of Jefferson, made the lead gift to the building and arranged for it to be named for Bluemle as a tribute to his many accomplishments. He would go on to serve on the Connelly Foundation board of trustees.

Following his presidency at Jefferson, Bluemle continued to serve as a benefactor, an advocate, and an advisor to current president Dr. Stephen Klasko as a member of the President's Leadership Council.

At his inauguration in 1977, Bluemle said, "It is no easier to structure humanism into the curriculum [of medical school] than it is to structure the golden rule into our family or business lives. But we must do both, if we are to make the human condition better." Jefferson remains eternally grateful to Dr. Bluemle for making us better.

Jerry Shields, MD, with his professional partner and wife, Carol L. Shields, MD, receiving the 2019 Lucien Howe Medal from the American Ophthalmological Society.

Dr. Jerry Shields Receives Howe Medal From American Ophthalmological Society

The American Ophthalmological Society (AOS) recently awarded Jerry A. Shields, MD, professor of Ophthalmology at SKMC, the 2019 Lucien Howe Medal in recognition of his leadership and service in the fields of ocular oncology and ophthalmology. Since the distinguished Howe Medal was established in 1922, it has been awarded to the world's most celebrated and pioneering ophthalmologists, including renowned Wills Eye physician leaders George Spaeth, MD, William Tasman, MD, and Thomas Duane, MD.

Shields, who is director emeritus and founder of the Wills Eye Ocular Oncology Department, and the inaugural recipient of the Brady-Shields Endowed Chair in Ocular Oncology, was honored at the annual AOS Meeting in White Sulphur Springs, Virginia, in May. He has been active in the care and management of patients with ocular tumors for more than 50 years. In this time he has authored or co-authored more than 1,800 scientific publications and nearly 20 major textbooks, and has presented 1,500 national and international scientific lectures. He has trained more than 120 fellows who have become leaders in ocular oncology around the world.

Among many professional awards and recognitions throughout his career, Shields has received the American Academy of Ophthalmology's Laureate Award and the National Physician of the Year Award for Clinical Excellence from Castle Connolly Medical Ltd., and he consistently has been named a "Top Doctor" by *Philadelphia* magazine.

"We congratulate Jerry Shields for this immense honor and wholeheartedly applaud the American Ophthalmological Society's naming Dr. Shields as this year's Howe Medal awardee," says Julia A. Haller, MD, ophthalmologist-in-chief at Wills Eye Hospital and the William Tasman, MD, Endowed Chair. "Jerry has been a revered leader in the field of ocular oncology and ophthalmology. His contributions are legion. He has taught and trained generations of clinicians, been at the forefront of life-saving treatments and cures in eye cancer, and has led research efforts that have defined new options in care and best practices in oncology."

Congratulations to Jefferson's **"Heroes of Healthcare"** who were honored at the *Philadelphia Inquirer*'s **Influencers of Healthcare** event on August 15, 2019.

This event celebrates Philadephia's leading healthcare professionals who go above and beyond to improve the collective health of the city and strive to make a difference in their patients' lives.

Bon Ku, MD, MPP
Excellence in Innovation Award

Richard J. Smeyne, PhD
Excellence in Medical Research Award

Marc J. Altshuler, MD
Excellence in Patient Care Award

Resa E. Lewiss, MD
Outstanding Educator Award

Eddie Welsh, RN
Nurse of the Year Award

Julia A. Haller, MD
Physician of the Year Award

Austin L. Chiang, MD, MPH
Rookie of the Year Award

Jefferson Researchers Awarded Grant for Telehealth Nutrition Management Study

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has awarded Kristin Rising, MD, MSPH, and her multidisciplinary research team a $3.8 million grant for randomized trials to assess the efficacy of medically tailored meals (MTM) and medical nutrition therapy via telehealth (tele-MNT) on clinical outcomes for patients with poorly controlled Type 2 diabetes.

Rising is associate professor and director of Acute Care Transitions in the Department of Emergency Medicine at SKMC. Her work over the past few years has focused on exploring factors associated with emergency department revisits in an effort to identify systemic factors contributing to patient struggles in managing their health in the outpatient setting.

The project aims to address the challenge of improving access and food to patients with poorly controlled diabetes mellitus, which affects 30.3 million Americans and is the seventh-leading cause of death in the United States, according to the American Diabetes Association. It will be the first study to conduct randomized, controlled trials to evaluate the long-term impact of MTM on patients with diabetes mellitus, both with and without the novel tele-MNT intervention. The team—which includes Jefferson Health clinicians and researchers who are national experts in diabetes mellitus, telemedicine, and clinical trials—will also assess the effectiveness of the treatment, its cost-effectiveness, and patient experiences with the treatment in order to inform provider payer decisions regarding recommending, offering, and covering these services; how services should be structured for scalability; and integration of these services into the larger care delivery system to reduce disparities in diabetes mellitus outcomes.

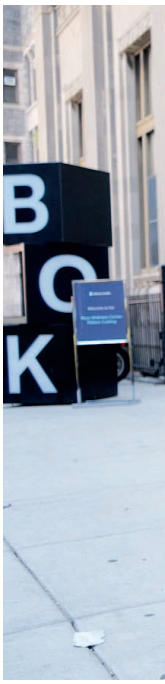
JeffBeWell Launched With Multiyear Grant

The Jefferson BeWell: Whole Health Integration program (JeffBeWell) has received a $2 million grant to provide five years of funding beginning July 1. The interprofessional training collaborative brings together students, residents, and practice teams from the Department of Family and Community Medicine, Department of Psychiatry, Department of Physician Assistant Studies, Jefferson Health, the College of Population Health, and Primary Care leadership. JeffBeWell aims to empower more than 60 regional primary care practices to meet patients' needs in integrated behavioral health by specifically preparing practices and trainees to lead primary care integrated behavioral health efforts, including treatment of opioid use disorders and other substance use disorders.

JeffBeWell will provide special emphasis on reducing health inequities and will focus on several underserved populations, including the poor, homeless and formerly homeless, refugees, geriatric patients, LGBTQ, and rural and urban communities. JeffBeWell has three measurable objectives: to advance integrated behavioral health and primary care training for primary care practice teams and develop robust integrated behavioral health education for students and primary care resident physicians; to enhance health professional and student education and training, and increase primary care team capacity to provide substance use screening and treatment, including medication-assisted treatment for opioid use disorder; and to create a Jefferson Health Primary Care Wellness Council, which will assess needs, implement, and assess effectiveness of evidence-based programs that promote wellness for primary care trainees, providers, and practice teams across Jefferson Health.

Jefferson Receives $3.1 Million From the Wyss Foundation for New Wellness Clinic

On May 20, Jefferson and the Philadelphia Collaborative for Health Equity (P-CHE) announced a $3.1



million gift from the Wyss Foundation to establish a new community wellness center in South Philadelphia's Bok Building, dedicated to serving the area's significant immigrant and refugee population. The Hansjörg Wyss Wellness Center will become the hub of Jefferson's clinical and educational outreach activities for the city's southern neighborhoods, bringing primary care and social services to the members of the community, regardless of health insurance or citizenship status. The Wyss Foundation, other benefactors, and Jefferson leaders gathered for a ribbon-cutting for the forthcoming center, which is expected to open in early 2020 on Bok's first floor.

"Through the generosity of the Wyss Foundation, this center will help to reduce disparities in healthcare for immigrants and refugees," says Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health. "It's inhumane to think of anyone struggling to find care in a city that's home to some of the nation's best healthcare resources."

The center will be a first in South Philadelphia, which currently lacks any permanent healthcare services dedicated to the immigrant and refugee communities. Jefferson is one of the largest providers in Philadelphia for refugee health care and a significant portion of its immigrant community. Many enter the healthcare system through the Emergency Department for nonemergent medical issues. Last year, 14 percent of discharges from Jefferson's Methodist Hospital Emergency Department in South Philadelphia were uninsured and nearly 23 percent were immigrants.

"Healthcare is hard to navigate even when you do speak English," says Marc Altshuler, MD, an associate professor and physician of Family and Community Medicine at Jefferson and the clinical leader of the Hansjörg Wyss Wellness Center. "Immigrants and refugees are facing unprecedented challenges today, and receiving healthcare shouldn't be another barrier to overcome. This wellness center will be a place to see a doctor and a safe space to receive culturally competent care and feel a part of the community."

Today, Jefferson is one of only four programs in the nation recognized by the Centers for Disease Control and Prevention as a Center of Excellence in Refugee Healthcare. The Wyss Wellness Center will offer invaluable training for SKMC students, in addition to becoming a satellite training site for the Department of Family and Community Medicine residents and other interested residents on providing culturally competent care.

Dr. Christine Eischen Receives 2019 Distinguished Mentor Award

Christine Eischen, PhD, received the Distinguished Mentor Award at the 13th Jefferson Postdoctoral Research Symposium on Wednesday, June 12. Eischen is the Herbert A. Rosenthal, MD '56 Professor in Cancer Research, vice chair in the Department of Cancer Biology at Thomas Jefferson University, and co-leader of the Molecular Biology and Genetics Program at Sidney Kimmel Cancer Center.

The Distinguished Mentor Award was established to recognize Jefferson faculty members who excel in the mentoring of postdoctoral fellows. The annual Postdoctoral Research Symposium, hosted by the Office of Postdoctoral Affairs and the Jefferson Postdoctoral Association, is an opportunity for Jefferson's postdoctoral fellows to showcase their research efforts and forge interdisciplinary collaborations.

Dr. Christine Eischen

Jefferson and Wills Eye Launch World's First Eye-Brain Center

Thomas Jefferson University, in partnership with Wills Eye Hospital and thanks to the generosity of several prescient philanthropists, has launched the world's first center focused on the visual signatures of neurological diseases. The William H. Annesley, Jr., MD '48 EyeBrain Center will explore the connections between the retina, optic nerve, and disorders of the brain, potentially revealing novel treatments for diseases such as stroke, Alzheimer's, Parkinson's, multiple sclerosis, and dementia.

"Because of the anatomic and physiological connections between the eye and brain, ophthalmology and neurology are inextricably linked," says Robert C. Sergott, MD, an international expert in neuro-ophthalmology and the center's founding executive director. "This is the perfect synergy. The Annesley EyeBrain Center will leverage the strengths of the region's most extensive neuroscience network with the nation's leading hospital for vision care."

Named in honor of ophthalmology pioneer William H. Annesley, Jr., MD—a graduate of SKMC (formerly Jefferson Medical College) in the class of 1948—the Annesley EyeBrain Center will be housed within Jefferson's renowned Vickie and Jack Farber Institute for Neuroscience. Initial funding for the center was provided by philanthropic gifts from friends and family of the late Annesley, including lead benefactor Margaret Annesley Hayne.

"As the first center exploring the connections between the retina and disorders of the brain, the Annesley EyeBrain Center will revolutionize ophthalmic and neurological care and establish a new frontier in neuro-ophthalmology," says Julia A. Haller, MD, the William Tasman, MD Endowed Chair and ophthalmologist-in-chief of Wills Eye Hospital, and professor and chair of the Department of Ophthalmology at SKMC. "And as a tribute to the remarkable life and career of Dr. Annesley, it will cement his legacy of excellence, preserving his values and reputation for generations to come.

Grant Awarded to Study Cerebral Palsy, Chronic Lung Disease in Infants

For their work to improve patient outcomes for newborns, four researchers at Jefferson and Nemours were selected to receive Jefferson's Pediatric Award for Clinical Research, as part of an ongoing partnership between the Jefferson Clinical Research Institute at Thomas Jefferson University and Nemours duPont Pediatrics at Thomas Jefferson University Hospital. The awarded researchers include Nemours neonatologist Zubair Aghai, MD, who is also a professor of Pediatrics at Jefferson; Huda Al-Kouatly, MD, director of Reproductive Genetics and Prenatal Ultrasound at Jefferson; Sankar Addya, PhD, technical manager of the Cancer Genomics Laboratory at Sidney Kimmel Cancer Center – Jefferson Health; and Joanna Chan, MD, associate professor in the Department of Pathology, Anatomy, and Cell Biology.

The partners are pleased to announce that the application, entitled "DNA Methylation, Gene Expression, and Trained Immunity in Neonates Born to Mothers With Chorioamnionitis," was selected to receive $50,000 in funding. The study seeks to better understand the mechanisms through which chorioamnionitis, an infection of fetal membranes, causes an increased risk for chronic lung disease, allergies, asthma, developmental delays, and cerebral palsy.

The Jefferson Pediatric Award for Clinical Research represents an initiative of the Jefferson Pediatric Department, Nemours DuPont Hospital for Children, and the Jefferson Clinical Research Institute to promote cross-campus, interdepartmental research. This funding mechanism will catalyze initiatives between Pediatrics and other departments to form the basis of research studies funded through external (federal, foundation, or industry) granting mechanisms.

Jefferson and Catholic University of the Sacred Heart Awarded Erasmus+ Grant

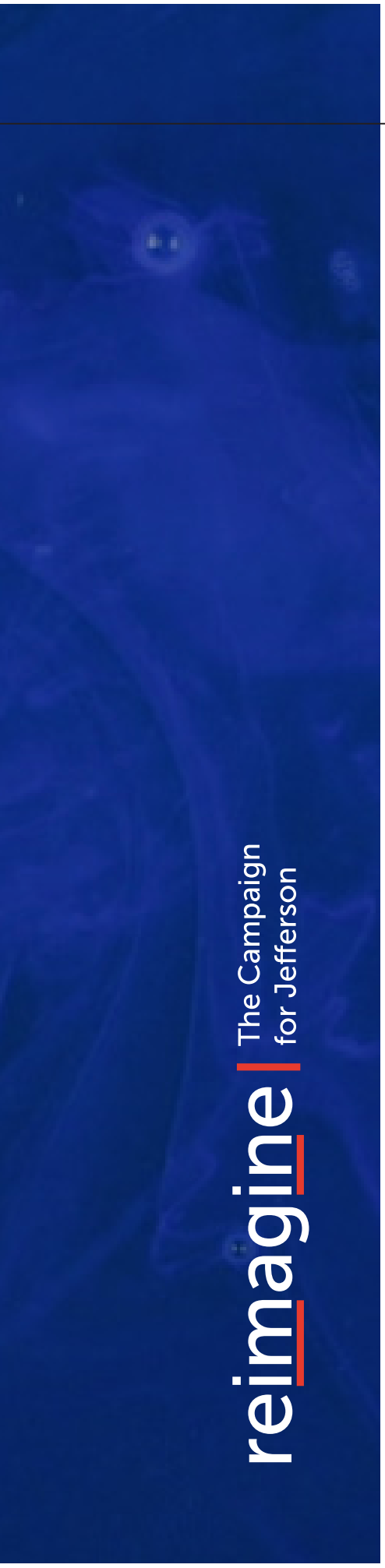
Thomas Jefferson University and Catholic University of the Sacred Heart in Rome were awarded an Erasmus+ grant supporting student and staff mobility in the areas of Precision Medicine and Vascular Medicine.

Erasmus+ is a European Union program supporting education, training, youth, and sport across Europe. The Key Action 107 (KA107) grant was created to encourage and support transportation between partner countries. Thanks to the one-of-a-kind partnership between Jefferson and Catholic University, the organizations were awarded the grant, which will enable both students and faculty to travel from Italy to the United States and vice versa as part of the program.

"Everything is changing on our planet and most of the activities are becoming global," said Ignazio R. Marino, MD, ScD, professor of Surgery at SKMC, senior vice president of Jefferson, and executive director for the Jefferson Italy Center. "Scientific knowledge does not have borders, but borders should also disappear for physicians. A young doctor educated on both sides of the Atlantic will have many more tools to accept and win the challenges of our time. However, at the present time, even the most celebrated thoracic surgeon of Europe cannot touch a patient in the U.S., and vice versa. Exchange programs like the ones supported by the Erasmus+ grant that we just won can help create new education models and break borders. This is what Jefferson and Catholic University are doing together."

In November 2018, Jefferson and Catholic University announced their dual medical degree program, enabling medical students at Catholic University to earn a baccalaureate degree from Jefferson and medical degrees from Sidney Kimmel Medical College and Catholic University—all in six years. Graduates from the program will be able to practice in the United States and the European Union. The mobility supported by the Erasmus+ grant in the areas of Precision Medicine and Vascular Medicine is a continuation of the partnership between the two universities.

A Message from Elizabeth A. Dale



Reimagine Jefferson

On July 1, 1969, Thomas Jefferson University came into being, a reimagining of the original Jefferson Medical College.

At the time, James M. Large, chair of the Board of Trustees, said, "The reason for Jefferson's founding was, basically, just one: because it was needed. Thomas Jefferson University came into existence for the same reason as its forebearer: because it is needed."

Jefferson's strength has always been in identifying a challenge or need and then dreaming up a brand-new way of solving it—and working with the people who can make that dream a reality.

Our current president, Dr. Stephen Klasko, says we need to imagine what will be obvious in 10 years and do it now.

Today, that can-do optimism and drive to design the future is more important than ever.

The business of healthcare is a mess. Higher education is teetering atop shifting tectonic plates, as jobs evolve at the speed of light and as other universities—trapped in siloed, conventional thinking—struggle to prepare students for the future.

But now, with the support of the entire Jefferson community—patients, students, trustees, alumni, benefactors, friends, faculty, staff, and volunteers—we are ready to launch a campaign that will reverse those trends and dramatically amplify Jefferson's impact on the world.

Reimagine: The Campaign for Jefferson is a $1 billion initiative to propel our university and health system forward. Not in small, incremental steps, but in bold leaps.

We'll make Jefferson a magnet for global thought leaders by establishing an Institute for Advanced Study. We'll propel research forward in fields where we can be a national leader, such as computational medicine, nerve-cell communication, smart textiles, and mitochondrial pathogenesis. We'll expand Medicine+ and other "+" programs, bringing fresh perspectives—through cultivation of cross-cutting ways of thinking and complementary degrees—to meet the challenges and opportunities of the future. And we'll grow the ranks of tomorrow's "Reimagineers" by endowing 100 scholarships and fellowships, positioning them to think, innovate, and create change.

The Reimagine campaign will conclude during Jefferson's bicentennial in 2024, with a celebration on Thomas Jefferson's birthday on April 13.

How can you help? It's right there in the Reimagine logo. Follow the lines. We want you to say, "I'm in." We want everyone—especially you—to join in by volunteering, being an ambassador, learning more, making a gift, going to an event, writing thank-you notes, and believing in us. We can do this, if we do it together.

We're launching this campaign for the most Jefferson of all reasons: because it is needed. With your help, we'll leave Old Jeff a better institution for those who come after us. And we'll leave the world a better, reimagined, place.

I'm in. Are you?

Elizabeth A. Dale

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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

KNOW THY SELF

Immunotherapy and the Future of Cancer Treatment

by Zach Nichols

The trouble with cancer is that it's you. From an immunological standpoint, it's not a foreign body, but rather a bit of self that has grown wildly, dangerously out of order. A tumor has everything it needs: its own blood vessels, nutrients, and other growth-aiding compounds. All it has to do is "ask" by using the same molecular signals the body uses to identify self and not-self.

By co-opting the immune response, cancers have typically been able to grow unseen and unchecked, but Jefferson is changing this through a multipronged immunotherapeutic effort. Among the many ongoing initiatives are two projects aiming to reverse the co-opted immune response in glioblastoma multiforme (GBM), a particularly dangerous brain tumor, and colorectal cancers. GBM kills about 20,000 people a year in the United States, while colorectal cancers are the second-leading cause of cancer-related death in the country.

"Our brain cells or our skin cells, and the like, they're all genetically identical to each other," says Adam Snook, PhD '08, an immunologist and assistant professor of Pharmacology and Experimental Therapeutics. "But we have these big populations of immune cells that are genetically different from each other and can actually rearrange their DNA to respond to what they're 'seeing.'" So great is the variety that researchers speculate that there may be more than a thousand trillion types of immune cells, each geared to respond to a different pathogen.

With such a complement of protectors, it's not unreasonable to think that the body's best advocate may be itself. This general orientation informs the technique of immunotherapy, which is—very roughly—twofold: reminding and finding.

The body has forgotten that cancer is not to its benefit, tricked in various ways into ignoring the traitorous cells. As bad as this is, it is nonetheless stable in the sense that it is self-sustaining, and so any treatment must change this condition. Immunotherapies, especially vaccination, do this by stimulating disharmony in this pathological equilibrium, alarming the body's defenses and then directing this immune attention to the cancerous cells.

How they do this is unique to the type of cancer, and to each researcher's creativity.

IT'S NOT UNREASONABLE TO THINK THAT THE BODY'S BEST ADVOCATE MAY BE ITSELF.

RABIES TO RICHES

For a surgeon, GBM presents a vexing challenge because of how aggressive the tumors can be. Coming in several variants, the prognosis is anywhere from five to seven years or a few months—maybe disappearing for months and years after a successful surgery and chemo, only to later return.

David Andrews, MD, the Anthony Alfred Chiurco Professor of Neurological Surgery and director of Stereotactic Radiosurgery, was tired of seeing the same story unfold. As he tells it, his work on the vaccine "began at the turn of the century," not long after the idea of immune intervention went from theoretically to technically feasible. He and his collaborators had the idea to implant small GBM cell-filled containers into mice in an attempt to stimulate an anti-cancer immune response. The containers themselves contained tiny holes, 100 nanometers in diameter—small enough that cells cannot enter or leave, but big enough to allow the immune system to "take a look" at the tumor cells in the hopes that the body may recognize the tumor in its midst.

Andrews and his team noticed some minute effects from this procedure, enough to take things further. They reached out to D. Craig Hooper, PhD, professor of Cancer Biology and member of the Sidney Kimmel Cancer Center, an immunologist who is an expert on neuroimmunology, the blood-brain barrier, and central nervous system diseases like rabies and multiple sclerosis. "I looked at their results and what they had done and decided they

were a little crazy," recalls Hooper. "But there was something there in theory, which made it interesting, so I got involved."

Working with a mouse brain tumor model as well as blood and tumor samples from Andrews' patients, Hooper set about figuring out what made GBM tick, teasing out the complex relationship between host and disease. "In cancer, we understand that the immune system is often sick as well, so either the immune system doesn't recognize cancerous cells as such or that an appropriate immune response is suppressed," Hooper says. With GBM, the latter was very much the case due to the activity of a type of immune response that is primarily directed at repairing tissue and inhibits therapeutic tumor immunity.

This is what is called a "type 2" immune response, distinct from the more well-known "type 1" reaction wherein white blood cells attack and destroy bodily intruders. In a type 2 response, growth-promoting cells, molecules, and other instruments of repair flock to the site of damage in order to restore order. Among these are M2 macrophages—one of the immune system's workhorses—set to play a protective role instead of their commonly assigned hunter-killer theme.

When this happens in a cancerous area, like the site of a GBM tumor, the disease begins to grow out of control in spite of the presence of any therapeutic type 1 immune mechanisms. However, Hooper discovered a route of attack—like the tumor cells themselves, the M2 macrophages had a receptor on their surfaces for a molecule called insulin-like growth factor 1 (IGF-1). By using antisense, a complementary "key" that binds to mRNA encoding the IGF-1 receptor, the "help" properties of the M2 macrophages could be turned off, allowing the "attack" type 1 mode of immunity to act.

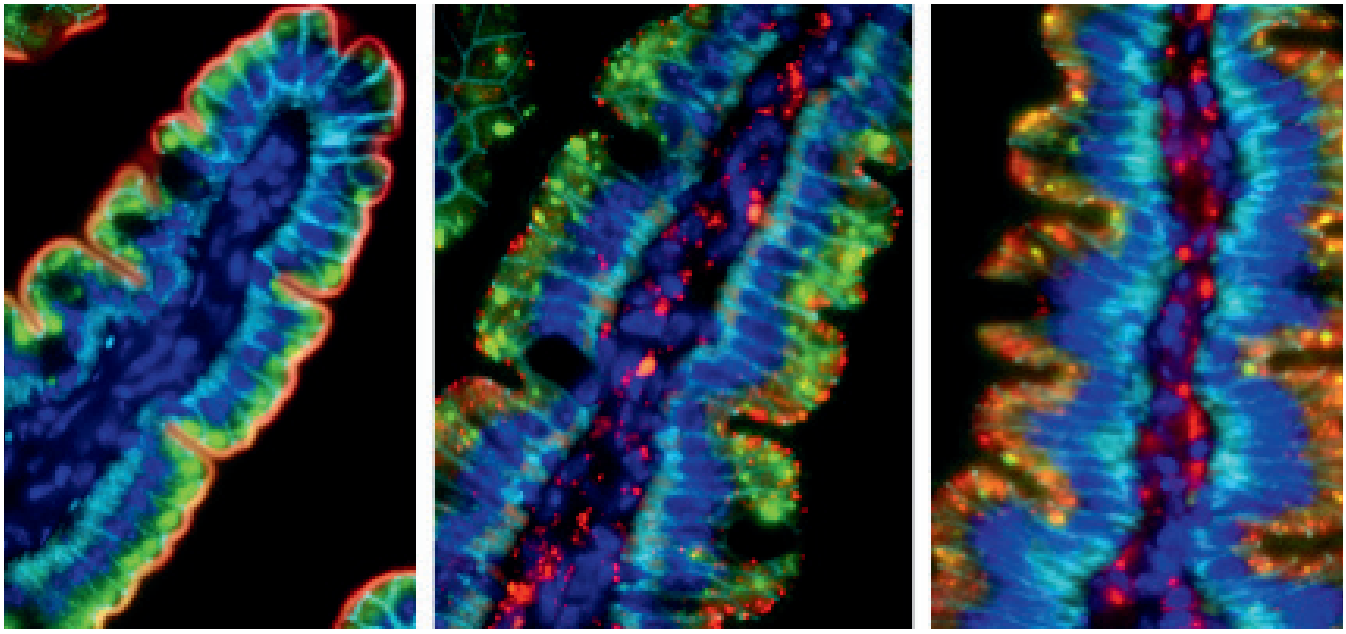
The team's treatment protocol closely mirrors standard-of-care approaches, beginning with surgical resection of the GBM tumor. The procedure opens the patient's blood-brain barrier for a few weeks, giving the peripheral immune system access to the tumor environment and allowing any acquired immunity to flow in. Within 24 hours, 20 micro-chambers—filled with the patient's tumor cells and antisense molecules—are implanted into the abdomen, acting as stimulus to promote therapeutic anti-tumor immunity.

Says Hooper, "We're pioneering something that's very much building a vaccine at bedside." This combination of antisense-treated tumor cells and free antisense achieves two goals: to present the body with the GBM antigen, so the immune system can "see" it in the right context, and to switch the body's immune response from type 2 to type 1.

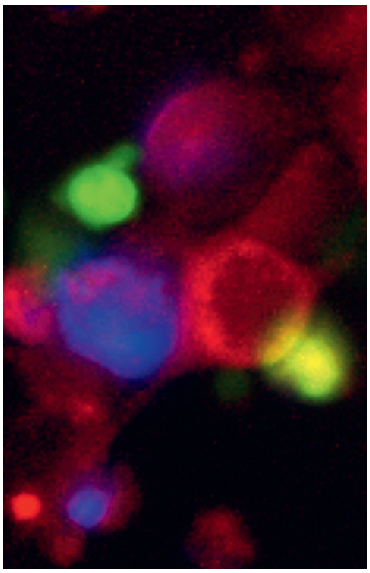
"The biologics are the patient's own cancer cells, but the active drug is really the antigens produced by those cells," says Andrews. "They're going to be different in each individual, so this is really a highly personalized vaccine." And the vaccine is doing well in trials, showing reductions in tumor size and increasingly better prognoses for patients. Now the work is to continue testing to find the best possible dosage, timing, patient profile, and numerous other factors.

"All the work I've done in mice, MS, and rabies built a lab that was entirely suited to look at brain cancer," muses Hooper. "Such is the tortuous path of a scientist's career."

(Continued on page 24)



A stain of GCC (green) in the intestinal lining



T cells (green) killing cancer cells (red) in a petri dish. Once the cancer cells die, they turn blue.

The implants that Andrews and Hooper use to stimulate immunity in GBM patients.

INSIDE OUT

"I'm the senior guy on this project,"

says Scott Waldman, MD, PhD '80, chair of the Department of Pharmacology and Experimental Therapeutics. "But in many ways I'm Adam's collaborator. I'm the GCC guy, but immunology is his wheelhouse."

GCC, or guanylyl cyclase C, is a receptor that sits on the cells of the intestines' inner lining (the lumen) that Waldman has spent his career studying. In 1993, he discovered that this molecule would make a good target for diagnosis and therapy due to its highly specific placement. Some years later, Snook, an immunology PhD student at the time, came along wanting to study potential immunotherapeutic approaches to cancer—the molecule had found its vehicle to the clinic.

"It's fascinating because cancer is technically self," Snook says. "Our bodies eliminate immune cells that react against self through a process called tolerance. Our challenge is to figure out how to overcome that, to induce an immune response to cancer, but not so much that we create autoimmunity." With Waldman as mentor, co-investigator, and cheerleader, Snook set out to understand how to pull off this balancing act in order to create a vaccine that will protect colorectal cancer patients from metastases.

One asset in this work is the GCC molecule, which is specific to colon cells, while another came from the world of HIV research. As it turns out, immunity in the mucosal membranes (in the intestines, stomach, and similar tissues) are separate from the rest of the body. Snook and Waldman learned about the difference from other scientists' work developing HIV vaccines. While researchers had some success inoculating animals via an injection in the muscle, this had no impact on the mucosal membranes, the primary site of exposure in many HIV patients.

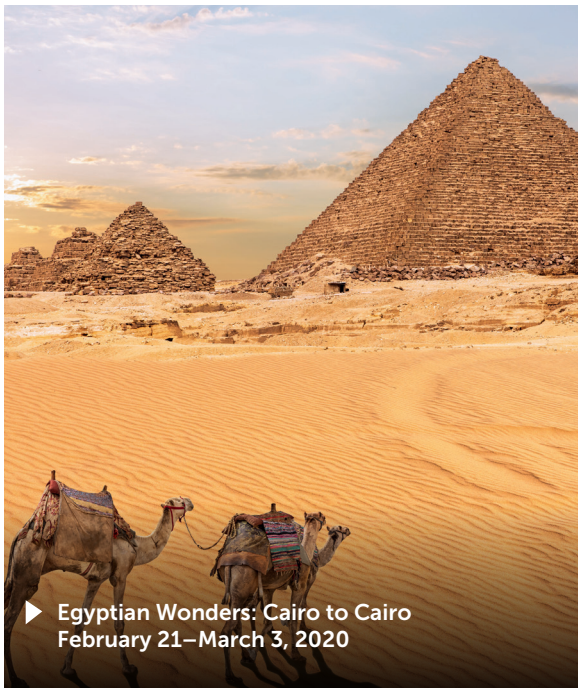
"It's a really amazing system," Waldman says. "We took advantage of this anatomical and immunological compartmentalization as we were developing our vaccine." This separation prevents autoimmunity and allows them to target GCC metastases outside the mucosal membrane, essentially teaching the body to attack intestinal cells whenever they're found outside of the gut.

Originally, they accomplished this by incorporating the GCC molecule into adenovirus type 5, a common, safe, well-understood virus. Once injected, the body rightly recognizes this as an invader and moves to investigate. Similar to the GBM vaccine, when the immune system "looks" at the virus, it sees the GCC compound, making it a candidate for an aggressive immune response if colorectal metastases are found elsewhere in the body.

However, it turned out that adenovirus type 5 is so common that 50 percent of patients already had antibodies for the virus and were too efficient at clearing it before acquiring immunity to GCC. To solve this, Snook and his team replaced the fiber molecule on the viral surface with that from adenovirus type 35, extremely rare in humans, increasing its effectiveness and offering immunity to 90 percent of patients.

Now the plan is to start a large, multiyear trial of the vaccine in colorectal cancers, with the aim of treating about 80 patients to prevent metastases from forming or to help fight recurrent disease. "From the very beginning, I had a lot of support, but also a ton of autonomy. Scott literally told me 'Here's a molecule. Cure cancer,'" says Snook. "We're on the verge of a major milestone together and it has been really exciting to be at this point after nearly 20 years."

Tanzania Wildlife Safari
October 6–17, 2020



Egyptian Wonders: Cairo to Cairo
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| Illustration by Megan Plescha

Seeing the Holistic Picture

Integrative Medicine Program Treats Body, Mind, and Spirit

By Cindy Lefler

Birgit Rakel, MD, has heard it all. "Voodoo." "Fringe." "Weird medicine."

Rakel is an integrative medicine specialist—a board-certified family medicine physician who uses complementary therapies to enhance the health and well-being of her patients. She practices at the Marcus Institute of Integrative Health at Jefferson's Myrna Brind Center in Center City, and is assistant professor in the Department of Family and Community Medicine, the Department of Emergency Medicine at SKMC, and the new Department of Integrative Medicine and Nutritional Sciences.

Rakel's medical training in her native Germany incorporated botanicals, homeopathy, and mindfulness-based therapy as part of the curriculum, and her upbringing included herbal remedies prescribed by her family doctor.

"In Germany, we did not call it 'integrative medicine'; we just called it 'medicine,'" she says. After medical school, Rakel completed a residency in family medicine at a university hospital in London, and a fellowship at the Royal London Homeopathic Hospital, "so none of these concepts were foreign to me."

What was foreign was the attitude she encountered when she arrived in the United States in 1996 to undertake a three-year residency at a New Jersey hospital.

"As part of the residency, I regularly gave lectures on yoga, meditation, and homeopathy," she says, adding wryly, "My colleagues and peers thought I was really weird."

Rakel says the very concept of using complementary medicine in a professional healthcare setting was frowned upon at the time. But a lot has changed over the past two decades. What was once looked upon with skepticism—and even scorn—in this country is now starting to be viewed in a new and positive light. Integrative medicine is increasingly

The soul heals and science cures.

becoming part of the mainstream as physicians prescribe complementary therapies in conjunction with traditional protocols.

Integrative healthcare brings conventional and complementary approaches together in a holistic, patient-focused approach to wellness—often including mental, emotional, functional, spiritual, social, and community aspects, and treating the whole person rather than one organ system.

Institutions such as the Mayo Clinic, Brigham and Women's Hospital and Harvard Medical School, Duke University Health System, Johns Hopkins Health System, and Stanford Health Care are offering complementary wellness programs, as well as incorporating integrative medicine courses into their medical school curriculums.

As usual, Jefferson is ahead of the curve and continues to lead the way, says Daniel Monti, MD, MBA, CEO of Jefferson's Marcus Institute of Integrative Health and the Ellen and Ron Caplan Professor and Chair of Integrative Medicine and Nutritional Sciences.

Not only has Jefferson been a key player in bringing integrative medicine into the mainstream by building a comprehensive program over the past 21 years, but in February of 2019, SKMC became the first medical school in the country to create a Department of Integrative Medicine and Nutritional Sciences as an equal peer to the other clinical departments in the medical school.

"It's a historic first," Monti says, proudly. "Establishing this academic Department of Integrative Medicine is a natural evolution of Jefferson's long-standing leadership in the field."

He credits Mark L. Tykocinski, MD, provost and executive vice president for Academic Affairs, Thomas Jefferson University, and the Anthony F. and Gertrude M. DePalma Dean, SKMC, for making it happen. "He saw the value in what we had done to date and realized that creating a department was important."

Tykocinski explains that "granting academic department status to the field of integrative medicine as a first in the American medical academy is in synch with our broader push within SKMC to expand the boundaries of physician training and practice, to embrace cross-cutting disciplines and knowledge domains with open arms."

From Humble Beginnings to Blazing Trails

Jefferson began its integrative medicine program in 1998 as a part-time clinical practice with limited services such as a mindfulness-based stress reduction course. At the time, Monti had just begun his career at Thomas Jefferson University Hospital as co-director of the consult service in psychiatry. He also conducted research in a scholars program in mind-body medicine with research focusing on stress physiology because "the interest in the mind-body component of health and illness was always there," he says.

Over the years, the program slowly gained footing, but took off in 2004 with an endowment by Ira Brind, who was chairman of the Board of Trustees of Thomas Jefferson University Hospital at the time. He established an expanded integrative medicine center in memory of his wife, Myrna, who was treated for cancer at Jefferson and was an advocate of integrative medicine. Her motto was: "The soul heals and science cures."

When the center received Brind's endowment, then-president and CEO of the hospital, Thomas Lewis, thought Monti was a natural to fill the position of medical director. But at the time, integrative medicine was still considered "fringy," so Monti sought the advice of his mentor as to whether to accept the position.

"When I went to talk to him about the offer, he said, 'Don't do that—it will be career suicide! Don't get involved with those integrative people!'" Monti graciously declined the job.

Soon after, he walked into the new center as it was being completed and saw a portrait of Myrna Brind on the wall. "She was one of my favorite people," he says. "Seeing her picture moved me. I said, 'Maybe it is a stupid move, but maybe there's a really unique opportunity to do something special that a lot of people could benefit from.'"

He became the director of the center in 2005 with the goal of building a model for a successful, science-based program that incorporated research and patient care. That same year he was awarded a large National Institutes of Health (NIH) grant to develop stress-reduction programs in collaboration with the Sidney Kimmel Cancer Center (SKCC). Since that time, programs have been expanded at SKCC, and have been incorporated into the Vickie and Jack Farber Institute for Neuroscience and other departments at Jefferson.

In 2007, Monti obtained an Investigational New Drug (IND) license to study the effects of vitamin C in cancer patients. Three years later, he was given his first Marcus Foundation grant of $3 million and was able to conduct a clinical trial in conjunction with SKCC.

Over the years, the center has received numerous research grants from the Marcus Foundation. In 2015 it was awarded a $14 million gift to create a new, 14,000-square-foot satellite location in Villanova, Pennsylvania. Included was funding for a PET/MRI (positron emission tomography/magnetic resonance imaging), the first of its kind in the Philadelphia region. This hybrid technology combines an MRI with molecular imaging to give a complete picture with precise alignment of anatomy and metabolic activity in order to assess a wide range of diseases, guide innovative treatment protocols, and enhance research. Four years later, the foundation made another substantial gift—one that enabled SKMC to solidify its place as a leader in integrative medicine.

Jefferson Leads With Courageous First Steps

In early 2019, the Marcus Foundation made its largest commitment yet to SKMC: a $20 million gift that has facilitated the creation of the Department of Integrative Medicine and Nutritional Sciences as a fully established, co-equal department in a medical school—the first of its kind.

Today, the department's curriculum consists of clinical applications of integrative medicine with a focus on functional biochemistry, nutrient-based therapies, mind-body neuroscience, novel mechanisms of healing, and emerging therapies. The program will include a master's degree and certificate courses, including one in integrative nutrition and mind-body medicine. It also boasts another first in the country: a fellowship program slated to begin in 2020. There will be two fellowship slots; Monti anticipates an abundance of applications.

"Jefferson took the first courageous step in creating an academic Department of Integrative Medicine and Nutritional Sciences," says Monti, who has been contacted by numerous other institutions across the country regarding the logistics of setting up an integrative medicine department. "We can help set standards for the field, define what integrative medicine is—and what it is not—so that all of the misunderstandings can be clarified."

Those "misunderstandings," he says, are rooted in semantics. While the terms "integrative," "complementary," and "functional" medicine are all appropriate, the term "alternative" is avoided.

"Integrative medicine is not alternative medicine," Monti states emphatically. "Alternative medicine replaces traditional medical care, and that is not Jefferson—and that is not anyone who is involved in academic medicine. Integrative medicine supplements good medical care and adds value to treatment."

Monti makes clear that all of the department's doctors are board-certified in some field of conventional medicine, with additional training in nutrition-based therapies and mind-and-body therapies.

| Birgit Rakel, MD

The Marcus Foundation is Jefferson's "Angel"

"Patients are looking for the kind of care that addresses mental and physical well-being, and the Marcus Foundation uniquely understands that consumer revolution."

Stephen K. Klasko, MD, MBA
President, Thomas Jefferson University
CEO, Jefferson Health

Thomas Jefferson University is at the forefront of integrative medicine in the United States. But to lead this revolution in healthcare, "we needed an angel—and we had one in the Marcus Foundation," says Daniel Monti, MD, MBA, CEO of the Marcus Institute of Integrative Health at Jefferson.

Bernie Marcus, co-founder of The Home Depot, has been a faithful supporter of integrative medicine at Jefferson. The Marcus Foundation previously provided the funding to create the Marcus Institute of Integrative Health.

The most recent gift—a $20 million grant—established the Department of Integrative Medicine at the Sidney Kimmel Medical College. It is the first department of its kind in the academic medical field, and will formalize the teaching of integrative medicine, as well as support scientific research into the efficacy of various integrative treatments of disorders such as Parkinson's disease, Lyme disease, congestive heart failure, and others.

"This incredible gift will help future physicians break through the silos in medicine to understand a more holistic view of care, while fueling new research to make sure we present these options in a safe, well-researched, responsible way," Klasko says.

Mark L. Tykocinski, MD, Jefferson provost and the Anthony F. and Gertrude M. DePalma Dean of the Sidney Kimmel Medical College, adds, "We're grateful for the Marcus Foundation's visionary investment, which will enable Jefferson to define the gold standard of excellence in evidence-based, patient-centric integrative care, research, and education."

"If you look at what falls under the term 'complementary medicine,' you'll find hundreds, even thousands, of modalities," he explains. "But we incorporate only a small handful into our practice because we only use what we have done the work in, and what is based in science."

Research is a key component of the center. The Marcus Institute of Integrative Health and the Department of Integrative Medicine and Nutritional Sciences at SKMC conduct pioneering clinical trials to test the efficacy and safety of complementary therapies.

The institute (which includes both clinical centers—Myrna Brind and Villanova—and the new department) has grown considerably since the early days: there are now 35 full-time employees, including physicians, nurses, researchers, and other staff, and Monti predicts growth in all three components of the department—academic, research, and clinical. Last year, the institute hired a new medical director, Anthony J. Bazzan, MD, board-certified in internal medicine and integrative and holistic medicine, and a fellow of the American College of Nutrition. The research director, Andrew Newberg, MD, is world-renowned for innovative imaging techniques and the neurological mechanisms of health.

Monti looks forward to continued NIH and foundation funding, increased clinical trials, and growth across the board. He boasts that Jefferson's program is setting the bar for integrative medicine today—and he credits the Marcus Foundation as well as Ira and Myrna Brind with making it all possible.

"It was through the love and dedication of Myrna Brind that we are here today," says Monti. "That early support from the Brinds was pivotal to us being created and surviving the initial years. And then the support from the Marcus Foundation was critical to us taking the next step in becoming national leaders in integrative medicine by expanding our geographic footprint and creating a department." A generous third donor, Ellen and Ron Caplan, established the Ellen and Ron Caplan Professor and Chair, which is held by Monti.

Everything Old Is New Again

The idea that healing is most effective when you consider the whole person rather than focusing on specific illnesses, body parts, or symptoms is not new. In fact, Socrates said in the 4th century B.C., "The part can never be well unless the whole is well."

Some of the earliest known healing therapies came from Ayurvedic medicine, traditional Chinese medicine, and homeopathy.

Our job is to continue to push the science.

Perhaps the oldest system of healing—going back about 5,000 years—is traditional Chinese medicine, which uses herbs, dietary therapy, and mind and body practices such as acupuncture and tai chi, which are the two most frequently used in the U.S. Almost as old is Ayurveda, originating in India more than 3,000 years ago. Practitioners prescribe individualized treatments, including compounds of herbs or other ingredients, diet, exercise, yoga, body manipulation, and lifestyle alterations. Joining much later, homeopathy was founded by Samuel Hahnemann and first practiced in Germany at the end of the 18th century. It is a medical system based on the belief that the body can cure itself; those who practice it use tiny amounts of natural substances, such as plants and minerals, to stimulate the healing process.

Monti explains that these forms of ancient practices were pushed into the shadows when the Flexner Report was published in 1910 because it put people in the United States into the mindset of only thinking about the new model of medicine—one in which the value of a holistic way of looking at a patient got lost.

"We have to recover from that," he says. "When you think about it, the United States arguably has the best medicine in the world. We have the best technologies, access to the best pharmaceuticals, superb doctors—some of the most brilliant minds in medicine are here in the United States. And yet, the health status of our population is abysmal."

The World Health Organization ranks the average life expectancy for men and women in the U.S. as 21st in the world; the Bloomberg Global Health Index ranks the U.S. 35th in healthiest countries.

"So there's this disconnect between disease and wellness. We are good at targeting a disease, but we haven't been so good at targeting the whole person," he says. "Integrative medicine brings that component back into medicine as an ally and a value to the rest of the medical model."

Integrative medicine saw a resurgence in this country about 25 years ago, as patients began to demand options to traditional care.

In 1993, the medical world was taken by surprise when an article in the *New England Journal of Medicine* revealed that a large percentage of patients were seeking therapies outside of what their physicians were recommending. It provided an even greater impetus to physicians to try to understand why patients were going rogue with outside treatments, some of which were unproven and ineffective, and some of which were not safe.

"People self-diagnosing and trying to self-treat with over-the-counter medicines and botanicals can be dangerous," Monti says. "Yet, the need for something more was

Daniel Monti, MD, MBA

glaringly there, and so we decided to try to be of service to these people—to create a new subspecialty of medicine to fill an obvious gap."

In response to the growing number of people across the country seeking nontraditional medicine to fill the gap, and institutions and medical schools trying to keep up with the demand, the NIH created an Office of Alternative Medicine in 1994, later renamed the National Center for Complementary and Integrative Health (NCCIH). The NCCIH conducts rigorous scientific investigations to determine the usefulness and safety of complementary and integrative health interventions.

In 2002, there was an additional push to bring integrative medicine further into the mainstream when philanthropists from around the country formed the

Bravewell Collaborative, a foundation that supported and funded research and training in the field. More than 50 leading medical schools in North America were part of the consortium, including Columbia University, Georgetown University, Harvard University, University of Pennsylvania, Stanford University, and Yale University. The collaborative disbanded in 2015, as its leaders felt the organization had succeeded in its mission.

Further evidence that integrative medicine is gaining acceptance is that a board certification process for the specialty was established through the American Board of Physician Specialties (ABPS) in 2014. Since that time, the American Board of Integrative Medicine has certified approximately 1,000 diplomates, according to Lauren Henrichsen of the ABPS.

Monti says integrative medicine is making great strides in winning over skeptics.

"Some of the things that have been seen as a bit fringy 20 years ago—like mindfulness and an emphasis on nutrition—are embraced with open arms by healthcare systems across the country today," he says. "Our job is to continue to push the science and make sure that we're validating our model as we go along."

Monti still gets some pushback on the concept of integrative medicine from colleagues, but for the most part, "that's a thing of the former generation."

"What I find is that the newer generation of physicians is exceedingly open-minded and ready, willing, and able to incorporate many of the concepts that are part of what we do every day," he says.

One member of that newer generation, Mariah Cicioni, MD '18, says that integrative medicine provides her with a "greater number of facets" in patient care.

Now in her second year of a pediatrics residency at Duke University Hospital in Durham, North Carolina, Cicioni was introduced to integrative medicine in her first year of medical school with a course taught by Rakel called "The Healer's Art."

The class, which Rakel has taught for the past 15 years, uses principles of contemplative studies, humanistic and transpersonal psychology, cognitive psychology, formation education, creative arts, and storytelling to present and explore the human dimensions of medicine.

Cicioni says she gleaned a great deal of information from the course, but she didn't get to see integrative medicine at work until a clinical rotation in Florida during her fourth year, when her mentor used it in his pediatric practice.

"I loved how he was able to talk with the family, take more time with them than most traditional visits, and how he talked about their goals and how he partnered with the parents to come up with a plan to achieve those goals," she says. "For example, when a patient came in with anxiety, we did a breathing technique in the office to help with relaxation, then talked about steps that can be done at home, like meditation done as a family." Still, she faces resistance when she mentions incorporating integrative medicine into everyday care.

"It's a constant struggle; I often get criticism. People call it voodoo," she says, sighing. "That word really frustrates me." But instead of getting frustrated, she says she tries to educate her peers and her patients to let them know everything she does is based in science and rooted in research.

"There will always be medical problems we can't fix with traditional therapies, so there will always be a need to answer the question: 'What else can we try?'" she says. "Doctors and patients need to open their minds to other ideas."

There Is Art to Medicine as Well as Science

Both clinics of the Marcus Institute (the Myrna Brind Center and the Villanova Center) are designed to invoke a sense of calm. Lights are low; soft, meditative music floats in and out on the pentatonic scale; people speak in almost a whisper.

Rakel places a small glass pyramid filled with sand and seashells on her desk, and traces the triangular bottom with her finger. "This is the tripod—diet, exercise, mind-body therapies. This is the basis," she says. It is the basis that physicians build upon to help patients through conventional and complementary therapies.

"I tell my students, you need to become a really good MD before you can become an integrative doctor," she says. "You have to look at integrative medicine as an expanded toolbox for the MD."

That toolbox provides the means to collaborate efficiently to the benefit of the patient, says Monti, noting that the integrative medicine center is sometimes the first line of defense in getting patients to the appropriate specialist when they come in with concerning symptoms.

"For instance, when someone comes in and we diagnose them with cancer, we immediately get them to the cancer center for their primary treatment," he says. "Then we take a step back, and are there for the patient to support them

in any way we can to enhance the overall quality of life and healing journey of that patient."

That support can come in many forms, including nutritional advice and supplements, a prescription for acupuncture, or mindfulness therapies, just to name a few. Monti says one of the center's most successful treatments is the neuro-emotional technique (NET), a mind-body therapy that has been found to reduce the symptoms of traumatic stress in cancer survivors. A recent study conducted at the center looked at 23 patients who were feeling traumatic stress from cancer-related experiences. In just four to five NET sessions, patients who received the therapy reported much less distress, their overall emotional state improved significantly, and the way their brains reacted to stress cues normalized. The study was published in February of 2017 in the *Journal of Cancer Survivorship*.

"When a patient gets a consultation with us, the physician is thinking in almost a double model where they're considering everything that has been done to date within their conventional treatment team, and also the value added in taking a more comprehensive approach—taking into account the totality of the person in terms of the healing process," Monti says.

While integrative medicine still gets some resistance from colleagues, Monti says more and more are welcoming its benefits and calling him for consultations. And although the medical world is beginning to accept and appreciate it, Rakel warns that it needs to be incorporated slowly and carefully.

"The more studies and data we have, the more we can document our research, and the more our colleagues will embrace what we are doing," she says. "I believe in integrative medicine—I believe it is the way of the future. And one day it will not be called 'integrative medicine'—it will just be called 'medicine.'"

To see a video about Integrative Medicine, visit Jefferson.edu/Bulletin

One day it will not be called "integrative medicine"—it will just be called "medicine."

A Sharper Image

Using Cutting-Edge Imaging Technology, Andrew Newberg, MD, and Jefferson's Integrative Health Team Are Developing a Better Understanding of Complex Neurological Problems

By Robert Calandra

| Andrew Newberg, MD

Andrew Newberg, MD, holds board certifications in internal and nuclear medicine. But his "claim to fame," as he likes to say, is for his neuro-imaging research on patients with Alzheimer's and Parkinson's diseases.

Dr. Newberg, who began the neuro-imaging studies at the University of Pennsylvania, caught the attention of Daniel A. Monti, MD. The senior vice president and director of the Marcus Institute of Integrative Health at Jefferson Hospital invited Newberg to attend the institute's grand rounds.

"We got to talking and, at the time, Dr. Monti had a National Institutes of Health grant that was looking at a mindfulness therapy program that he helped design," Newberg says. "He had a supplemental grant to use imaging with it, but he couldn't do the imaging at Jefferson."

The two physicians worked out a deal where Monti would send patients for neuro-imaging to Newberg. It wasn't long into their collaboration before the two physicians realized that they enjoyed working together.

"As he and I like to tell the story, I said to him that it would be great to do more," Newberg recalls. "He said, 'Well, I can't really come over to Penn.' I said that I was thinking about making a move and would love to come over to Jefferson and work with you. He helped make that fall into place."

Nine years later, Newberg and the Integrative Health team have conducted an array of medically significant neuro-imaging research studies. Along with Alzheimer's and Parkinson's diseases, the team has used neuro-imaging to investigate multiple sclerosis, chronic pain, concussions, and irritable bowel syndrome.

"For all of them, we use some form of imaging to help document what the mechanism of action is in the different things that we do in integrative medicine," says Newberg, now the director of the research center of the Marcus Institute of Integrative Health.

With the institute's purchase of a cutting-edge PET/MRI scanner, one of approximately 30 in the country, Newberg and the Integrative Medicine team are opening new doorways into the different physiological processes of diseases.

The scanner allows doctors to see, simultaneously, two different perspectives of the brain, creating a synergy that Newberg says was not doable before the PET/MRI scanner. If and how the images match up can help decide a patient's treatment plan.

"On a very basic level, we are studying the best ways to evaluate these patients with very complex problems, and what is the most sensitive, to help figure out what is going on," he says. "That is part of what we are doing by using both types of scans together."

The abundance of data gathered from studies using the PET/MRI scanner have led to therapies yielding "interesting changes" in the brain. The team has published a study showing that using the molecule N-acetyl cysteine on patients with Parkinson's has yielded benefits. A second paper was recently accepted.

"The good news is that a lot of the interventions we do seem to have a viable mechanism that we can start to look at and explore," Newberg says. "We are going to continue that research, as well as look at a whole variety of disorders, brain-wise and body-wise, and try to understand the mechanisms of those diseases better."

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POPULATION HEALTH EVANGELIST

TURNING A SICK SYSTEM INTO A HEALTH SYSTEM

BY PETER NICHOLS

David Nash, MD, MBA, hasn't always been a tireless evangelist for population health, but almost from the start of his career, he's been trying to figure out what ails healthcare. When he was an internal medicine resident diagnosing and treating patients at Graduate Hospital in Philadelphia, the term "population health" didn't exist. But he already sensed that something bigger than the maladies afflicting individual patients needed to be fixed.

"I thought I was going to lose my mind because I saw that we were re-admitting the same patients for the same problems all the time," he says. People came to the hospital with heart failure or out-of-control asthma or in a diabetic crisis. They were rescued by hospital physicians and then sent home, only to return later with the same afflictions but now in even worse shape. It was an alarming puzzle that Nash, a newly minted MD, couldn't wrap his head around.

"I started to wonder what we were really doing here," he recalls. "We're doing a good job on the medical side, but we're completely ignoring the upstream causes of disease. It had to do with a broken system in the hospital and in the community. I didn't have words to articulate it at the time, but I had very strong feelings about it."

It wasn't until he earned a Wharton MBA right out of residency that he found the words: "human-factors engineering," "system failure," "performance improvement." "My head exploded because here were the answers to the riddle," he recalls. "It's about understanding what we've come to call the 'systems nature of care.'"

Not that healthcare is just a business, but it's more than medicine and bigger than fixing illnesses and injuries in patients. And the "systems" aren't just hospitals and doctor offices. They bleed across the borders of institutions comprising the $3 trillion industry and into the communities where people live and work and play. They encompass what population-health experts call the "social determinants of health"—all the things we do, and where we do them, that keep us healthy or make us sick.

> **WHEN I CAME HERE, HARDLY ANYONE UNDERSTOOD A WORD I WAS SAYING BECAUSE I WAS THE FIRST FACULTY MEMBER WHO HAD AN MD-MBA. PEOPLE WERE SUSPICIOUS. 'ARE YOU A REAL DOCTOR?' THEY ASKED. I GOT THAT QUESTION ALL THE TIME.**

Nash came to Jefferson in 1990 when he caught the attention of Joseph Gonnella, MD, then dean of the medical college, who took note of his work as a Robert Wood Johnson Foundation Clinical Scholar and his unorthodox, forward-looking ideas about healthcare administration. Gonnella appointed him director of the Office of Health Policy.

"There was no such office at Jefferson at that time," Nash points out. He had to invent it. "And what was my assignment? Prepare the medical college faculty for all the changes that are coming."

The new office put together continuing-education lessons—more like grand rounds—for Jefferson's medical staff on subjects like practice guidelines and cost-effective test ordering. It also carried out research on the most effective use of new and expensive drugs.

"When I came here, hardly anyone understood a word I was saying because I was the first faculty member who had an MD-MBA," he recalls. "People were suspicious. 'Are you a real doctor?' they asked. I got that question all the time."

Because it was too late to change the entrenched habits and mindset of those already practicing medicine, Nash sought to change the upstream culture, teaching a course called "Introduction to the Healthcare System" to medical students. It covered fundamentals—What is Medicare? What's an HMO? How does insurance work?—and other need-to-know healthcare basics that tend to be ignored by the mostly clinical curricula of medical education.

After 13 years, he managed to elevate the office into a full-blown academic department, which taught classes and conducted a highly successful research agenda, but it didn't do clinical care. Nash was the first chair for the new Department of Health Policy.

"Jefferson was one of only a dozen medical schools with a nonclinical department devoted to changes in the healthcare system," he says. During that period, he was appointed the Dr. Raymond C. and Doris N. Grandon Professor of Health Policy, and he co-chaired a committee that was putting together a strategic plan for Jefferson's new president, Robert Barchi, MD. The plan called for the creation of a new college at Jefferson focusing on healthcare delivery and public health.

"In October of 2007, I got a phone call from the president's office," Nash recounts. "Barchi said, 'I need to talk to you.'" Nash worried that it wasn't the dean calling the department chair, which is the usual way of things in academia.

"I go across the street, and Barchi sits me down and says, 'I've decided that you will be the dean of the new college.' He was a visionary man of few words. And I'm like, 'Well, Bob, I'm happy being a department chair. I have tenure, and I'm at the top of where I thought I'd be. I'm not sure I really want to do something totally new and risky.'

"Barchi looked at his watch and said, 'Well, you know, David, you have 10 minutes to decide.' I said, 'What do you mean?' And he said, 'If you don't say yes to me in the next 10 minutes, I'll find another person to be the dean.' So I said, 'I'm your man.'"

Nash went back across the street, somewhat dazed, and told colleagues, "I'm not sure what just happened, but I think we have to build a new college."

He wrote up a business plan, which included absorbing the unaccredited Master of Public Health program inside Jefferson's College of Graduate Studies, and secured approval from the trustees. They called the new entity the College of Population Health so that the accrediting body for public health would only need to certify the public-health program but not the whole college, a move that left the inaugural dean free to build programming for healthcare quality and safety, health economics and outcomes, health policy, and population health data analytics, as well as public health.

Today, since most of the students who enroll are already healthcare professionals with full-time jobs, nearly all the degree and certificate programs are offered online. "These are folks who are mid-career, working online with us—weekends, early mornings, late at night—on a trajectory to become leaders in the change from volume to value," says Nash.

Population health isn't so much a specialty as it is a kind of ubiquity that recognizes the overriding and far-reaching importance of nonmedical factors like social structures and lifestyles in determining whether groups of people spend their lives in sickness or in health. "The punch line for the academic definition of population health is that 80 percent of the well-being of a society has nothing to do with the delivery of medical services," he says, a stat that has profound implications for how we understand health and how we do healthcare.

▲ **Clockwise from top left: Elizabeth Lopez, Wendy Tsai, David Nash, MD, MBA, Annelva Mooney, Susan Howell, George Weir, John Schrogie, MD, Leona Markson, ScD, Nelda Johnson (1995)**

▲ **Mark L. Tykocinski, MD and David Nash, MD, MBA**

Within a big city, life expectancy can differ from neighborhood to neighborhood by as much as 20 years. The fact that someone's zip code is a better predictor of health than their genetic code suggests there's much more at play in creating healthier communities than medical interventions, Nash observes. "We know from research that the principal predictors of health are poverty and housing. The most important thing people need to improve health is housing, and the second is access to good food. In Philadelphia, one out of four people lives in poverty, which means they can't put food on the table. Health has much more to do with reducing income disparity and providing maternity leave, housing, and drug-abuse or mental-health counseling—all the things that sound like social work. The paradox is that to really improve health, we have to improve social services. The answer isn't to build another hospital."

Steven Scheinman, MD, president and dean of Geisinger Commonwealth School of Medicine and executive vice president of Geisinger Health, states that "Dr. Nash has been a leading voice in making us all aware that the medical profession's responsibility goes well beyond managing disease, that social factors play a much larger role in health outcomes than mere healthcare itself does, and that it is our responsibility to address those social factors. He has been a dynamo in articulating these concepts, not only through his energetic leadership of the College of Population Health but also through his public presence in journals, books, and lectures; through his annual National Population Health Colloquium; his presence on boards; and his many other activities."

Part of the issue for population health, Nash maintains, is that better business equals better health. Healthcare is America's biggest business: 18 percent of the gross domestic product. "One trillion of that is totally wasteful and probably harmful," he says, noting also that medical error is the third-leading cause of death in the nation and the average life span for Americans is shortening. For all that we spend, the U.S. isn't even a top-10

▲ Left to right: Elizabeth Dale, PhD, MPA, Mike Farris, David Nash, MD, MBA, and Stephen K. Klasko, MD, MBA

◀ Left to right: Laura Pizzi, PharmD, Mrs. Doris Grandon, Dr. Michael Vergare, Dr. Raymond Grandon, and David Nash, MD, MBA

THE FACT THAT SOMEONE'S ZIP CODE IS A BETTER PREDICTOR OF HEALTH THAN THEIR GENETIC CODE TELLS US THERE'S MUCH MORE AT PLAY IN CREATING HEALTHIER COMMUNITIES THAN MEDICAL INTERVENTIONS.

country in terms of having a healthy population. "No other industry has these ridiculous attributes," he argues. "No for-profit company would tolerate the ROI that we've achieved. What other evidence do we need that our current system of healthcare isn't working?"

"My job is to be the evangelist for population health, and to be at the pulpit, night and day, giving the sermon on why we need to be in the promised land now in the hope that the payment system will catch up to us."

He preaches often on the advantages of converting healthcare's payment system from one that reimburses medical procedures and services to one that rewards physicians for outcomes measured in terms of improvements in the health of particular populations. "No outcome; no income" is his catchphrase. The shift in emphasis, backed by remuneration, from the volume of medical procedures to the value of better outcomes will make healthcare providers more transparent and accountable, while reducing costs by reducing waste, and improving patients' experience of care.

Better outcomes, lower cost, and higher quality—in a word, "value"—is the promised land healthcare is already headed toward, Nash says. "The private payers are all moving toward a value-based payment system because it completely aligns incentives with the beneficiary. Keeping the beneficiary healthy, after all, is the core corporate value. These payers are perfectly aligned with the tenets of population health. Most delivery systems are not because their revenue base is still heads-in-beds, volume reimbursement. I believe the private sector is going to continue to push toward value-based reimbursement."

On July 1, Nash voluntarily stepped down as dean of the Jefferson College of Population Health. "Leaders have as one of their most important responsibilities to train the leaders of the future," he explained. "I believe very strongly that you've got to give younger people an opportunity. I felt, based on the management literature, that 10 years of running anything, that's a perfect time to step aside. So I waited 11."

Nash's newest Jefferson appointment as special assistant to the chief physician executive—Bruce Meyer, a fellow MD-MBA—gives him a new pulpit from which he can advise, propose, and cajole Jefferson's leadership on its pilgrimage to a fee-for-value vision and population-health management structures. After nearly three decades on the faculty, he's still preparing Jefferson for all the changes that are coming.

Brent James, MD, clinical professor at Stanford University School of Medicine and member of the National Academy of Medicine renowned for his work in clinical quality improvement and patient safety, observes that "healthcare delivery in the U.S. is finally moving strongly and consistently from pay for volume to pay for value. This has the potential to dramatically reduce healthcare costs by improving clinical outcomes. Another name for this shift is 'population health.' Dr. Nash anticipated it by almost 20 years. He established the nation's first college of population health; he advanced the science, making a compelling case for pay-for-value as a significantly better approach to care delivery policy, and more than that, Jefferson's College of Population Health has trained hundreds of people in these theories and methods.

"His vision is finally—at last!—coming into its own."


this
passion

Ballet Dancer Turns Her Talents to the Art of Medicine

By Peter Nichols

Photo credit: Joerg Didlap

Carrie Walsh can still remember the feeling of stepping offstage and walking out of the opera house, the applause and standing ovations providing an emotional high.

"Your heart feels this big," she says, holding her hands out wide. "Like you did something special today!"

It's the same feeling she now gets when walking out of the emergency room. The professional ballerina-turned-medical student has taken her love for dance and transformed it into a devotion to caring for patients.

"You feel this amazing passion," explains the fourth-year SKMC student, comparing the art to the science. "There's a feeling at the end of a ballet performance when you've given everything in your heart and soul. Your whole body is so tired, but there is the adrenaline that keeps you going. Medicine is like that; it's not just what you do, it becomes who you are."

This second act as a physician is a return to a childhood dream for Walsh. Growing up on the tiny island of Jersey, a British crown dependency in the English Channel just a few miles off the coast of Normandy, France, she always knew she wanted to be a doctor.

As a teenager, one of her best friends was diagnosed with cancer at age 13. Walsh saw how the condition consumed her teenage friend's whole life with chemo, surgery, radiation, and illness, before she succumbed to the disease at age 19. "It brought home, pretty early on, how important health is," she says. "I wanted to be able to help people when they really needed it."

From a young age, Walsh excelled in school, and along with a close friend who also was interested in medicine, studied and talked and dreamed about all the things their future would bring. But the dream of practicing medicine was put on hold when she fell in love with the movement, the music, the art, the physicality of ballet.

Walsh began her ballet studies a little later in life than most dancers—she took her first lessons at age 13. A few years later, when a friend told her she could move to England and do ballet all day, every day at a school for dance, Walsh was thrilled. She decided to audition for the Royal Ballet School in London.

It never occurred to her that she didn't stand a chance.

this passion that you have

Although Walsh came to ballet late in life, she describes it as "this passion that you have." That passion propelled her from the banks of Jersey to the audition at the Royal Ballet School in London.

Young dancers from all over the globe seeking admission to the world's premier ballet schools—Royal accepts 12 girls and 12 boys each year—typically take classes and polish technique for 10 or more years before applying. Walsh had been going to ballet classes for only two years, but her teachers had seen plenty of raw talent and lots of determination, and steered her into extra lessons.

"I had barely started pointe work," Walsh says. She didn't have the other applicants' depth of experience, but what she understood—and threw herself into—was the sheer bliss of dancing.

At the audition, Walsh was assigned to a barre with students from the lower school, called White Lodge, who were hoping to move up. "I think they put me there because they knew I had come to ballet late and was behind. At least this way I could follow people who knew what they were doing," Walsh says. "I saw how amazing everyone was, how their technique was so schooled. I wasn't anywhere near their level, but I put on my pointe shoes and did what I could. I was smiling and dancing and had so much fun."

"This was where I needed to be," she says. "This was where I felt at home."

Not long after the audition, she received a letter of acceptance and started four years of rigorous ballet training. Her parents, skeptical of her choice to be a professional dancer, were disappointed that she was putting aside her education and her long-held aspiration to be a doctor. But Walsh's artistic sensibilities were guided by a pragmatic calculation.

"I have to do ballet first," she told them as she left for Royal, "because you have to do it when you're young. After I retire, I can go back to school and become a doctor."

At the Royal Ballet School, students trained and drilled and danced for nine hours each day, six days a week. Because she was behind, Walsh was offered evening classes by the director or would practice on her own. Some evenings, the students would cross the "Bridge of Aspiration," a pedestrian walkway to the opera house, where the Royal Ballet Company performed. They would either be part of the ballet performance or "cover," standing in the background to observe the numerous places and parts in case a dancer were to become ill or injured.

Following graduation, Walsh became a professional ballet dancer for eight years, performing across Europe and competing against hundreds of dancers to land spots in companies such as the Royal Danish Ballet and Corella Ballet in Madrid.

"She used to stay after a long day of work, trying steps she thought were not yet perfect, and came on free days to practice by herself," says Angel Corella, the former director of the Corella Ballet, and the current artistic director for the Pennsylvania Ballet. "She had beautiful, classical technique and a perfect physique for dance, but what convinced me most was the sparkle in her eyes every time she would do an exercise."

While in Spain dancing her favorite ballet, *La Bayadère,* Walsh tore ligaments in her foot, dislocated her ankle, and broke off part of a bone. Still, she danced through the pain when offered a soloist role in *Swan Lake* with the Ballet de le'Opéra National de Bordeaux in France.

"I was taking 800 milligrams of ibuprofen three times a day and slamming my foot against the floor, so I'd be used to the pain and wouldn't grimace when I went on stage," she says. "That's when I started to realize how fragile a career in ballet is."

After 24 performances, Walsh was forced to take six months to recover. While doing rehab, she started looking at her high school biology books and reflecting on her original dream of being a doctor. The desire was still alive, but she wasn't ready to give up ballet just yet. Once healed, she joined the Norwegian National Ballet in Oslo and danced for three more years. But her time was ticking down, and she was looking for the bridge of aspiration that crossed from stage to clinic.

making the grand jeté

With no science background, Walsh couldn't begin medical studies in England. While on holiday in New York City, she toured Columbia University and decided to apply to its undergraduate program in neuroscience. With the same mix of naiveté and fervor, she signed up to take the SATs at Oslo University on the same day she was scheduled to appear in a 2 p.m. performance of *Swan Lake*.

"I honestly didn't do much studying because I thought it was more an intelligence test," she says. She also didn't realize the SAT was a four-hour exam, and finished just one hour before she had to be on stage. "I pegged it out of the university and jumped onto the tram to the opera house."

The transition from professional ballet dancer to student—from the intense physical activity of a dance ensemble to the sedentary, solitary work of study—was hard. After being away from academic pursuits for a decade, Walsh

again felt like she was behind the younger students, first at Columbia and then at SKMC. Many have known only a life of study and learning, and they seemed more prepared and intellectually nimble, so she has had to work twice as hard to catch up.

"If I hadn't suddenly decided to become a ballet dancer, I'd be a fully qualified doctor now and would probably have had a much easier life," remarks Walsh, who is planning on a career in emergency medicine. "But would I change it? No, not for the world. I loved my job. It was the reason I woke up every morning. There was not one moment when I wanted to do anything else."

In this way, Walsh says she realizes that ballet and medicine—although they seem very different—are quite similar.

"The life lessons and qualities that I needed to be successful in ballet have helped with my medical schooling. There's an understanding that there is a sacrifice you have to make—you have to stay in, and study, and practice," she says. "The drive and dedication are the same; the passion is the same."

During medical school she has spent large blocks of time reading books, listening to lectures, and taking tests to build up the technical knowledge to help patients. But it was when she started clinical rotations that something seemed to shift. She found herself moving to a different kind of music that had long been dormant.

"Being a human being and developing a relationship with somebody, I think that's pretty special," she says. It's the art Walsh had been looking for: working face to face with a patient, establishing rapport, and building trust so she could bring her medical knowledge and technique to helping someone in need. In working with people, she found more than the technical skill—she found the passion.

"When I introduced myself, I used to say, 'I was a professional ballet dancer,'" she explains. "Now when I introduce myself, I say, 'I'm a medical student.' This is actually what I'm going to do every day. I've made that transition without even realizing it."

She says her emotional high no longer comes from applause and standing ovations, but from knowing she is going to make a difference in someone's life.

This is where she needs to be now. This is where she feels at home.

To see a video featuring Carrie Walsh, visit Jefferson.edu/Bulletin

Photo credit: Lucas Chilczuck

TheDoctorIsOnline

At 33 years old, Austin Chiang, MD, MPH, GI Fellow '18, is an old hand at new media, in the vanguard of a generation of "digital natives" who grew up on MySpace, Friendster, and Xanga (it's OK if you haven't heard of them).

As director of the Endoscopic Bariatric Program and Chief Medical Social Media Officer at Jefferson Health, these days his social media presence tends toward the professional, but he certainly hasn't lost that early internet sense of communal whimsy. From the arcana of advanced endoscopy to highly relatable personal reflections on life's journeys, Chiang tends a virtual garden that is equal parts inclusive and authoritative, inviting feedback while weighing in decisively in his areas of expertise.

His enterprise role, assumed in late 2018 not long after joining the faculty, came on the heels of a freewheeling, blue-sky conversation with Stephen K. Klasko, MD, MBA, president of Thomas Jefferson University and CEO of Jefferson Health. Impressed with Chiang's grasp of the social landscape—and his ability to amass more than 23,000 Instagram followers in less than two years—Klasko appointed him as the first-ever Chief Medical Social Media Officer.

"We saw a need to have a liaison between the media relations team and clinicians, especially when discussing health," Chiang says. "I'd realized that since Jefferson was disseminating medical knowledge online, the impact could potentially be increased if we engaged more clinician voices." As Jefferson's tweeter-in-chief, he is responsible for raising the institution's profile, teaching colleagues about netiquette (how to conduct oneself online), and researching best practices for each platform—in between caring for patients.

A good example of the kind of impact Chiang believes social media can have is the #VerifyHealthcare campaign he and his fellow internet-savvy doctors launched last September to highlight misrepresentation of health professionals in social media. In the face of widespread health-related misinformation, including but not limited to vaccination, they tried to clear the air so patients and interested readers could better navigate the deluge of information returned by any internet search.

"We thought, if you're going to trust what we say online, this is what I have to do to back it up," Chiang says. "And for my followers out there, please double- and triple-check who you're trusting online." Together, Chiang and his online cohort posted their credentials on social media and detailed how to look up an individual's board certification and medical licensure, inviting prominent healthcare posters to add their own bona fides. #VerifyHealthcare spread quickly and included a (voluntary) takeover of Medscape's social media platform, widening the campaign's reach even further.

Though this campaign was a potent proof of concept, it wasn't the inception of Chiang's interest in the power of social media's impact on health. During his internal medicine residency, he interned at ABC News' Medical Unit, where he saw how medical information was shared, how sources were vetted, and the many factors that shaped a narrative. As a part of this experience, he participated in weekly Twitter chats with various guest experts, witnessing firsthand the high level of interest and engagement medical topics could draw. "I knew I had to get involved with medical social media, so I created and managed my division's social media accounts and established my own professional internet presence," he recalls.

On Twitter, Facebook, and Instagram, he sought out other physicians, caregivers, and researchers, conversing and collaborating with them, sharing each other's content. Chiang says different platforms offer different strengths: Twitter has become a sort of informal academic salon, where users can debate one another, while Instagram remains a great way to engage lay audiences and share personal tidbits.

Over time, these relationships evolved into more serious collaborations, culminating in the creation of the Association for Healthcare Social Media, the first professional medical social media society, in spring of 2019. Chiang is president of the 501(c)(3), which is led by an executive board of 15 and quickly attracted more than 500 members in its first month. "We'd started as a small community online and realized we all shared this passion for engaging with patients," says Chiang. "We created this association in order to provide guidance on how to be a doctor online and to give patients resources for safely navigating online medical information."

When he's not online—which is most of the time, believe it or not—he's an attending and interventional endoscopist in Jefferson's Division of Gastroenterology. A product of the division's advanced endoscopy fellowship program, he performs endoscopic weight-loss procedures that aren't available anywhere else in Philadelphia. "A lot of people might think of gastroenterology as maybe irritable bowel syndrome and colonoscopies, and I do very little of that," says Chiang. "Most of what I do is pancreatic cancer-related diagnostics, bile duct-related, and then these advanced interventions."

He credits Jefferson as an essential finishing school, where he was able to hone his skills. "When it came time to look for jobs, Jefferson was top of mind," he says. "I know I'll still need mentorship, the ability to ask questions, and the division has been a very nurturing place to launch my career."

Chiang has found himself acting as a bridge-builder in a burgeoning field: explaining diet to internet strangers, HIPAA to med students, endoscopic suturing to fellows, and hashtags to department chairs. Still the eternal student, he realizes that the internet has leveled certain relationships, that interaction has gone from professorial monologue to spontaneous conversation.

Today, Chiang and his colleagues are exploring the possibility that accessible experts can add to the discourse. "I think there's a real curiosity about who we doctors are as people and any glimpse into our lives … is a really effective way to build a connection and create trust."

Follow @AustinChiangMD on Instagram, Twitter, Facebook, and YouTube

To see a video featuring Dr. Chiang, visit Jefferson.edu/Bulletin

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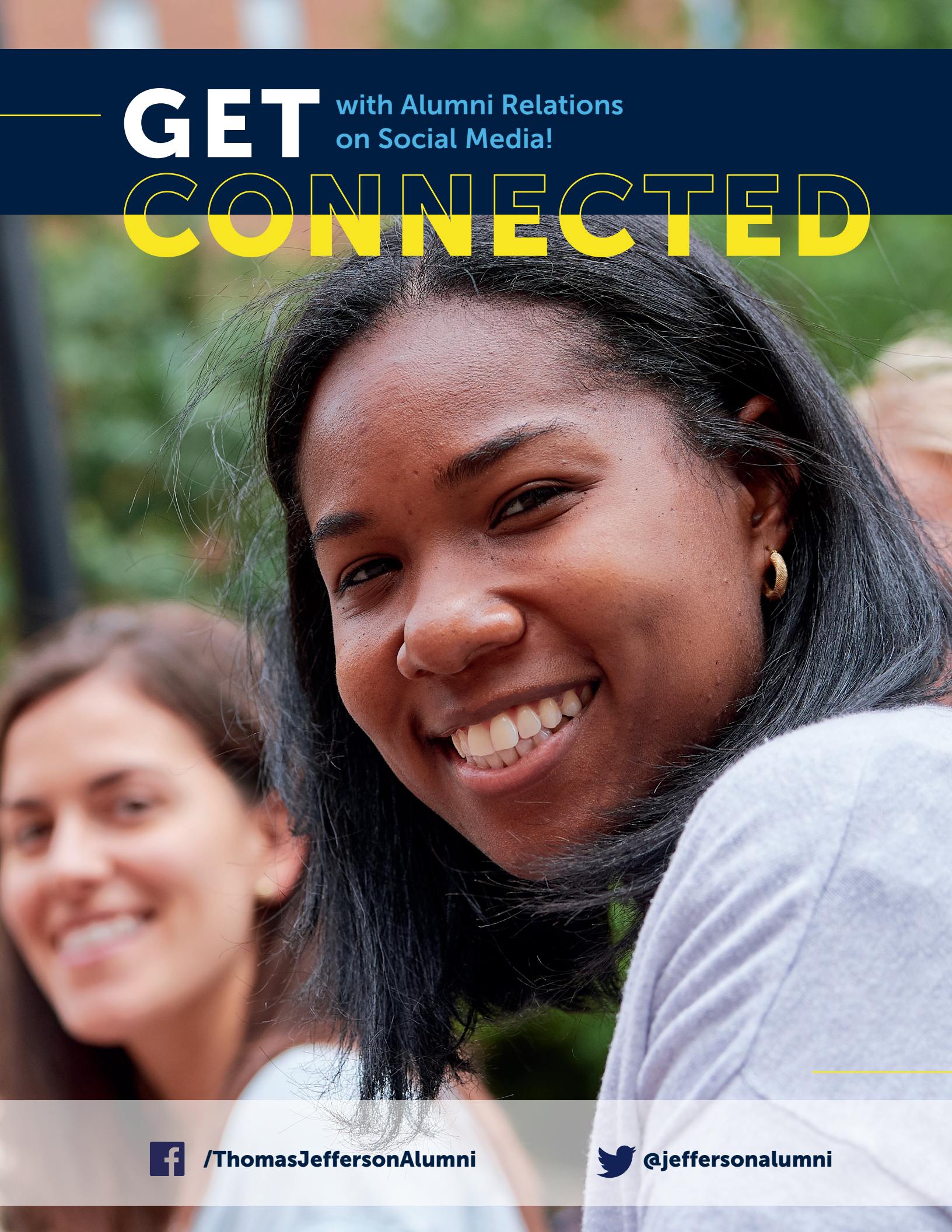

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Class Notes

’49

Gerald J. Marks was featured in the inaugural exhibit of the Reiders Family Alumni Art Gallery at the Pinizzotto-Ammon Alumni Center. Established through a generous gift from M. Fredric Rieders, PhD ’85, and Marian “Mim” Rieders in 2018, the gallery gives SKMC alumni the opportunity to show their talents outside of the examination room.

The exhibit, “The Fusion of Art and Surgery: A Jefferson Alum’s International Surgical Journey,” opened with a reception at the Reiders Family Alumni Art Gallery on Monday, June 17. More than two dozen of Dr. Marks’ watercolor paintings are displayed, chronicling his international travels as a surgeon-educator. His paintings have been reproduced in annual calendars, a portfolio book, the cover of a recent surgery textbook, and on commemorative posters announcing academic meetings and world congresses.

“The Fusion of Art and Surgery” can be seen at the Reiders Family Alumni Art Gallery at the Pinizzotto-Ammon Alumni Center now and will be on display during SKMC Alumni Weekend, October 25–26.

’74

John J. S. Brooks, Jr., will be retiring in June of 2020, and says he is “looking forward to travel and spending time with my grandkids.”

Joseph Ritsick announced his retirement, saying, “After my residency and serving two years in the U.S. Army, I practiced for over 20 years in Denver, Colorado, including serving as medical director of a freestanding rehabilitation center, acute rehab units, and post-acute programs, as well as having an outpatient practice. After moving to the California Bay Area in 1998, I was medical director of chronic pain management at Northbay Medical Center, then continued in patient rehabilitation, hospice, and primary care at Holderman Hospital and Napa State Hospital until retirement.

’79

Allen W. Ditto retired from the practice of family medicine on January 31, 2019. He had a wonderful 37-year career as a family doctor in Hagerstown, Maryland. He is currently enjoying a new experience: a relatively stress-free life.

Timothy Frei has been practicing as a hospitalist in Ahoskie, North Carolina, for nearly nine years. Prior to that, he had a private practice in the area for 28 years.

’80

Robert Hill recently announced his retirement after a fulfilling 35 years in emergency medicine. He and his wife live on eight acres in the country, and he is enjoying gardening, landscaping, carpentry, biking, swimming, playing music, traveling, and reading. “Mostly I will miss teaching emergency medicine residents and medical students, and conducting and publishing clinical research,” he says.

’85

Marilyn Heine writes, “This spring, I made the cover of the *Pennsylvania Physician* magazine from the Pennsylvania Medical Society, received the inaugural American Medical Association Political Action Committee Award for Political Participation, was elected Vice Chair of the American Medical Association Council on Legislation, and presented on a panel of Women Leaders in Medicine for the American Medical Association Medical Students Section.”

’98

David Brandt writes, “I have moved from Chicago to Oakland, California, as of January 2019, and have joined the Internal Medicine family at the Permanente Medical Group, East Bay of Northern California.”

Photos from the Rieders Family Alumni Art Gallery grand opening celebration on Monday, June 17, 2019

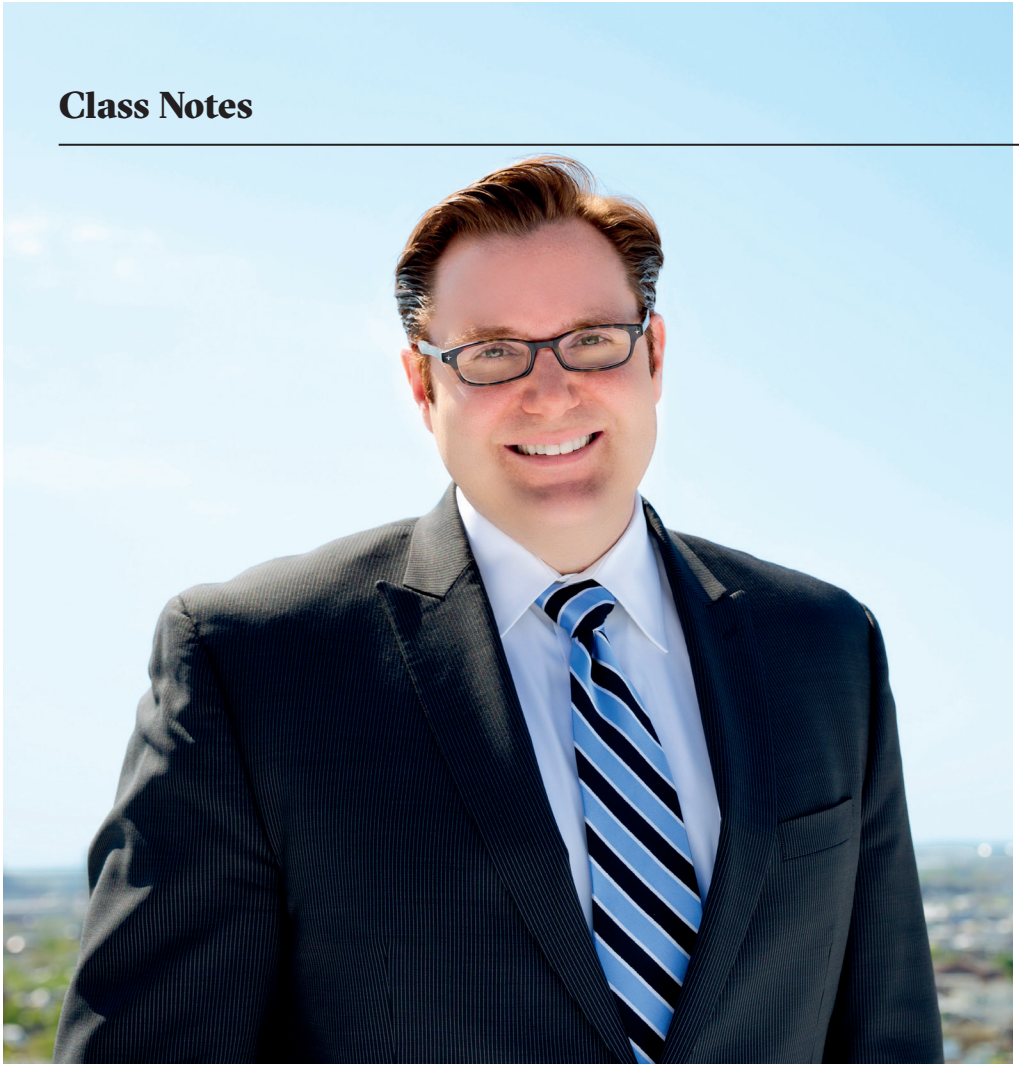
Thank You to the Rieders Family!

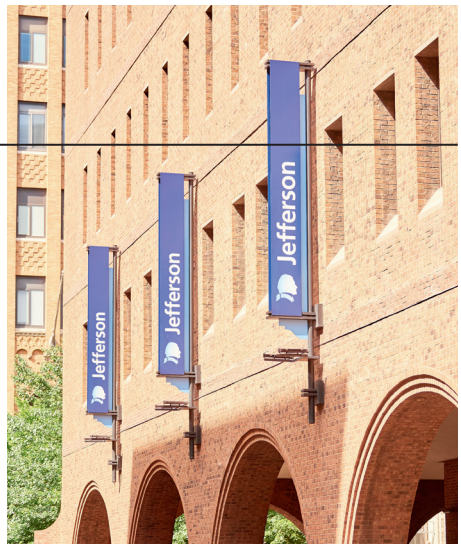
Attention Alumni Artists

The Rieders Family Alumni Art Gallery at the Pinizzotto-Ammon Alumni Center is now open, and we want to feature you!

Submissions for the spring 2020 exhibit are now open.

To learn more, please contact Louisa Kopp at louisa.kopp@jefferson.edu or 215-955-2171.





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

Thomas Jefferson University

President, Sidney Kimmel Medical College Alumni Association

Dear Fellow Jeffersonians,

With an institution so steeped in history, and alumni so proud of their alma mater, the SKMC Alumni Association is committed to preserving our past in order to celebrate our rich legacy. To that end, our Strategic Initiatives Committee is currently working with university archivist and special collections librarian F. Michael Angelo, MA, to create an oral history of Jefferson from the alumni perspective. This will allow all alumni to capture their favorite Jefferson stories and "larger than life" tales so they will forever be remembered. If you are interested in capturing your memories for the project, please reach out to the Alumni Office at alumni@jefferson.edu so that we can schedule a session.

As we gather at the 2019 Alumni Weekend this October 25–26 to celebrate the reunions of alumni with class years ending in 4 and 9, we have a great opportunity to relive our own history with our beloved school and with our fellow Jeffersonians. I hope you are all planning on attending. 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, will be in attendance to chat, reminisce, and answer questions about where we have been—and where we are going.

An important part of our recent history is the transformational $110 million gift from the Sidney Kimmel Foundation, pledged in 2014. To date, the impact of the Kimmel gift can be seen in every aspect of SKMC, including student support, faculty support, and investments in research. Through the Kimmel Matching Program, 31 medical school scholarships and eight endowed faculty positions have been established and have led to $15.5 million in gifts from other Jefferson benefactors. The Caroline Kimmel Endowed Fund for Scholarships has provided over $300,000 in scholarship support to nine SKMC students. And $2.2 million has been awarded in early investigator and bridge funding to SKMC faculty. The dean will give a complete update at the SKMC Alumni Association's Annual Business Meeting on Saturday, October 26 at 9 a.m. during Alumni Weekend. All alumni are welcome and encouraged to attend.

When future generations of Jeffersonians look back on all we have achieved since our founding in 1824, they will no doubt feel the sense of pride and accomplishment that we alumni feel now. All of us are part of yesterday's history, today's triumphs, and tomorrow's bold and exciting future.

I look forward to seeing you all at Alumni Weekend!

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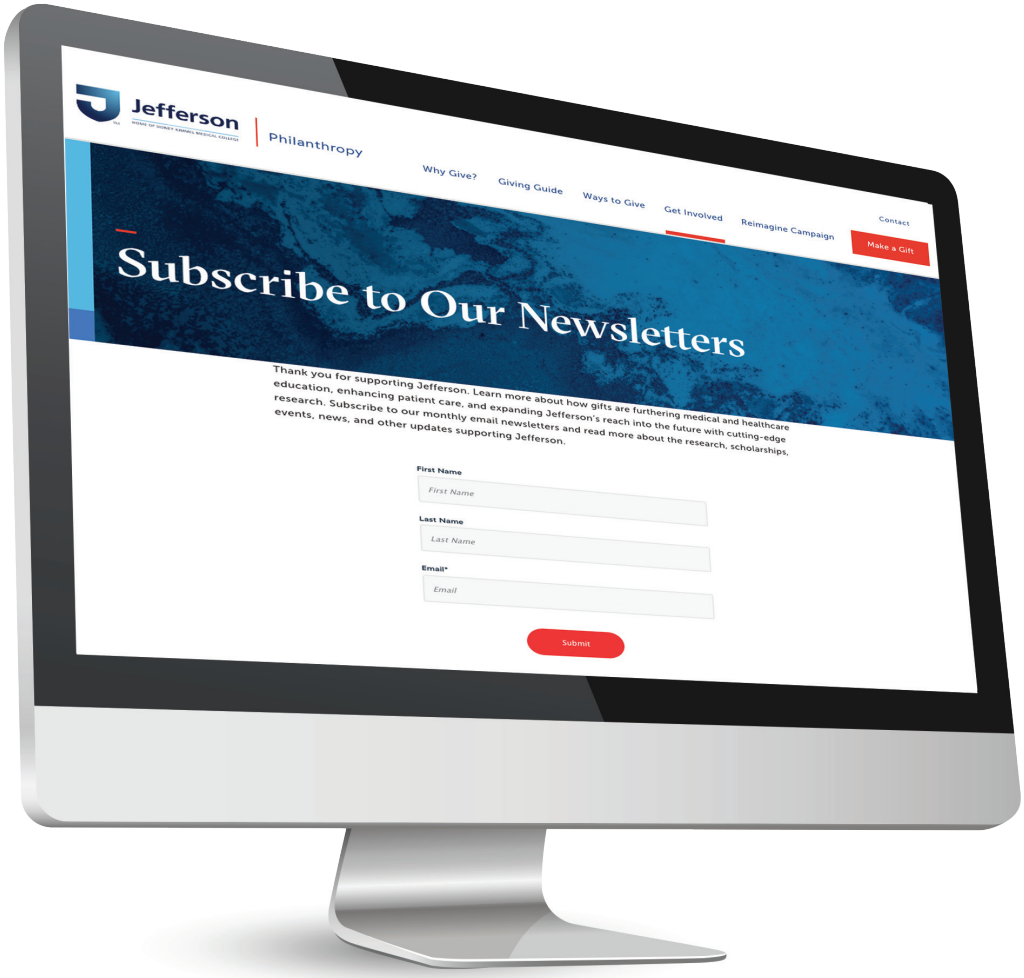


Keep up with the latest and greatest goings-on at Jefferson with our monthly university e-newsletter, which features news, articles, and events you won't want to miss!

Jefferson.edu/Newsletter

Jeff Alum Sails Into World Championship

Anthony Chiurco, MD (far right), and his crew on *Columbia*.

Yacht racing, says Anthony Chiurco, MD '67, is like "chess on water."

"It's a very cerebral sport, very tactical," he says. "You have to make the strategic moves, position yourself ahead of your opponent…"

On July 13, with the retired neurosurgeon at the helm, Chiurco and his 14-person crew scored a "checkmate" on the Rhode Island Sound as they crossed the finish line with the 68-foot yacht *Columbia* to win the Traditional Division at the 2019 12 Metre World Championship.

The competition, organized by the International Twelve Metre Association's Americas Fleet, is held every four years. After finishing fourth in the event in Barcelona in 2015, Chiurco says he was confident of their chances this year in home waters.

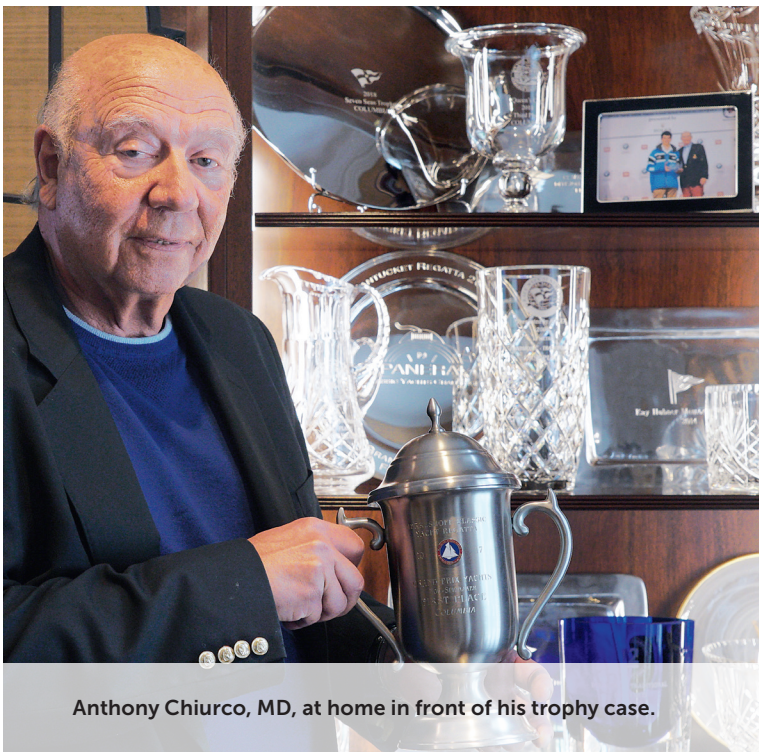
The contest consisted of a series of nine races over a week's time—two races per day lasting about two hours each. There were 21 yachts in four classes, the largest number of 12 Metre yachts ever gathered in American waters. They competed against top sailors from six countries, including many former America's Cup participants.

In 38 years of competitive sailing, Chiurco has amassed 50 trophies that he displays proudly in a lighted cabinet in his Princeton, New Jersey, home. "But this is different," he says. "To win a world championship is exhilarating; it's the ultimate win."

The 78-year-old sailor says he was drawn to yacht racing decades ago because of the "physical balance and aesthetic beauty" of the sport.

"There's just something about a boat on the water moving through the waves without sound," he says.

Chiurco is the former chief of the Division of Neurosurgery at the University Medical Center of Princeton, and a dedicated supporter of Jefferson's Department of Neurosurgery. In 2017, he and his wife, Kim, established the Anthony Alfred Chiurco, MD Professorship in the Department of Neurosurgery at Jefferson, which is held by David Andrews, MD.



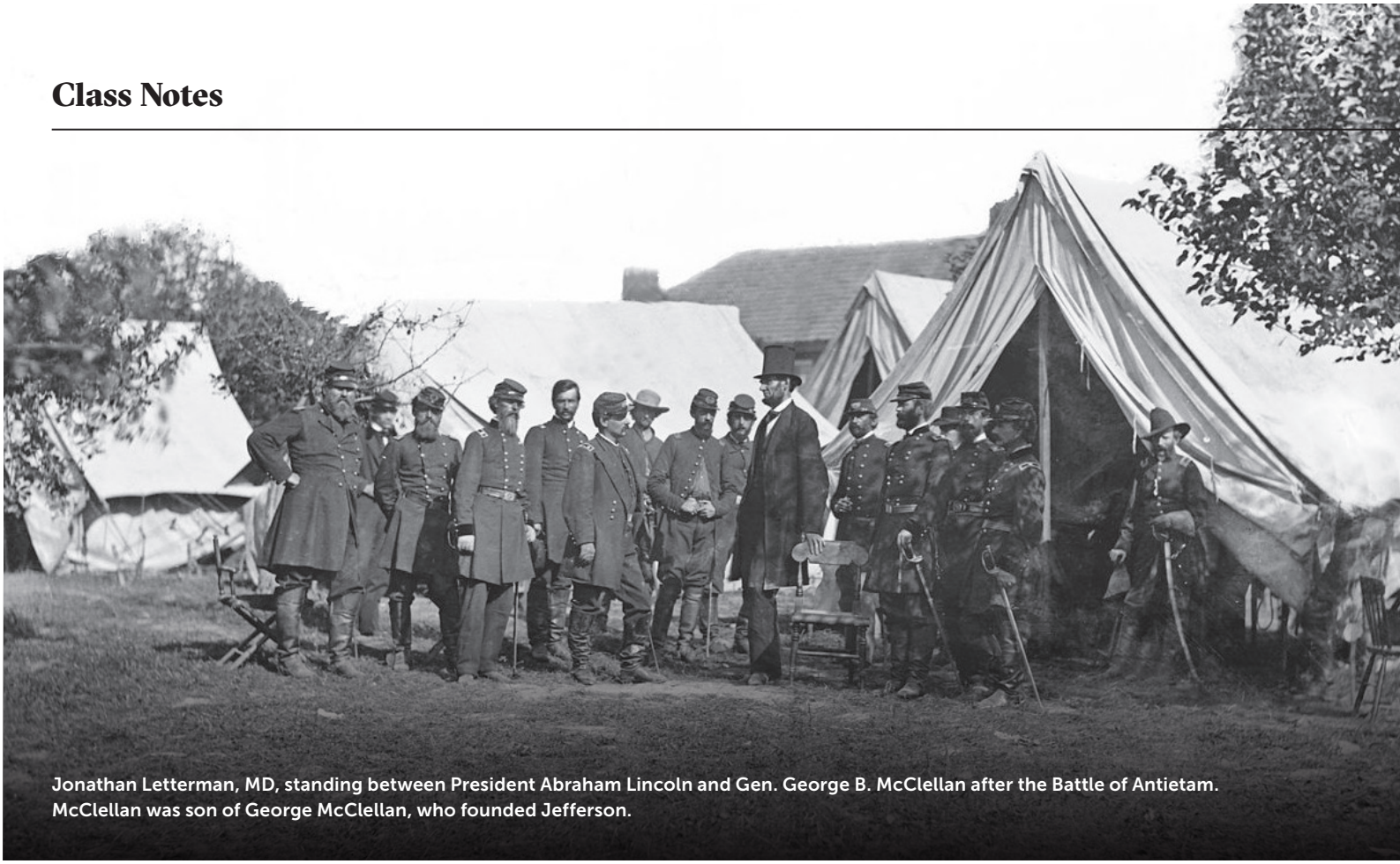
Anthony Chiurco, MD, at home in front of his trophy case.

Photo credit: Ian Roman

SHARE YOUR STORY

Let the *Bulletin* community know what you've been up to by sharing your news in Class Notes!

Send us your news: editor@jefferson.edu



Jonathan Letterman, MD, standing between President Abraham Lincoln and Gen. George B. McClellan after the Battle of Antietam. McClellan was son of George McClellan, who founded Jefferson.

The Father of Battlefield Medicine

Class of 1849 Graduate Jonathan Letterman, MD, Is Celebrated for His Medical Innovations During the Civil War

Jonathan Letterman, MD, lies beneath a gravestone that reads: "Medical Director of the Army of the Potomac … who brought order and efficiency into the Medical Service and who was the originator of modern methods of medical organization in armies."

Letterman, an 1849 graduate of Jefferson Medical College (now Sidney Kimmel Medical College), is known as the "father of battlefield medicine" for creating the procedures for efficient medical management of wartime casualties. Today, his system remains the basis for much of battlefield, emergency, and disaster medicine around the world.

On October 25–26, 2019, during the SKMC Alumni Weekend, Letterman's life and accomplishments will be celebrated as he is named the recipient of the Distinguished Alumni Award. The award was established in 2017 to honor alumni posthumously for a lifetime of achievement, for contributions to their profession or field, and for service to the community and to humanity at large.

"Jonathan Letterman changed the course of the Civil War—and American medicine. He is the epitome of a Jeffersonian, using outstanding clinical skills and an innovative mind to improve the fate of soldiers then and now, and to propel battlefield and disaster medicine into the modern era," says M. Dean Kinsey, MD '69, chair of the Alumni Awards Committee, SKMC Alumni Board. "We are so proud to celebrate his life, his accomplishments, and his contributions to humanity."

Letterman was born in Canonsburg, Pennsylvania, in 1824, the son of a prominent surgeon. Upon graduating from Jefferson Medical College in 1849, he assumed the position of assistant surgeon in the Army Medical Department.

At the outbreak of the Civil War in 1861, Letterman was assigned to the Army of the Potomac. A year later he was promoted to the rank of major and named medical director of the Army.

A portrait of U.S. Army Major Jonathan Letterman, MD.

Dismayed that it took more than a week to remove the wounded from the battlefield at Battle of Second Manassas, Letterman was given permission by General George McClellan to overhaul the process of providing medical services to the wounded. Instead of leaving the injured to fend for themselves in the field, Letterman instituted what would become the first ambulance corps, training men to act as stretcher-bearers and operate wagons to pick up the wounded and bring them to field medical stations.

Letterman also invented the triage for treatment of casualties, and developed a medical response system that consisted of field stations located on or next to the battlefield where medical personnel would tend to initial wounds; moveable field hospitals, usually in nearby homes or barns, where emergency surgery could be performed; and a base hospital located away from the battlefield, providing facilities for the long-term treatment of patients.

In March of 1864, Letterman's system was officially adopted for the U.S. Army by an act of Congress.

Letterman resigned from the Army in December 1864, moved to San Francisco where he served as coroner from 1867 to 1872, and published his memoirs, *Medical Recollections of the Army of the Potomac*. He died in 1872 and was buried in Arlington National Cemetery.

On November 13, 1911, the Army hospital at the Presidio in San Francisco was named Letterman Army Hospital in his honor.

A Civil War-era "ambulance-wagon," the first vehicle of its kind designed for the purpose of removing casualties from the battlefield.

> **In obedience to orders from the War Department, dated June 23, 1862, I reported on the 1st day of July to Major-General McClellan at Haxhall's Landing, on the James River, for duty as Medical Director of the Army of the Potomac, and on the 4th took charge of the Medical Department of that army.**
>
> **– Jonathan Letterman, MD, *Medical Recollections of the Army of the Potomac***

Class Agent

Patricia M. Curtin White, MD, FACP, CMD '88, F '00

Section Chief, Geriatric Medicine, CCHS

Medical Director, Acute Care of the Elderly (ACE) Units, Christiana and Wilmington Hospitals, CCHS

Geriatric Medicine Education Coordinator, Department of Medicine Residency Program, CCHS

Director of Clinical Strategy and Community Affairs, Swank Memory Care Center, CCHS

Medical Director, Stonegates Health Center

Clinical Assistant Professor of Medicine, Sidney Kimmel Medical College

Secretary of the SKMC Alumni Association

Though I graduated from Jefferson in 1988, I feel like I never really left. During my Internal Medicine residency and chief resident year at the Medical Center of Delaware—now Christiana Care Health System (CCHS)—I had the privilege of working with my classmates, other Jefferson graduates including residents or attending physicians in many specialties, and with some wonderful Jefferson students. As a resident, I also served as the first female Jefferson Alumni Trustee, serving as the "young alumni" representative to the board.

Daughters Ann Marie Curtin White (left) and Mary Bridget Curtin White '21 with Dr. Curtin in Haiti.

In 1999, I returned to Jefferson and completed a Geriatric Medicine Fellowship the following year, after which I became section chief of Geriatric Medicine at CCHS, where I had the privilege of teaching Jefferson Medical College (now SKMC) students. Today, I am honored to be on the SKMC volunteer faculty as a clinical assistant professor of Medicine.

I feel an allegiance to Jefferson, and have always served in some volunteer capacity since graduation. I am still grateful for my education here, and grateful that my oldest daughter, Mary, is benefiting from the new curriculum at SKMC.

My reasons for staying connected as a class agent and as the current Alumni Association secretary are several, including my excitement for being part of a new era at SKMC—as well as part of its many great traditions, including providing service to others near and far. The "call to serve" inspired me to lead 16 medical mission trips to Haiti over the last decade with the Notre Dame Haiti program. There is no better place than a country in need to use the clinical skills I was taught at Jefferson 30 years ago.

Connecting with my classmates as we celebrated our 30th reunion last October brought back fond memories. We would love to see more of our alumni come back to campus and enjoy the new Alumni Center, which was donated by and is named after one of my own classmates, Marie Pinizzotto, MD '88. We welcome your feedback and ideas as we create more memories and connect with the current students, who are the future of healthcare.

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"Jefferson's IRA rollover program offered me a simple way to give back to my alma mater. They condensed a complicated process into one step, helping me to save on my taxes and support a great community resource."

—Leonard A. Erdman, MD '50

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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
215-955-0437
lisa.repko@jefferson.edu

In Memoriam

’49

L. Roy Newman, 92, died on June 24, 2019. He received his Bachelor of Science degree from Muhlenberg College in 1949 before attending Jefferson Medical College. He completed his residency at Thomas Jefferson University Hospital. Dr. Newman proudly served as a class agent for Jefferson, connecting classmates to their alma mater. He is survived by his wife, Stevie; his children, Paul, Laurie, and Daniel; grandchildren Gerry, Ross, Samantha, Rob, Zivi, and Noam; and great-grandchildren Eytan, Levi, and Shira.

Edward H. “Robbie” Robinson, 94, died on March 17, 2019. Robbie began his education at the University of New Hampshire as a member of the ASTP, then went on to premed at the University of Pittsburgh and medical school at Jefferson Medical College. During his second year at Jefferson, Robbie met Jackie Lingle, a student at the Nursing School of the University of Pennsylvania, on a blind date. Both graduated in 1949 and were married on December 10, 1949.

Robbie served in the U.S. Navy during the Korean War before spending 26 years practicing general medicine in Greenville, Pennsylvania. At the age of 52, he entered the Maine Medical Center for a four-year residency in psychiatry, later passing the Maine boards in psychiatry and addiction medicine. He continued to practice until his retirement in 1993.

Robbie is survived by his wife, Jackie; his children John, Peter, Michael, and Carrie; five grandchildren; and six great-grandchildren.

’52

Frank S. Bakewell, Jr., 92, died on December 7, 2018, in Tucson, Arizona. After completing his internship and residency in general surgery at the University of Pittsburgh, he practiced surgery in Washington, Pennsylvania, for 37 years. He was board-certified by the American Board of Surgery in 1959. Born June 8, 1926, in Greenville, Pennsylvania, to Frank S. Bakewell, Sr., MD (class of 1909) and Helen E. Kuehner Bakewell, he was a 1948 graduate of Allegheny College, his college years having been interrupted by a two-year enlistment in the U.S. Navy in 1944. He was a fellow in the American College of Surgeons and past-president of the Washington County Medical Society.
In addition to being a dedicated and loyal surgeon, Frank will be remembered for his quick wit, his joke-telling skills, and his love of ballroom dancing with his wife. He had a great affection for Jefferson Medical College and his son, Brock, fondly remembers walking the halls of Jefferson Alumni Hall and hearing from his father the stories behind many of the famous portraits that hang on the walls.

Frank is survived by his wife of 64 years, Frances; his children Susan and Brock; and five grandsons, including a recent graduate from Jefferson’s College of Population Health, Brock Kyle Bakewell ’18.

Edward W. Ditto, III, 92, died on January 26, 2017. He practiced family medicine his entire career of 46 years in his hometown of Hagerstown, Maryland, and was the deputy medical examiner for the state of Maryland for Washington County for over 40 years. Edward served in the U.S. Navy in the Pacific during World War II. He is predeceased by his wife, Glenice, and is survived by three children, Allen, David, and Betsey; six grandchildren; and four great-grandchildren.

Attention Jefferson Alumni

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- Go to **Doximity.com**, enter your name on the homepage, and follow the steps to claim your profile. (You will need to create a profile if your name does not appear.)
- Once you've claimed your profile, please edit your information for accuracy. Only you can activate your profile. Please provide enough relevant information for potential patients as your profile will reside on the *U.S.News & World Report* online "Doctor Finder" directory.
- Update your profile, including achievements, periodically and remain active on the site.

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HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

In Memoriam

’52

Edward “Ed” McAninch, 93, died on December 27, 2018, in Camas, Washington. He enlisted in the Army and served as a machine gunner in World War II; he was severely wounded in France, and awarded the Purple Heart and named to the French Legion of Honor. Ed then attended Denison University, where he met his wife-to-be, Edwyna Osborne. He graduated from Jefferson Medical College in 1952, and they headed west to Seattle, where he served an internship at King County Hospital. They moved to Camas, Washington, following his internship, where they remained for the rest of their lives.

Ed’s grandfather, David Lewis McAninch, graduated from Jefferson on March 12, 1879. A proud Jeffersonian, Ed was a charter diplomat of the American Board of Family Medicine and a fellow of the American Academy of Family Practice. He was an avid outdoorsman and adventurer, having set foot on all seven continents (he skied in Antarctica because he could). After retirement from the active practice of medicine, he served many tours at various Indian Health Service Clinics throughout the western United States. His passion for medicine and travel was satisfied working as a ship physician on small cruise ships in Baja and Antarctica for many months at a time.

Ed was predeceased by his wife, Edwyna, and is survived by his son Malcolm (class of ’81), his daughter Wendy, and his son Gregg (class of ’85), as well as six grandchildren and six great-grandchildren. If he were to have a tombstone, he would want the epitaph to be inscribed “Illegitimi non carborundum.”

’57

Morton J. Robinson, 86, died on May 21, 2019. The former chairman and director of the Department of Pathology and Laboratory Medicine at Mount Sinai Medical Center on Miami Beach joined Mount Sinai in June 1966 and retired nearly 50 years later. Morton received a Bachelor of Arts degree from the University of Pennsylvania, his Doctor of Medicine degree from Jefferson Medical College, and a Certificate of Pathology from the Graduate School of Medicine of the University of Pennsylvania. He was a member of the College of American Pathology, the American Medical Association, the New York Academy of Science, and a member of Alpha Omega Alpha.

Morton was the author of numerous medical articles and treatises on anatomical pathology and laboratory medicine. He served as a captain in the United States Air Force from 1961 to 1963 as the chief of laboratory medicine at the hospital at Keesler Air Force Base in Mississippi. After his service in the Air Force, he was the director of pathology at Morrisania City Hospital in Bronx, New York, before joining Mount Sinai Medical Center (MSMC) on Miami Beach. During his time as chairman and director, the Department of Pathology and Laboratory Medicine at Mount Sinai accumulated numerous awards and accreditations for anatomic pathology, laboratory, and blood-banking services over the last four decades. More than 100 pathology residents and fellows are now practicing in the state of Florida, nationally, and internationally, all having studied under the pathology training programs at MSMC. In addition, Morton is credited with the success of pathologists teaching at the University of Miami School of Medicine and the medical programs at Barry

University and Florida International University.

Known among his friends as "Sporty," he always said that he was actually known in Miami and in New York as the husband of Jane Robinson, who was the chairman and president of the Florida Grand Opera and on the board of overseers of OPERA America's National Opera Center in New York City. Together, Mort and Jane are known for their patronage of numerous cultural organizations in Miami and in New York.
Morton is survived by his wife, Jane Alexander; his son, Jay Robinson, and daughter, Jenna Robinson; and grandchildren Danica and Benjamin.

Emil. S. Trellis, 89, of Pittsburgh, Pennsylvania, died on November 23, 2018. He received his Bachelor of Science degree from the University of Pittsburgh before attending Jefferson Medical College. He retired in 1992 from an extremely satisfying psychiatric practice. He is survived by his wife of 66 years, Barbara; three children; and three grandchildren.

'59

Lewis Druffner, Jr., 85, died on March 19, 2019. Lewis graduated from the University of Scranton in 1955 and Jefferson Medical College in 1959. Following an internship at Wilkes-Barre General Hospital, Lewis enlisted with the United States Naval Reserve and served as a medical officer before transferring to the 2nd Battalion, 8th Marines as battalion surgeon.

After returning home from active duty in 1962, Lewis assumed his father Dr. Lewis C. Druffner, Sr.'s family medical practice and continued as a solo practitioner for the next 34 years. In 1995, Lewis joined Mercy Med Care, now InterMountain Medical Group, and finally retired at the end of 2001. He spent the next 13 years volunteering at the University of Scranton's Leahy Clinic and the Care & Concern Free Clinic in Pittston, Pennsylvania. In 2012, Lewis was honored with the Joseph Saporito Lifetime of Service Award by the Sunday Dispatch. In his spare time, he enjoyed spending time outdoors with his family, hunting, fishing, reading poetry, and sharing his extensive knowledge of local history with anyone who was interested.

Lewis is survived by his wife of 53 years, Catherine; their six children, Elizabeth, Kathleen, Thomas, Michael, Carl, and Edward; their grandchildren, Brandon, Shannon, Ryan, Brooke, Malaina, and Simon; his siblings, Charles, Suzanne, Kathryn, and Jean; and numerous nieces, nephews, and cousins.

'66

Robert Livingstone Erdman, 82, died on March 27, 2019. Before attending Jefferson Medical College, Robert served his country in the U.S. Army. He would go on to practice radiology at Northampton-Accomack Memorial Hospital (now Riverside Shore Memorial Hospital) for 30 years, holding various offices, including staff president. He was also a long-time member of Hungars Episcopal Church, where he sang in the choir and served on the vestry.

Robert enjoyed sailing and was a 30-year member of the Monday Night Civic, Social, and Inside Straight Club. He is survived by his wife, Judy; his children Robert, Christopher, and Amy; and seven grandchildren Audrey, Emery, Joshua, Gabrielle, Will, Ben, and John.

WHAT'S NEW?

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

By Phone
215-955-7751

By Email
editor@jefferson.edu

By Mail
125 S. 9th St., Suite 600
Philadelphia, PA 19107

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By the Numbers

Class of 2023

9443 students applied

449 students accepted

272 students enrolled

22 legacy students

72 overall GPA

135 women

137 men

102 undergraduate universities represented

9 international students

86 students from PA

38 students from NJ

21 students from DE

17TH ANNUAL JEFFERSON GALA

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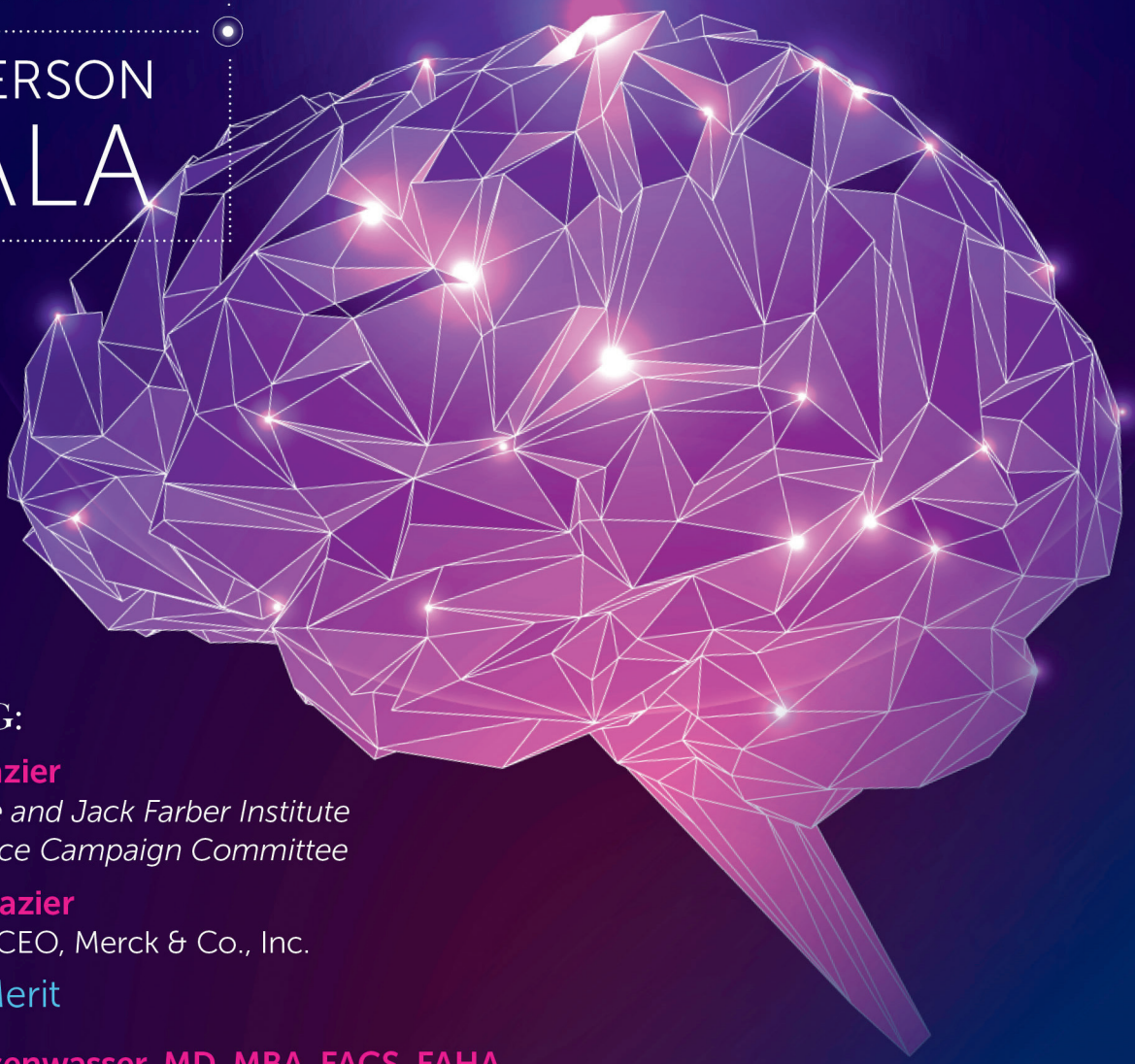

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Andréa W. Frazier
Member, Vickie and Jack Farber Institute for Neuroscience Campaign Committee

Kenneth C. Frazier
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Awards of Merit

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The Jewell L. Osterholm, MD, Professor and Chair
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