

weillcornellmedicine



VOLUME 16, NUMBER 1

Life's Work

For junior faculty who are establishing careers while raising families, new grants offer support

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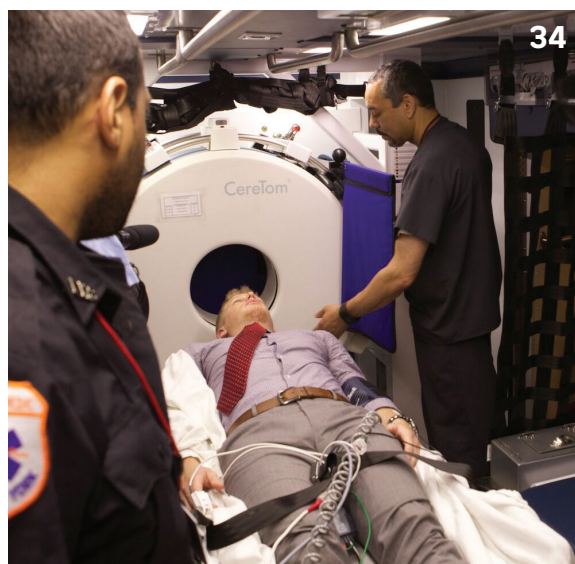
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THE MAGAZINE OF
WEILL CORNELL MEDICINE
VOLUME 16, NUMBER 1



FEATURES

20 ALL IN: NEW GRANTS HELP JUNIOR FACULTY STAY COMPETITIVE

PHOTOS BY JULIA XANTHOS LIDDY

Established in 2015 with a \$1.25 million gift from the Anna-Maria and Stephen Kellen Foundation, Weill Cornell Medicine's Junior Faculty Fellowship Fund provides exceptional scientists with \$50,000 each for research expenses. The awards, aimed at addressing the gender disparity at senior positions in academic medicine, target faculty—especially women—at a key time in their lives and careers: when they're working to establish themselves as researchers while also juggling family responsibilities. "The hope is that we'll be able to support a cadre of women and build a community, who can act as mentors to the younger generations coming in," says Randi Silver, PhD, associate dean of the Weill Cornell Graduate School of Medical Sciences. "It's a win-win all around." In a photo essay, we meet some of the first-year winners, at work and at home.

28 A SENSE OF RELIEF: INTER-CAMPUS COLLABORATION COMBATS PAIN

BETH SAULNIER

The Translational Research Institute on Pain in Later Life (TRIPLL) is one of the most active and long-standing collaborations among the Cornell campuses. Comprising researchers and graduate students in Ithaca, at Weill Cornell Medicine, and at Cornell Tech—plus dozens of community organizations serving seniors in New York City—the NIH-funded organization is dedicated to exploring non-pharmacological ways to combat one of the greatest ills that many older adults face: chronic pain. Says Carol Mancuso, MD, a professor of medicine who won one of the institute's annual pilot grants: "At TRIPLL, there's a wonderful point-counterpoint repartee of ideas."

34 EARLY INTERVENTION: FASTER TREATMENT FOR STROKE

HEATHER SALERNO

Stroke affects nearly 800,000 people in the U.S. every year—taking the life of one American every four minutes and constituting the nation's fifth-leading cause of death, as well as a major cause of long-term disability. In stroke care, as the adage goes, "time is brain." Now, a new effort at Weill Cornell Medicine and NewYork-Presbyterian aims to get patients the drugs and therapies they need as soon as possible, employing a dedicated ambulance staffed with personnel specially trained in stroke. "Each minute that a typical stroke goes on, patients on average lose about two million brain cells," says Babak Navi, MD, MS'15, assistant professor of neurology at WCM and medical director of the Weill Cornell Stroke Center. "So every minute counts."

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Cover photo by Julia Xanthos Liddy

Published by the Office of External Affairs

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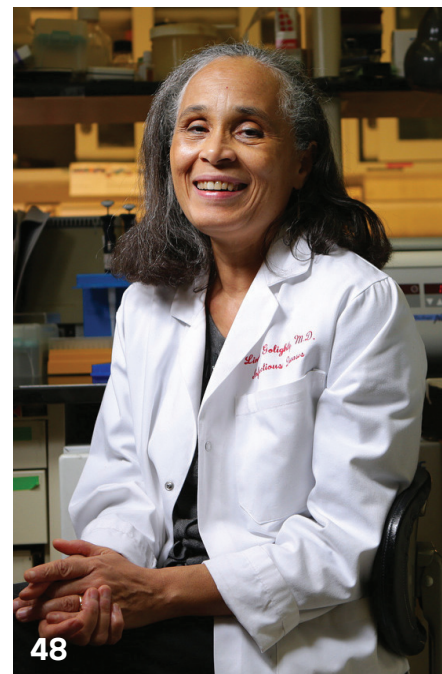
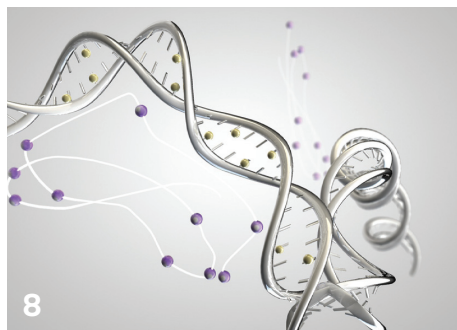
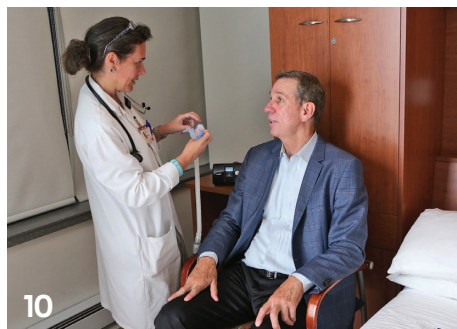
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**Weill
Cornell
Medicine**

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#WeAreWCM: Battling global diseases—and inspiring students

Weill Cornell Medicine (ISSN 1551-4455) is produced four times a year by Cornell Alumni Magazine, 401 E. State St., Suite 301, Ithaca, NY 14850-4400 for Weill Cornell Medicine. Third-class postage paid at New York, NY, and additional mailing offices. POSTMASTER: Send address changes to Office of External Affairs, 1300 York Ave., Box 123, New York, NY 10065.

Augustine M. K. Choi, MD
Dean of Weill Cornell Medicine

Toward Radical Collaboration

Researchers across campuses and disciplines work together to solve big problems



'Radical collaboration is a distinguishing feature of Cornell—and through our efforts at Weill Cornell Medicine, one with real-world benefits for the health of New York City.'

As physician-scientists seek to uncover the origins of disease, they often do so knowing that many before them have tried to solve those same mysteries. To advance their predecessors' work, these researchers employ fresh perspectives and ingenuity to design new investigative approaches for what eludes them most. It's a long and painstaking process that can take a lifetime of effort. Scientists can work alone or join colleagues whose pursuits reflect a similar sensibility, but sometimes the only way to achieve genuine breakthroughs is by engaging in radical collaboration.

Radical collaboration involves the greatest minds from a variety of disciplines—regardless of geography, expertise, and background—dedicated to exploring a common problem. In our interconnected world, such collaborations are logistically easier than ever before. They're generally richer, leading to more productive brainstorm sessions and quicker progress. Here at Weill Cornell Medicine, we frequently engage in these relationships and are enriched by the results they engender—for our physicians and scientists and, of foremost importance, for our patients.

A prime example of radical collaboration, explored in this issue, is the Cornell-based Translational Research Institute on Pain in Later Life, or TRIPLL. Formed in 2009, TRIPLL is a successful cross-campus collaboration that brings together researchers and graduate students from Weill Cornell Medicine, the Ithaca campus, and Cornell Tech to develop ways to combat chronic pain in older adults—a condition that afflicts one-third of people in that demographic.

Because it's easy for participants to stay connected through technology that did not even exist a decade ago, the radical nature of this collaboration doesn't necessarily spring from the involvement of the separate campuses. What is special about the effort is how it has mobilized seemingly disparate disciplines—the social

sciences, computer science, and epidemiology; gerontology and clinical medicine—to accomplish a shared mission. TRIPLL has galvanized numerous New York City community agencies serving older adults, so the people who have first-hand knowledge of pain can play an active role in helping healthcare providers to ease it. And TRIPLL supports out-of-the-box thinking, providing small pilot grants to explore interventions such as a mobile app to assess pain and the efficacy of mindfulness-based meditation for pain control.

Similarly, a new collaboration with our long-time partner NewYork-Presbyterian, also involving Columbia University Medical Center and the New York City Fire Department, is bringing dedicated stroke care to patients at the first signs of illness. A specially outfitted ambulance can now be dispatched to callers in two Manhattan neighborhoods, where neurologists, working with paramedics, EMTs, and firefighters, can evaluate and begin treating stroke on the spot. Weill Cornell Medicine's Matthew Fink, MD, chairman of neurology, is leading research on this groundbreaking initiative, with the hope of ultimately improving outcomes for patients.

Radical collaboration is a distinguishing feature of Cornell—and through our efforts at Weill Cornell Medicine, one with real-world benefits for the health of New York City. By strengthening academic connections between campuses and forging partnerships throughout our surrounding communities—including neighboring institutions, such as The Rockefeller University, Memorial Sloan Kettering, Hospital for Special Surgery, and Hunter College—we stand a better chance of understanding the mechanisms of disease, of improving strategies for prevention and management, and of developing new solutions to the complex medical problems we face. The impact that these unprecedented and sometimes unexpected alliances will have on medicine, science, and society is only just beginning to be felt.

The Daedalus Fund for Innovation – Speeding Breakthrough Discoveries from Bench to Bedside

Weill Cornell Medicine physician-scientists work together every day, across disciplines, to make ground-breaking discoveries at the lab bench. But with shortfalls in funding, how can researchers advance those discoveries to the patient bedside?

The Daedalus Fund for Innovation, made possible by ongoing support from donors and friends, is the key to accelerating this critical process at Weill Cornell Medicine. This initiative bridges the funding gap known as “the valley of death,” where innovative biomedical research gets stalled in the laboratory, awaiting further testing, due to a lack of the necessary support and resources to move a project forward. Each year, the Daedalus Fund provides awards of \$100,000, on average, to selected faculty’s most promising early-stage research projects. This support helps them develop proof-of-concept data to advance their discoveries to the marketplace and, ultimately, move them to patients.

2016 Award Winners

Lewis Cantley, PhD

Departments: Weill Department of Medicine, Sandra and Edward Meyer Cancer Center

Project: Discovering a small molecule inhibitor that can be used to treat aggressive cancers

Ronald Crystal, MD

Departments: Genetic Medicine and Weill Department of Medicine

Project: Treating neurodegenerative diseases with a novel gene therapy

Olivier Elemento, PhD

Departments: Computational Biomedicine, Physiology and Biophysics

Project: Using Big Data to accelerate drug discovery

Gang Lin, PhD

Department: Microbiology and Immunology

Project: Treating deadly fungal infections with proteasome-inhibitor drugs

Randi Silver, PhD

Department: Physiology and Biophysics

Project: Alleviating chronic lung disease of prematurity

Stefan Worgall, MD, PhD

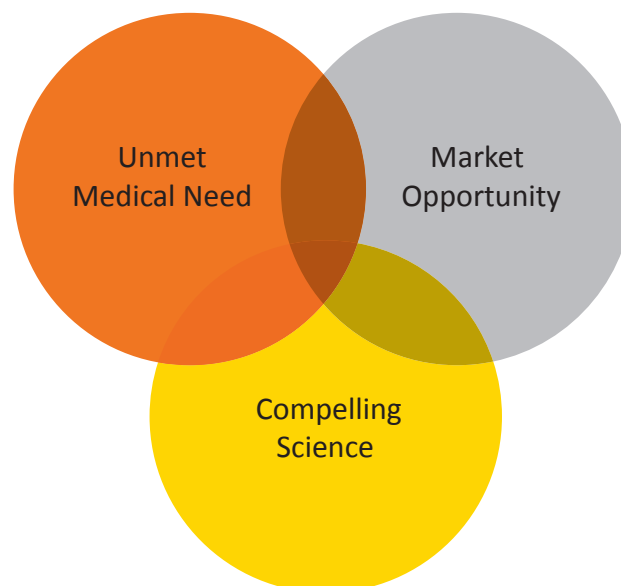
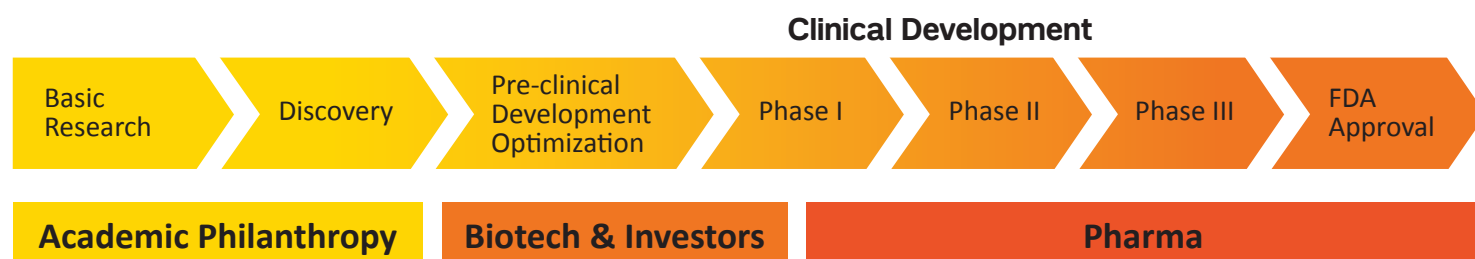
Departments: Pediatrics, Genetic Medicine

Project: Devising a therapeutic strategy to address asthma’s underlying cause

Haiying Zhang, PhD

Department: Pediatrics

Project: Developing nanotechnology for organ-specific drug delivery



The Daedalus Fund for Innovation

- Generates more investment-grade technology
- Decreases project 'risk' by funding critical studies to advance data and achieve the next value inflection point
- Strengthens patent estate and/or generates new intellectual property
- Accelerates cures to patients

To support critical research initiatives at Weill Cornell Medicine, please contact:
Lucille Ferraro, Campaign Director, 646-962-9491 or luf2003@med.cornell.edu

Martha Pollack Is Next Cornell President



MARTHA POLLACK, PHD

Martha Pollack, PhD, the provost and executive vice president for academic affairs at the University of Michigan, has been named the fourteenth president of Cornell University. An expert in artificial intelligence, Pollack holds an undergraduate degree in linguistics from Dartmouth and a doctorate in computer and information science from the University of Pennsylvania. “She is the perfect person to take the helm of Cornell at this important moment in our history,” says Robert Harrison, chairman of the Board of Trustees. “She has successfully man-

aged a comparably complex institution and is a bold thinker who will inspire our faculty and students in Ithaca and across all of our campuses, her academic background in computer science will serve us extremely well as we open the Cornell Tech Roosevelt Island campus next year, and her familiarity with the issues facing academic medicine will be invaluable as we continue to grow Weill Cornell Medicine in New York City.”

At Michigan, Pollack served as the chief academic officer and chief budget officer, responsible for an enterprise comprising more than 43,000 students and 16,000 faculty and staff and with annual operating revenues of \$3.4 billion. “As a private university with a public mission, Cornell is the embodiment of my own deeply held belief in

the ability of knowledge to improve the human condition,” says Pollack, who takes office on April 17. “I can’t wait to get started, and I look forward to meeting and working with Cornell’s outstanding faculty, students, staff, and alumni in Ithaca, New York City, and around the globe.”

Pollack—who will have tenured appointments in Cornell’s departments of computer science and information science—succeeds the late Elizabeth Garrett, who passed away in March 2016 after less than a year in office.

Martinez Named Chief of Pulmonary Care



FERNANDO MARTINEZ, MD

Fernando Martinez, MD, a clinician who specializes in fibrotic lung disease and airway disorders including asthma and chronic obstructive pulmonary disease, has been named chief of the Division of Pulmonary and Critical Care Medicine. In his new role, he plans to initiate two clinical and investigative centers: one that will focus on translating innovative therapies

for COPD and asthma from the lab to the clinic, and another that will work to personalize treatments for patients with pulmonary fibrosis. He also plans to put an increased emphasis on mentoring the next generation of pulmonary specialists. “With a four-pronged approach of undertaking robust investigations to better understand the biology of lung disorders, driving therapeutic decisions with patient-specific information, mentoring the next generation of pulmonologists to ask pointed and strategic questions, and enhancing community engagement, this division will remain a leader in the field,” says Martinez, who is also the Bruce Webster Professor of Internal Medicine.

TIP OF THE CAP...

Eftychia Apostolou, PhD, assistant professor of molecular biology in medicine, winner of a \$1.5 million NIH New Innovator Award.

Mark Lachs, MD, co-chief of the Division of Geriatrics and Palliative Medicine, the Irene F. and I. Roy Psaty Distinguished Professor of Clinical Medicine, and a professor of medicine, winner of the Irving S. Wright Award of Distinction from the American Federation for Aging Research.

Fabrizio Michelassi, MD, chairman of the Department of Surgery and the Lewis Atterbury Stimson Professor of Surgery, elected to the board of regents of the American College of Surgeons. **Barbara Bass, MD**, professor of surgery at WCM and the John F. and Carolyn Bookout Distinguished Presidential Chair at Houston Methodist Hospital, was named president-elect of the college.

Tony Rosen, MD '10, instructor in medicine, awarded a Paul B. Beeson Emerging Leaders Career Development Award in Aging from the National Institute on Aging and the American Federation for Aging Research. He will receive \$800,000 over five years.

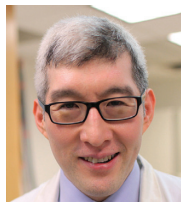
Peter Schlegel, MD, chairman of the Department of Urology, the James J. Colt Professor of Urology, and a professor of urology and of reproductive medicine, elected vice president of the American Society of Reproductive Medicine.

PHOTO: POLLACK, ROBERT BARKER; CORNELL MARKETING GROUP; MARTINEZ, ROGER TULLY; LEE, JOHN ABBOTT; HEIMLICH, CHRIS WITCHEV/CMG; LISTON, CARLOS RENÉ PEREZ; OTHERS PROVIDED

Faculty Elected to National Academy



JANE SALMON, MD



FRANCIS LEE, MD, PHD

Two members of the faculty have received one of the highest honors in health and medicine. Francis Lee, MD, PhD, and Jane Salmon, MD, were elected to the National Academy of Medicine in October. Lee is the Mortimer D. Sackler, MD, Professor of Molecular Biology in Psychiatry; a professor of psychiatry, pharmacology, and neuroscience; vice chair of research in the Department of Psychiatry; and co-research director of the NewYork-Presbyterian Youth Anxiety Center. Salmon is a professor of medicine in obstetrics and gynecology and associate dean of faculty affairs at WCM and a rheumatologist and the Collette Kean Research Professor at Hospital for Special Surgery.

NCI Grant Funds Cancer Genomics Center

WCM and the New York Genome Center (NYGC) have won a grant from the National Cancer Institute to support a joint cancer genomics data center for the research and clinical interpretation of tumors. Under the grant—\$490,000 annually for five years—the institutions will perform computational analyses examining DNA and RNA to understand the role of different mutations and to assess their clinical relevance in treating cancer. The team will be led by three co-principal investigators: Olivier Elemento, PhD, an associate professor of physiology and biophysics, associate director of the HRH Prince Alwaleed Bin Talal Bin Abdulaziz Al-Saud Institute for Computational Biomedicine, and head of the Caryl and Israel Englander Institute for Precision Medicine's computational biology group; Mark Rubin, MD, director of the Englander Institute for Precision Medicine and the Homer T. Hirst III Professor of Oncology in Pathology; and Michael Zody, PhD, senior director of computational biology at NYGC. "This is a very exciting collaboration between two outstanding institutions with complementary expertise," Elemento says. "The NYGC brings major computational infrastructure strengths and a world-class team of computational biologists. Weill Cornell Medicine brings extensive experience in the clinical interpretation of cancer genomes. It's a perfect match."

Heimlich Maneuver Inventor Dies at 96



HENRY HEIMLICH '41,
MD '43

Henry Heimlich '41, MD '43—inventor of the Heimlich Maneuver and a "double red" graduate of Cornell—passed away on December 17 at age ninety-six. Best known for devising and popularizing the technique of abdominal thrusts that has saved countless choking victims, the thoracic surgeon also designed several well-known medical devices, including a chest valve for treating collapsed lung that he developed for the battlefields of Vietnam. As an undergraduate, Heimlich majored in premed and served as drum major of the Big Red marching band; he attended his 75th Reunion on the Ithaca campus last spring.

FROM THE BENCH



CONOR LISTON,
MD '08, PHD

Depression Subtypes Identified

Patients with depression can be categorized into four unique subtypes defined by distinct patterns of abnormal connectivity in the brain, says a study in *Nature Medicine*. Conor Liston, MD '08, PhD, assistant professor of psychiatry and of neuroscience in the Feil Family Brain and Mind Research Institute (BMRI), identified biomarkers in depression by analyzing more than 1,100 brain scans of patients with clinical depression and of healthy controls. The biomarkers may help doctors better diagnose depression subtypes and determine which patients would likely benefit from targeted neuro-stimulation therapy.

Study Chronicles Drop in Prostate Testing

Some potentially life-threatening cancers may be going undiagnosed or untreated since a federal task force recommended against prostate specific antigen testing in 2012—a decision that WCM researchers believe was based on faulty methodology. In *JAMA Surgery*, a team led by Jim Hu, MD, the Ronald Lynch Professor of Urologic Oncology and director of the LeFrak Center for Robotic Surgery at NYP/Weill Cornell, chronicled a reduction in the rate of prostate biopsies and radical prostatectomies since the recommendation, which was made due to concerns about over-diagnosis and over-treatment for cancers that are not life-threatening. Examining data from 2009 to 2016, the researchers found an overall decrease of 28.7 percent in biopsies and 16.2 percent in radical prostatectomies. The same team had demonstrated in *European Urology* that men are now more likely to have more advanced prostate cancers at the time of radical prostatectomy.



NICHOLAS SCHIFF, MD '92

Brain Function Tracked in Minimally Conscious Patient

Researchers who studied a young woman who suffered severe brain injury following massive strokes—but recovered the ability to communicate using her left eye—have concluded that she had restored connections and function of the areas of her brain responsible for producing language and responding to speech. The research, in *Science Translational Medicine*, marks the first time that scientists have captured the restoration of communication of a minimally conscious patient by measuring aspects of brain structure and function before and after communication resumed. Nicholas Schiff, MD '92, the Jerold B. Katz Professor of Neurology and Neuroscience in the Feil Family BMRI, was senior author.

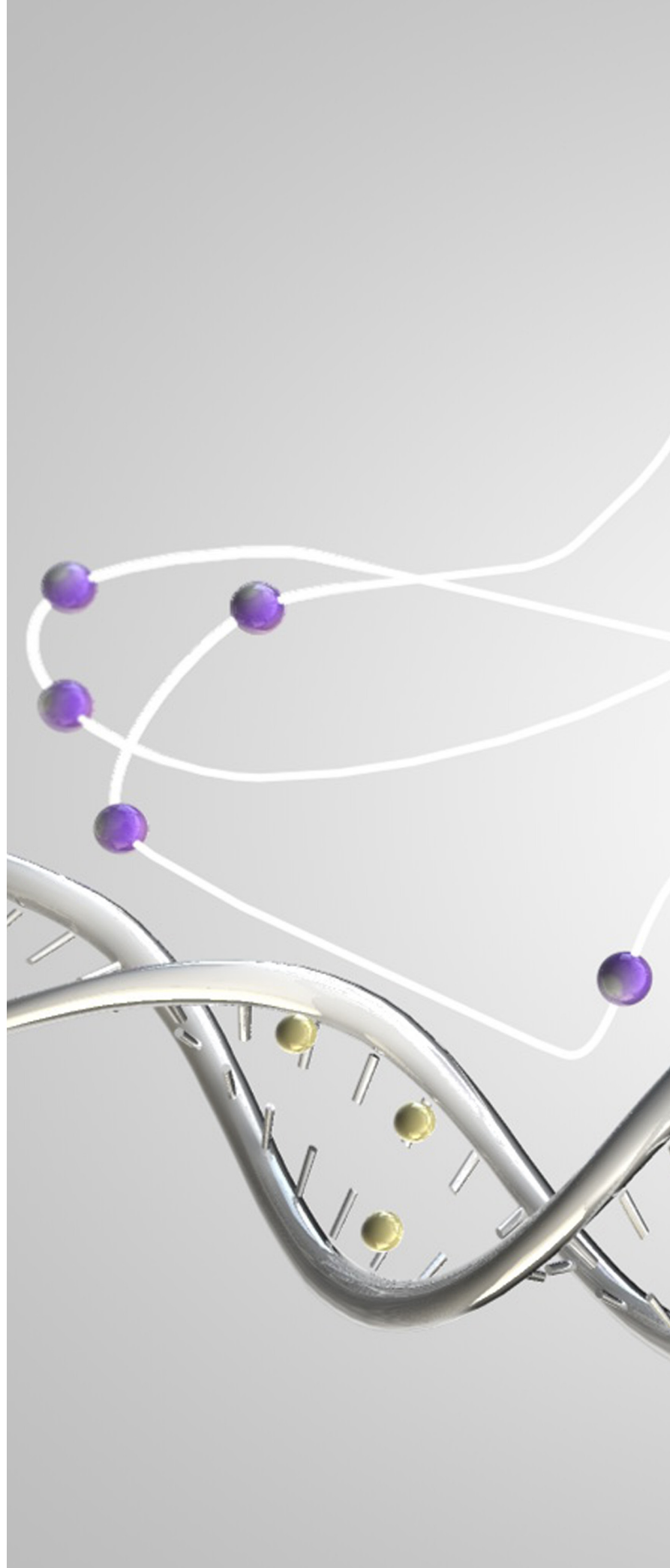
Drug Could Aid Transplant Patients

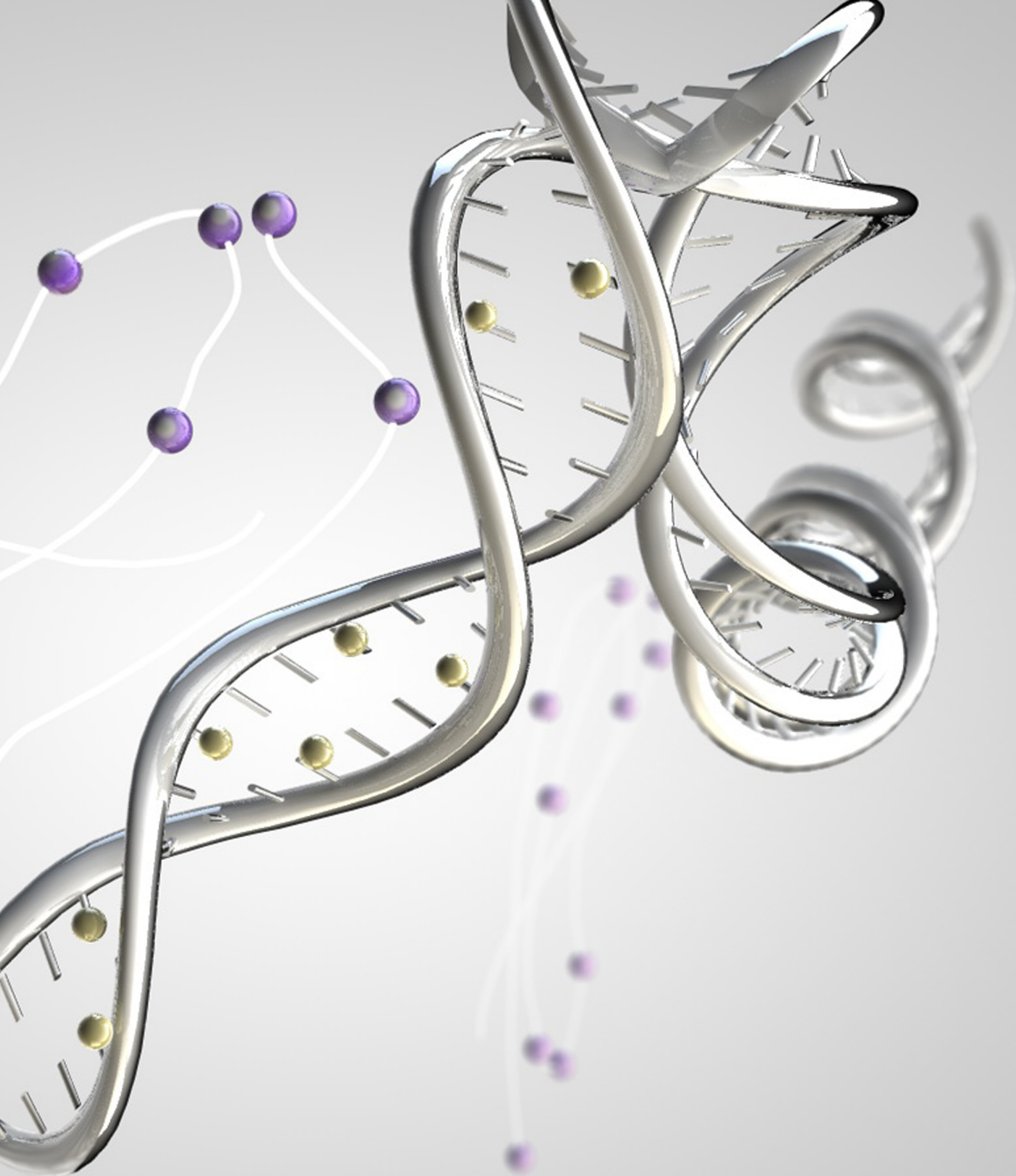
An experimental drug that blocks the activation of an immune cell component has been shown to effectively prevent rejection of heart transplants in mice. The findings, in *Proceedings of the National Academy of Sciences*, describe a compound that inhibits certain cellular structures while sparing others—thereby preventing the toxicity caused by similar drugs currently used in transplant medicine. "Transplant patients often have to continue toxic, broadly immunosuppressive agents for a long period of time, increasing the risks of infection, cancer, and toxicity to the graft itself," says co-senior author Carl Nathan, MD, chairman of microbiology and immunology and the R.A. Rees Pritchett Professor of Microbiology. Nathan invented the compound with Gang Lin, PhD, associate professor of research in microbiology and immunology, and they have filed a patent for it.

Ties that Bind

An artist's representation of work conducted in the lab of pharmacology professor Samie Jaffrey, MD, PhD, depicts strands of RNA (in white) binding to DNA to control gene expression. The research, on chemical tags on RNA that silence X chromosomes in female mammals, was published in *Nature* in September, with Jaffrey as senior author.

IMAGE: ELLA MARUSHCHENKO





Rested and Refreshed

Technological advances—better breathing machines and a revolutionary surgical implant—offer relief to the rising number of patients with sleep apnea

Stephen Allen's wife had complained about his snoring for years, but he admits that he never took the problem particularly seriously. As the sixty-six-year-old Manhattan resident observes with a rueful laugh: "My father snored. My sister snores. People snore."

Then one night about seven years ago, his wife woke him from a sound sleep and told him he'd been gasping for air—and made him promise to see a doctor about it right away. His cardiologist referred him to Weill Cornell Medicine's Center for Sleep Medicine, where Allen underwent an overnight sleep study and was diagnosed with an increasingly common and potentially serious condition: obstructive sleep apnea (OSA).

Sleep medicine expert Ana Krieger, MD, the physician who diagnosed Allen and has been treating him ever since, calls apnea a "huge" problem, affecting more than 50 million people in America. "It's highly prevalent," says Krieger, medical director of the Weill Cornell Center for Sleep Medicine and an associate professor of clinical medicine, "and because of increased rates of obesity, it's getting to be even more common." Apnea occurs when the airway is narrowed or obstructed during sleep, causing breathing to be interrupted. The condition can have severe ramifications, putting sufferers at increased risk for stroke, heart attack, and heart failure, as well as fatigue-related accidents. Apnea cases are categorized by how many times per hour breathing is interrupted: five to fifteen is considered mild, fifteen to thirty moderate, and above thirty severe. But in the worst cases, Krieger says, "it can be as frequent as 130 times an hour"—meaning that people stop breathing more than twice per minute.

Being overweight is a major risk factor for OSA, as fat deposits can narrow the airway. Snoring is the most common symptom, but as Krieger points out, "not everyone who snores has sleep apnea, and not everyone with sleep apnea snores all the time." Other indications include not feeling refreshed in the morning; having sudden-onset atrial fibrillation or cardiac arrhythmia with no other obvious risk factors; and, in men, waking up repeatedly to use the bathroom, which may be caused by a hormonal imbalance stemming from poor sleep rather than urologic issues. But in general, Krieger says, "apnea is a silent disease; unless people have someone observing them while they sleep, they're not aware of it." In fact, patients with severe cases often fancy themselves excellent sleepers, because they can drop off anytime—which is actually due to the fact that they're so tired.

For two decades, the primary treatment for apnea has been the use of a portable breathing machine known as a CPAP (for continuous positive airway pressure), which keeps the airway open

by forcing air through the nose. While Allen took to his immediately—"the first time I tried my CPAP machine, I fell in love," he says—many patients have had a tougher time. They'd find the face masks too bulky and uncomfortable, the air pressure disconcerting, and the noise disruptive to bed partners, prompting them to stash the machine in a closet and continue suffering.

Happily, though, the machines have evolved, and technological innovations have made the CPAPs much more user friendly. Even Allen admits that the large mask on his original contraption made him look vaguely like Hannibal Lechter from *Silence of the Lambs*; his new one, by contrast, consists of two small nasal pads made of comfortable silicone attached by a single elastic strap. The machine connects to the Internet, allowing him to keep track of his performance—and for Krieger to monitor his data remotely and tweak the settings as needed. "The new machine clocks your hours, so as soon as I wake up I can see how long I've slept," he says. "My body is not being beaten up by trying to grab air. I wake up rested and refreshed, and knowing I had a good night's sleep also helps me psychologically."

In general, says sleep expert Ana Krieger, 'apnea is a silent disease; unless people have someone observing them while they sleep, they're not aware of it.'

But for fellow apnea sufferer Daniel Mittler, even the new generation of CPAP machines didn't appeal. A sixty-four-year-old living on Long Island, he describes himself as a "very heavy snorer" for the better part of a decade. He eventually got diagnosed with OSA and tried the CPAP, but he describes it as "always very uncomfortable." When his condition worsened three years ago to the point where he was perennially exhausted, a sleep study showed he was waking up as often as eighty times a night—so he grudgingly agreed to give the CPAP another go. "They set me up with a new machine," he says, "and it was just as awful."

Then he heard about a brand new surgical treatment that NewYork-Presbyterian/Weill Cornell Medical Center was offering, the first hospital to do so in the New York metro area. It was a pacemaker-like device, dubbed Inspire, that coordinates with a patient's breathing and stimulates the nerves in the tongue to open up the airway. The first device of its kind approved by the



SLEEP SOLUTION: Ana Krieger, MD, and apnea patient Stephen Allen, who says he “fell in love” with his CPAP breathing machine

FDA, it’s implanted under the skin in the upper chest, and wires are threaded to the nerves at the base of the tongue and to the chest wall. Mittler underwent the implantation procedure in March, and a month later the device—which is turned on and off by a small remote control and automatically runs for eight hours—was activated. “That first night it was simply fantastic,” he recalls. “I slept through the night and I still do. My snoring had stopped—and I never realized how much the snoring was keeping me up. It was like my life had changed.”

The surgeon who implanted his device, Maria Suurna, MD, specializes in operating on patients with sleep issues. Until now,

she says, the various surgical options for OSA have all consisted of altering the anatomy to widen the airway—sometimes even breaking bones in the jaw to reconfigure them. The Inspire implant has offered an effective and appealing alternative, she says, calling it “the most revolutionary treatment for apnea since the invention of the CPAP.” About a dozen patients have received the device so far, with another thirty or so awaiting insurance approval. “Everybody we’ve implanted so far has done very well,” says Suurna, an assistant professor of otolaryngology–head and neck surgery. “The outcomes have been great, and our patients are extremely happy.” ■

—Beth Saulnier

Baby Steps

Alumni start-up uses big data to improve fertility treatment outcomes



Infertility affects about 12 percent of American couples, many of whom turn to a fertility specialist after failing to conceive or carry a pregnancy to term. But there has been a persistent challenge to helping those couples become parents: information on which treatment strategies work best in particular types of patients—and why—has been limited. But Celmatix, a New York City-based personalized medicine company focused on reproductive health, is trying to change that.

Founded in 2009 by two Weill Cornell Medicine alumni, Celmatix is in the business of what CEO Piraye Yurttas Beim, PhD '08, calls “proactive fertility.” Since its launch, the company has worked with clinics across the country to collect information on 300,000 couples, including the results of a half million treatment cycles, in the hope that patterns will emerge that can provide physicians with more personalized insights on their patients. This data powers Celmatix’s first product, Polaris, a cloud-based data analytics platform deployed at top fertility clinics across the country to help more physicians counsel patients on what their path to parenthood might look like. Celmatix’s next goal: to release a test that can check for genetic markers linked with the most prevalent reproductive conditions, many of which underlie infertility.

The company has worked with clinics across the country to collect information on 300,000 couples, including the results of a half million treatment cycles, in the hope that patterns will emerge that can provide physicians with more personalized insights on their patients.

“This isn’t just about helping couples who are already struggling with infertility,” Beim says, “but also about empowering the next generation to be proactive about this from a young age.”

Beim and her Celmatix co-founder, Laura Towart Bandak, MS '09, were roommates in 2001, when they were both starting work at the Graduate School of Medical Sciences. Beim was studying cell and molecular biology, Bandak was pursuing neuroscience,

PHOTO: ISTOCK.COM/T005

and they shared a passion for translational research. As the years passed and each went down a separate path, they stayed in touch and hoped they'd find a way to work together some day. That time came in 2008, when Beim was doing an embryology postdoc at the UK's University of Cambridge.

During the course of her studies, Beim had seen the influence that personalized genomics can have on cancer diagnosis and treatment, and also how genetic alterations can drive infertility in mice. Although these research areas don't appear to have much in common, something clicked for Beim as she sat in on scientific meetings at Cambridge about the latest advances in treating infertility. For the first time, she heard about patients who underwent five or ten rounds of in vitro—by far the most invasive and expensive fertility procedure—to attempt to become pregnant. She remembers raising her hand and asking who was bringing personalized medicine to this field. “I asked this kind of naïve question,” Beim says, and she realized that there was an opening to bring big data to the field.

Soon after this “a-ha” moment, Beim quit her postdoc, moved back to New York, and teamed up with Bandak, who had always been interested in biotech entrepreneurship. Beim spent nights crashing on Bandak's couch in TriBeCa, and for eighteen months they pounded the pavement trying to get their new venture off the ground. Crossing this “valley of death” between concept and funded company wasn't easy for two unproven entrepreneurs transitioning from academia: they were rejected for an NIH small business grant and by business plan competitions and venture capital firms. Those early setbacks inspired them to recruit an advisory board and to revise their initial plan to establish their own lab instead of outsourcing their experimental work, which lowered operational costs.

After recruiting their first clinical research partners, they were able to collect solid data that confirmed their hypothesis of a genomic basis for infertility, Bandak says. Based on these early findings, they



PHOTOS: TOP, JAMES WINEGAR; BOTTOM, HASAN AL KHUNAIZI

Piraye Yurttas Beim, PhD '08



Laura Towart Bandak, MS '09

received a White House-sponsored Qualified Emerging Technology grant, which allowed them to almost double investor contributions before the end of 2009. A major investor soon entered the scene, others followed, and Celmatix has now raised nearly \$30 million. This capital has allowed them to build what they say is the world's largest whole genome reference dataset linked to reproductive outcomes and infertility, launch Polaris, and open an office on Wall Street and a clinical lab in Brooklyn to house the company's seventy employees.

Today, Beim—who was voted to *Crain's* “40 Under 40” list in 2013, profiled as one of the top fifteen entrepreneurs disrupting their industries by *Fortune*, and named one of the Top Female Founders by *TechCrunch*—is the company's CEO. (Bandak had held that position before stepping down when her family, including her now-six-year-old twins, moved to Bahrain in 2011; she remains on the board of directors.) Celmatix continues to add more patient data to the Polaris platform, and is recruiting new clinics to join the dozen across the country already using it to help couples understand—and increase—their odds of conceiving. In February, Celmatix announced a research collaboration with the consumer genetics company 23andMe; the arrangement has allowed Celmatix to access 23andMe's data to accelerate its work on the genetic underpinnings of infertility. The goal is to release a genetic test to look for markers of infertility, which ob/gyns could offer to their patients at an annual appointment. “Just as someone can have a predisposition to cancer, people can be predisposed to infertility,” Beim says. “If people are empowered with information that helps them understand they might have a harder time having a baby, or even go into early menopause, it allows them to make proactive decisions around their fertility earlier. This knowledge can mean everything in helping them reach their goal of having a family.” ■

— Anne Machalinski

Hitting Her Stride

Meet Lisa Roth, MD—oncologist, cancer survivor, distance runner

Lisa Roth, MD, was newly married and fresh from a fellowship in pediatric hematology/oncology when she became a cancer patient: a swollen lymph node near her collarbone proved to be part of a larger tumor in her chest. Roth—an assistant professor of pediatrics, of pediatrics in medicine, and of pathology and laboratory medicine—completed a four-month course of chemotherapy for Hodgkin lymphoma in December 2013. A few months later, with her disease in remission, she began training for a 10K with the Leukemia & Lymphoma Society. She ran that race, then tackled her first half-marathon—and in 2015, she gave birth to a son.

You've dedicated your career to treating and researching cancer—Hodgkin lymphoma in particular. What was it like to have the disease yourself? In some ways it was very challenging, because I understood all the complications that could arise. But on the other hand, I knew that Hodgkin lymphoma is relatively curable, so that was comforting. I was surprised at what aspects were hardest for me, like losing my hair—being visibly sick. As a doctor, you're usually not that vulnerable.

During your treatment, did you ever wish you knew less about the disease? Absolutely. And at times it was hard to keep my family informed on a level they could understand, because as an oncologist, the discussions I had with my physicians were very different than those that a patient typically has.

How has surviving cancer informed the way you practice now? I relate to my patients in a way that I couldn't before. I understand all the nuances and stressors of going through this—having your body, which was perfectly healthy, turn on you and flip your world upside down. It's amazing how every element of your life changes with a cancer diagnosis.

Has it spurred you to do anything specific in medicine? I wanted to turn my experience into something positive, so I started a clinical program focusing on lymphoma in adolescents and young adults. The eighteen-to-forty age range is a unique place to be as a cancer patient, because you don't quite fit into the pediatric or adult clinics.

Do you share your treatment experience with patients? I do. I think the people who find it most helpful are young women with lymphoma, who can closely relate. They're comforted to hear that someone can survive this and go on to have a family, which a lot of them are concerned about.

How has becoming a mom informed your work as a pediatrician? The way that parents fight for their children, how they understand when something is off that others might not notice—as a mother, you really come to appreciate that. You also appreciate that what might seem like minor issues are a big deal to a mom. Factoring that into how I care for the child is something that I've incorporated into my practice.



In general, what do you find gratifying about pediatric oncology? Most of my patients are healthy children who suddenly receive the worst diagnosis a parent could imagine. It's a privilege to help them and their families, and it's incredibly rewarding to follow these patients for many years, as they go back to their regular lives, start kindergarten, graduate high school, get married.

What are the specialty's challenges? The stakes couldn't be any higher, so even the smallest decisions are taken with the most serious consideration. Losing a patient is the most difficult part of the job; those children and their families stay with you forever.

Is there a particular patient who's indelibly in your memory? The first child I treated in fellowship was a thirteen-month-old boy with an aggressive tumor called a neuroblastoma. He responded to chemo and was doing well, but the tumor came back, and he passed away shortly after his second birthday. It was heartbreaking to watch his family go through the agonizing decision to stop treatment and take him home—that was my first loss as a physician, and it has stuck with me. His story motivates me to work harder.

Why take up running after your recovery? After you've had an experience where your body isn't working for you, to then be able to turn that around, set goals, and push beyond what you thought you could do—that's very empowering. ■

—Beth Saulnier

PHOTO: ABBOTT

Help Unwanted

In a new book, psychiatrist Dinah Miller, MD '88, explores the burdens and benefits of involuntary commitment



Dinah Miller, MD '88

In July 2012, a young man with a history of erratic behavior opened fire in a movie theater in Aurora, Colorado, killing twelve people and injuring seventy more. That December, another young man—who'd struggled with psychiatric and social problems since childhood—murdered his mother and then shot and killed twenty children and six adults at Sandy Hook Elementary School in Newtown, Connecticut. As politicians, the news media, and the public tried to make sense of these events, a question arose again and again: If we can

find mentally ill people who are potentially violent and force them to get psychiatric care, can such tragedies be prevented?

The events of 2012 prompted psychiatrist Dinah Miller, MD '88, to push forward with her own research into one of the most controversial issues in psychiatry today: the benefits and costs of forced inpatient and outpatient treatment. The result is her book *Committed: The Battle Over Involuntary Psychiatric Care*, published last fall by Johns Hopkins University Press. Coauthored with forensic psychiatrist >



PHOTO: ISTOCK.COM/SMITH

Annette Hanson, MD, it was lauded in the *Washington Post* as “a highly informative and surprisingly balanced book that should be read by anyone with a personal or professional stake in how the mental health system provides care to those with chronic severe illnesses and those in acute crisis.”

Hanson and Miller, who has a private outpatient practice in Baltimore and an appointment as an instructor at Johns Hopkins School of Medicine, mustered evidence and voices from every side of the debate over mental health system reforms, patients’ rights, and the benefits and consequences of forced care. “The discussion of involuntary psychiatric treatment has become so polarized,” says Miller. “We wanted our approach to be complex and nuanced, and to recognize the important perspective of patients who had been committed involuntarily.”

In fact, Miller’s interest in writing about the topic arose from a dialogue with patients who were readers of *Shrink Rap*, her long-time blog on psychiatric conditions and issues (and the foundation for a 2011 book, *Shrink Rap: Three Psychiatrists Discuss Their Work*).

‘If someone came into the hospital delusional and terrified and was restored to their sanity,’ Miller wonders, ‘why don’t they view their commitment as a positive experience?’

When the subject of involuntary care came up, Miller was startled by the number of comments expressing anger and post-traumatic stress about psychiatric commitments, even when treatment had been effective. Says Miller: “My first thought was, ‘If someone came into the hospital delusional and terrified and was restored to their sanity, why don’t they view their commitment as a positive experience?’”

As she went deeper into the commenters’ stories, however, she realized that many experienced the loss of freedom as a trauma in itself, and the forced administration of psychiatric medications as an act of violence. The contrasting cases of two *Shrink Rap* readers, identified by the pseudonyms Eleanor and Lily, are told in chapters throughout the book—in their own words and those of their family members, through examinations of their medical files and conversations with their doctors, and in Miller’s own reflections on what these cases mean in the larger context of involuntary psychiatric care. Lily now considers herself lucky to have been committed and believes that it was a turning point in getting better. Eleanor continues to resent her involuntary hospitalization, saying that she would rather die than go in again. “Even if we suspect that a patient’s perspective might be affected by their illness,” Miller asks, “shouldn’t we take into account what they’re saying?”

In addition to patients, *Committed* brings many other voices into the discussion. E. Fuller Torrey, MD, a schizophrenia researcher who advocates involuntary care, discusses the controversial new

concept of anosognosia, a neural deficit that makes it impossible for some patients to perceive their own illness and voluntarily accept treatment. On the other side of the debate, Miller talked with Daniel Fisher, MD, PhD, a schizophrenia researcher who had already begun his career when he was diagnosed with the illness. His personal and professional experiences have led him to believe that mental healthcare should move in the direction of fewer involuntary commitments, rather than more. Miller struggled to find families that would speak to her about getting involuntary care for their loved ones, but the book’s foreword was written by Pete Earley, author of the Pulitzer-nominated *Crazy: A Father’s Search through America’s Mental Health Madness*. The former *Washington Post* reporter describes the experience of committing his son, diagnosed with bipolar disorder, to a mental hospital during a psychotic episode, and he ends the piece with a heartbreaking question to other parents: “What would you do?”

Committed also includes interviews with representatives of the Church of Scientology and MindFreedom International, both of which oppose mainstream psychiatry as a whole; a police officer who is part of a special mental health crisis intervention team; a resident in an emergency department who often has to make the call about whether to set the involuntary commitment process in motion; and many other legal and medical experts. Miller, who conducted most of the interviews while Hanson pursued the statistics and legal cases that appear throughout the book, reports many of her conversations in the first person, describing the subjects with a novelist’s eye (she has also authored several fiction books). Ultimately, her reporting crystallized her frustration with the limits of the current system. “Psychiatry is the only field in which you have to have a life-threatening illness even to get into the hospital,” she says, citing the decline in hospital beds for mentally ill patients and the deficit of mental health professionals in communities across the country. “You can walk into an emergency department and say that you’re having chest pain, and you may get a day or two in the hospital while they run tests. In psychiatry, if you’re not in imminent danger of harming yourself or others, it may be difficult to get the help you need and want.”

At the end of *Committed*, Miller and Hanson make clear their own position in the debate over involuntary psychiatric treatment: while forced care may sometimes be necessary, it’s neither a panacea for violence nor a step that should be taken without serious consideration for the trauma that it may cause individuals who are already suffering. They offer a list of recommendations gleaned from their research, including education for both families and physicians to help identify the onset and progression of mental illness; special training for inpatient staff, emergency room personnel, and police officers who may interact with patients; and elimination or reduction of practices like strip searches and seclusion that can be especially traumatic. “Over and over, patients recalled the moments of kindness they received in the hospital, even something as simple as a cup of tea or a warm bath,” Miller says. “And they want hope that they will get better. If we can offer them kindness and hope, then any treatment will be more effective.” ■

— C. A. Carlson

Answering the Call

In an excerpt from *Committed*, Miller describes her ride-along with a police officer trained to cope with mental health crises

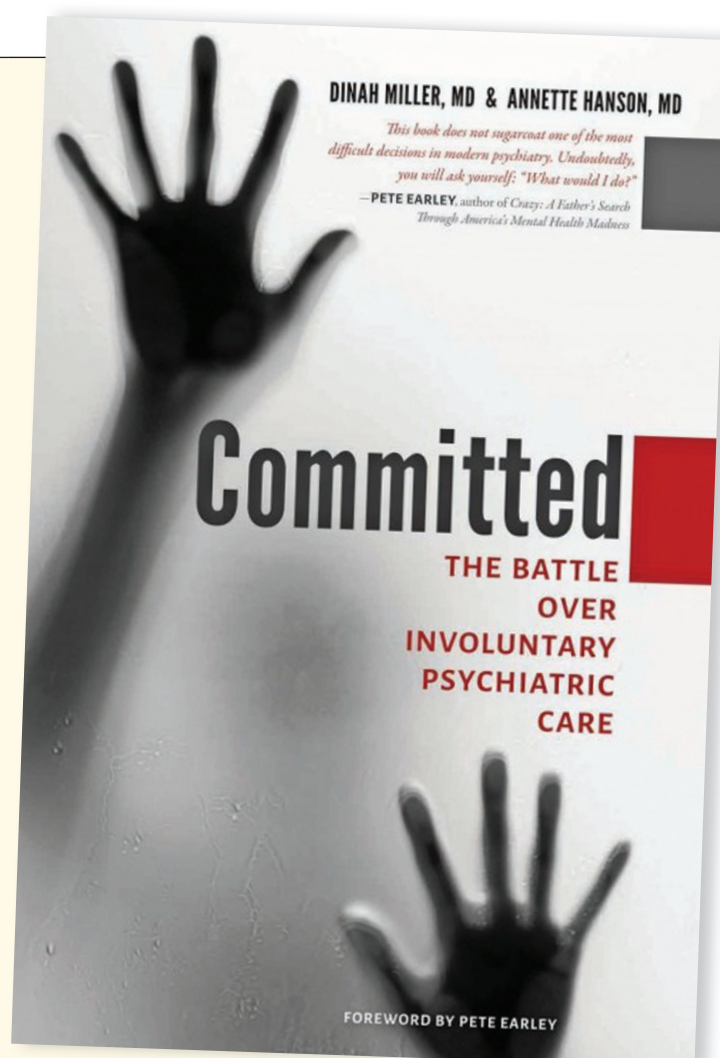
Because the police are often responsible for transporting involuntary patients to the hospital in the course of a crisis, law enforcement is a logical place to begin the discussion of how forced psychiatric care transpires. I chose to follow a crisis intervention officer for two reasons: Officer Scott Davis [who heads the crisis intervention team at the Montgomery County Police Department, based in the Washington, D.C., suburb of Gaithersburg, Maryland] was willing to have me accompany him, and specific mental health training might well be a small part of the solution to the broader societal problem of how we treat the ill among us. “I tell my officers, you’re social workers, whether you like it or not, because they’re not calling their therapists or psychiatrists at three in the morning and getting a response,” Officer Davis said. “They call us, and we have to handle that call. We don’t have a choice.”

One of the major complaints about involuntary hospitalization is that the process can be upsetting and humiliating. People are handcuffed and escorted to a patrol car, sometimes in front of their neighbors, co-workers, or family members. At the Crisis Center [run by the county’s Department of Health and Human Services], Davis and another police officer handcuffed a patient to bring her to the Emergency Department. They made a point of telling her repeatedly that this was protocol and that she had

One of the major complaints about involuntary hospitalization is that the process can be upsetting and humiliating.

not done anything wrong. It helped that while she was disorganized, manic, and agitated, she was cooperative and did not resist any of their maneuvers; my sense was that this was not the first time the police had transported her to an emergency room.

The two officers helped the woman into Davis’s car, displacing me into the back seat for the short ride, and told her how to hold her hands to prevent discomfort. At moments during the brief ride, she was agitated, upset, and loud. At other times, she was calmer and talked about her sister, who also had a mental illness. Davis uncuffed the woman as soon as she was settled at the hospital. “The unpredictability of mental illness dictates that we have to do this to be safe. There’s no other restraint yet; handcuffs are it.”



Mental health dispatches, he noted, are always called as emergencies, even if the original contact is from the Crisis Center for a patient who is calm and cooperative. “If a patient tells the therapist he’s thinking about killing himself, they’ll call the police for a transport, and that goes out as a lights-and-siren response. I’m trying to get the dispatch supervisors to change that, to make it not an emergency response. If someone has a knife to their throat, then that needs an emergency response.”

Davis shared some of the frustrations with his job. He didn’t like being the lowest in the pecking order in the chief’s office. His ideas, he noted, were sometimes dismissed. “What I do is very nontraditional. It’s very hands-on, it’s very action-oriented, it’s very time-intensive, and some officers don’t get it. They think, ‘I’m here to be a cop, to write tickets, to stop a bank robbery.’ We get those calls too, but it’s a very small percentage of what we do. Most of the time, we’re interacting with emotionally disturbed clients in the field. I’ve dealt with them right on that sidewalk. Here,” he said, pointing to the pavement where I was standing with him in a strip mall. “They are everywhere.”

This excerpt is taken from “COMMITTED: The Battle Over Involuntary Psychiatric Care” by Dinah Miller and Annette Hanson. Published by Johns Hopkins University Press © 2016. Reprinted by permission of the publisher.

Back to the Future

A two-decade-old study on an experimental Parkinson's treatment offers clues to new therapies



Claire Henchcliffe,
MD, DPhil

Lynda McKenzie was in her early thirties when she started noticing some odd physical symptoms. She was a single mother of two who owned a small crafts shop in Milton, Ontario, and everyday tasks at home and work were becoming more challenging. “My right leg was dragging, I had a slight tremor, and my voice was getting softer,” says McKenzie. “Also, my writing was getting smaller—it seemed like messages weren’t going from my brain to my hands.”

As time went on, her symptoms became more intense, and in 1987 McKenzie went to a doctor who diagnosed her with Parkinson’s disease. At age thirty-four, the news came as a shock, but it was helpful because she could finally seek treatments that might help. One included a double-blind placebo surgical study led by Curt Freed, MD, of the University of Colorado. Half the patients enrolled in the study received a transplantation of fetal brain tissue cells meant to change the brain’s chemistry and alleviate Parkinson’s symptoms. One of those patients was McKenzie.

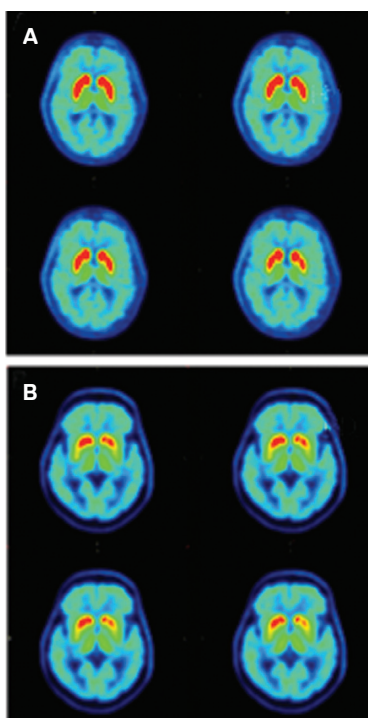
Two decades later, WCM physician-scientist Claire Henchcliffe, MD, DPhil, decided to revisit Freed’s study—which, at the time it was conducted, was considered groundbreaking and potentially game-changing. As a clinician-scientist focused on studying the pathology of Parkinson’s disease for decades, she wondered how the surviving patients were doing today, and what implications that might have for contemporary research into stem cell-based transplants for Parkinson’s patients. “No one had systematically gone back to see how effective the tissue injections had been over the long term,” says Henchcliffe, an associate professor in the Department of Neurology and the Feil Family Brain and Mind Research Institute. “Knowing how these patients are doing could provide insight and direction for future research.”

In spring 2015, Henchcliffe and a team of collaborators at WCM

met with McKenzie and four other surviving patients who’d received the experimental surgery, interviewing them in person and scanning the brains of three. “While five patients may seem like a small number, this kind of study is unprecedented,” Henchcliffe notes, because no scientists have systematically studied the long-term aftereffects of fetal tissue transplant surgeries. “So we helped coordinate transportation for them, even flying out to see two patients who couldn’t get to us.”

During the transplant study, which ran from May 1995 to January 1998, Freed and his colleagues surgically implanted fetal brain tissue into patients’ brains in the hope of replenishing their levels of dopamine—a chemical that helps coordinate the body’s movements, but which is depleted by Parkinson’s. Overall, within a year of the procedure, the patients’ dopamine levels did increase. Unfortunately, though, the transplants didn’t offer the cure that McKenzie and her fellow patients had wished for: their symptoms relented for a while, but ultimately returned. Their disease continued to progress, albeit more slowly than it might have otherwise.

The patients Henchcliffe met with had been diagnosed at an early age and had been living with Parkinson’s for a long time—at least twenty-eight years and as long as thirty-six—which is unusual among patients with early Parkinson’s diagnoses, who usually have a decreased life expectancy compared to those diagnosed later in life. In the three who received PET scans, her team found that the implanted fetal tissue had survived in its intended location in the brain. What’s more, she says, “the patients’ levels of dopamine were a lot more robust than what you’d expect at this late stage of Parkinson’s disease.” That increased dopamine had had a generally helpful effect: their symptoms, while serious, were markedly less severe than what doctors would have anticipated in the normal



BRAIN SCANS: PET images of a healthy volunteer (box A) and of a man who’s had Parkinson’s for eight years (box B).

PHOTOS PROVIDED



STEP BY STEP: In scenes from a research video, Parkinson's patient Lynda McKenzie demonstrates walking for Henchcliffe (in white coat).

course of Parkinson's. "They were functioning at a higher-than-expected level," Henchcliffe says, which was a big surprise. "They took comparatively few medications, and two were walking without walkers and living independently."

The added dopamine did not appear to help alleviate all symptoms of Parkinson's, however, just some of the lost motor skills; some patients still experienced the depression, dizziness on standing, and drooling commonly seen in the disease. And Henchcliffe also found that the added tissue had caused some adverse effects normally only associated with very late stages of Parkinson's and with overdoses of some Parkinson's medications. Three patients were suffering from involuntary jerking movements, called dyskinesia, and one developed oral-facial dystonia—a lack of control over the mouth, tongue, and jaw muscles that caused grimacing.

While Freed's study did not ultimately revolutionize Parkinson's treatment, Henchcliffe says, it offers valuable insights into how today's neuroscientists may design cell transplant therapies, and suggests that tissue transplants that deliver dopamine into the brain could provide a durable, long-lasting treatment for Parkinson's disease. Building on the promise of the long-term results of Freed's study, Henchcliffe is eager to explore—with a team of collaborators at WCM and Memorial Sloan Kettering Cancer Center—how human embryonic stem cells could improve the lives of Parkinson's patients: Henchcliffe believes that dopamine neurons derived from the stem cells would more accurately and effectively promote the brain's production of dopamine. "Pharmaceutical treatments can add dopamine to the brain, but they aren't perfect: they require people to take medication for life, and they have limitations over the long term," says Henchcliffe. "A transplant approach, on the other hand, could get to the root of the problem." ■

— Erica Cirino

'No one had systematically gone back to see how effective the tissue injections had been over the long term. Knowing how these patients are doing could provide insight and direction for future research.'

All In

Recipients of new grant are outstanding scientists, physicians—and mothers

PHOTOS BY JULIA XANTHOS LIDDY

INTRODUCTION BY ANNE MACHALINSKI

PHOTO CAPTION INTERVIEWS BY JORDAN LITE

A little over a year ago, Jennifer Downs, MD '04, PhD '11, made an exciting discovery while studying the relationship between a parasitic worm and HIV infection in sub-Saharan Africa. But Downs, an assistant professor of medicine in microbiology and immunology at Weill Cornell Medicine's Center for Global Health, saw a snag. Despite having promising early data showing that HIV-infected people who carry the worm have greater concentrations of HIV in their blood, causing them to become sicker from AIDS more quickly—and to transmit the virus to others more easily—the necessary follow-up studies would require her to spend a good deal of time in her New York City lab, a full day's travel away from where she and her husband are raising their three children in Mwanza, Tanzania.

Enter the Junior Faculty Fellowship Fund, a program established in 2015 with a \$1.25 million gift from the Anna-Maria and Stephen Kellen Foundation. It provided Downs and four other exceptional female scientists—all of whom have primary child care responsibilities—\$50,000 each for research expenses. Downs, thirty-eight, used that money to support her new line of research and hire a lab technician in New York, whom she oversees remotely. "It's phenomenal," says Downs, also the Friedman Family Research Scholar in Pediatric Infectious Diseases. "The Junior Faculty Fellowship grant was the perfect opportunity for me."

Though junior male faculty are also eligible to apply, the grant was developed in direct response to the stark gender discrepancies that exist in senior positions in academic medicine and research. According to national figures from the Association of American Medical Colleges, the equal gender representation that's present at the student and resident levels becomes more and more disparate in senior positions, with women only accounting for 24 percent of division chiefs, 15 percent of department chairs, and 16 percent of

deans. Weill Cornell Medicine has a higher rate of female senior/associate deans—52 percent—but the remainder of its statistics are in line with the AAMC findings, or in some categories slightly better. "Something critical is happening between the early career, assistant professor level and the associate professor level that is disproportionately affecting women," says Randi Silver, PhD, associate dean of the Graduate School of Medical Sciences and professor of physiology and biophysics, who oversees the grant. The drop-off, she notes, is likely related to having and raising children, which can limit one's ability to work long hours and pursue outside funding. "The grant is targeting junior faculty—especially women, who tend to be primary caregivers—at a crucial point," Silver continues, "which makes this a unique and much-needed award."

For the five physicians and scientists who received the award in its inaugural year, the funding ultimately provided them with time that they might not otherwise have had to publish and solidify their reputations at a moment in their careers when such exposure is critical. Downs notes that such support has allowed her to push back against the time crunch that squeezes working mothers, so she can be both an exceptional physician scientist and a great mom. "These are competing interests, and I'm always trying to achieve balance," says Downs, who was in California when the photographs of her fellow grantees were taken in New York for this story. "It's important for me to model for my children that women can be smart and accomplish things and have meaningful impact in their world."

Silver also envisions that these awardees—along with the just-announced 2017 class of recipients—will model what life as a successful physician or scientist looks like to younger generations. "The hope is that we'll be able to support a cadre of women and build a community who can act as mentors to the younger generations coming in," she says. "It's a win-win all around."



Radda Rusinova, PhD

Instructor in Physiology and Biophysics

My mom is a physicist by training who studied semiconductors, so I was always in the lab. We left Odessa in 1990. As scientists we are very fortunate to work in such a stimulating environment. I study ion channel regulation, specifically how drugs may regulate ion channels by affecting general properties of cells other than the proteins they're designed to target. Understanding how they do this may help us improve therapeutic and toxic profiles of medications that are already on the market or are in the developmental phase.

One of the key activities for a scientist is to publish. With a newborn, you think, "she'll nap for three hours straight and I'll work." That's not the reality. So I do data analysis, writing, and reading on the bus between leaving the lab and picking up Rosa from daycare. It's an off-time when no one can distract me.

Having kids is a series of choices. Spending time with my girls is very, very important. I've been lucky that my PI, Dr. Olaf S. Andersen, has been incredibly supportive. He understands that I may need to leave earlier or come in later. Not everyone is as lucky as I am.

As a mom, you prioritize. Before, I'd get stuck on details. Since I've had kids, I've become much more efficient. I feel that I am more helpful to my lab-mates because I'm better able to see the bigger picture. The responsibility of children makes you more confident. I doubt myself much less.

Molly McNairy, MD

The Bonnie Johnson Sacerdote Clinical Scholar in Women's Health and Assistant Professor of Medicine

Global health was my first child. In college, I spent time working in the favelas in Brazil. Bearing witness to solvable health disparities, where the idea that clean water and antibiotics could change someone's life, felt like the perfect place to dedicate my life and propelled me to medical school. Today I spend about a week every month in Haiti, working with adolescent girls who have the highest incidence of HIV in that country and are at greatest risk of spreading the virus. Our work aims to prevent HIV among these girls and their families and provide medications to allow those who have the virus to stay healthy.

Global health is certainly not a desk job. I was pregnant with Leighton during the Zika epidemic, and I couldn't travel to Haiti for a whole year. The Junior Faculty Fellowship grant enabled me to hire a research assistant to be my boots on the ground to keep the projects alive and thriving. That was really incredible.

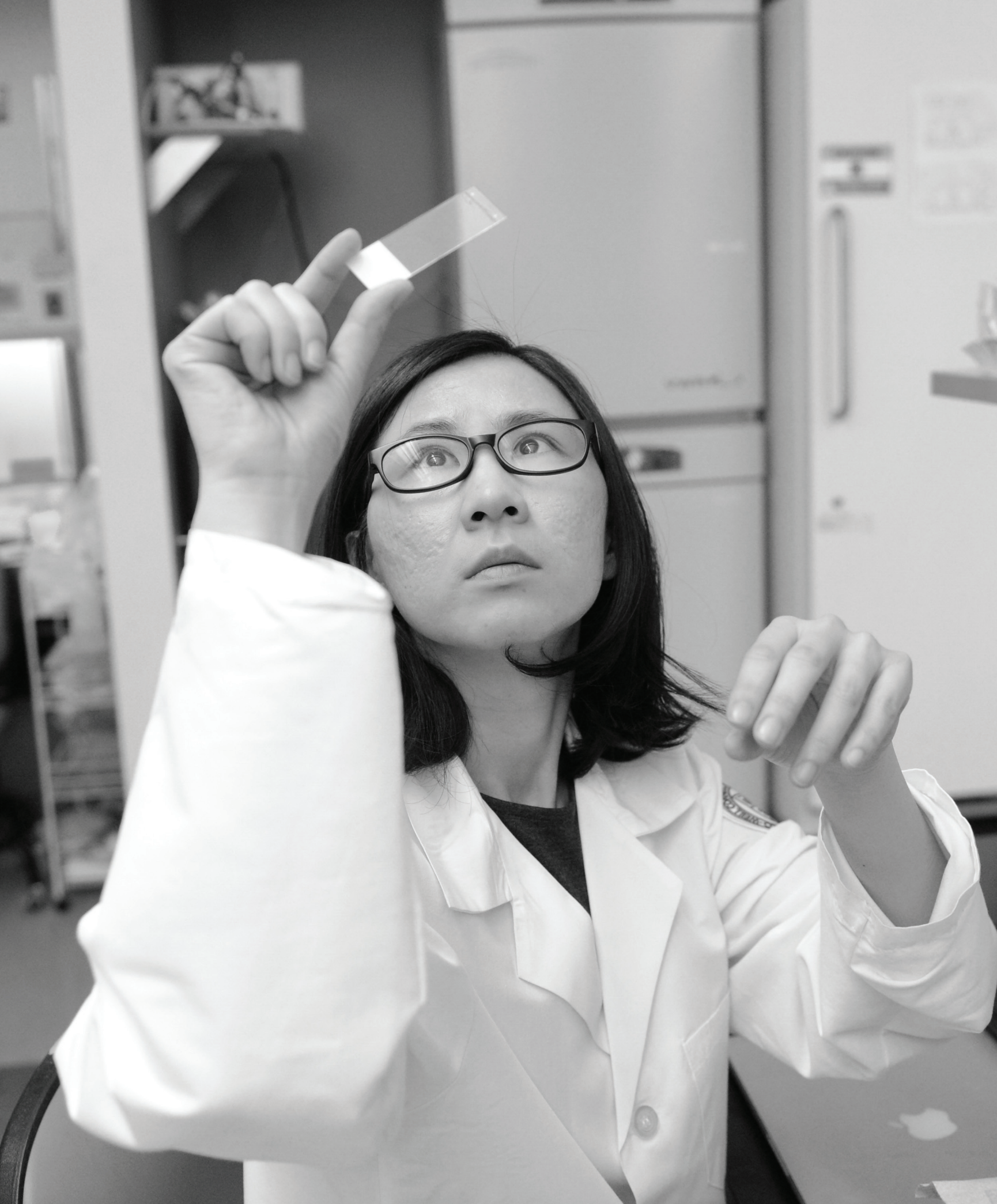
It's a lot trying to juggle being in this field. Add children and either it all comes undone or you keep going forward. I have an incredible support system that allows me the privilege to do the work I do. We have a wonderful community—a nanny who is a part of our family, my husband who changes his work schedule when I travel, and we frequently fly our family in from North Carolina to help.

I think that it's not possible to have it all at the same time. There are phases of career, and when you can put your foot on the gas and work and travel hard for a season, you take advantage of that. Then when you have a baby, like I just had, you take your foot off the gas and go at a slower speed for a season. It's about recognizing when you're in each gear, or what chapter you are in in your life.

I used to think that when I had kids, I would be able to juggle the work-life balance. There's not one day where I feel balanced, but the juggle is true. The attempt to try to balance things is a pleasure to try to do.







Jihye Paik, PhD

Assistant Professor of Pathology

My lab studies aging, longevity, and cancer. We've found that the absence of transcription factors known as FOXO, or proteins that regulate how genes are expressed, is associated with faster aging and earlier death. If we can better understand this, we hope we'll be able to promote healthy aging and ideally extend lifespans in people.

I'm in year six as an assistant professor. I need to gather things together for consideration for promotion to associate professor, which involves serving on committees, interviewing MD-PhD and graduate school applicants, teaching, getting external funding, and publishing enough. I always wish I'd have a little more time to read and catch up. If you miss newly published papers, you feel behind. Some weekends I wish I could spend time on manuscripts and grants, but I have to finish them on Friday and move on.

During each of my pregnancies, I had morning sickness every day. Even if you don't have post-partum depression, with all the

hormones during pregnancy and lack of sleep for a year after the birth, you have difficulty concentrating. If your brain doesn't function properly you cannot perform at your best. So between my three children, that was six years—that's a down time in my research. It's something for people to consider before they judge women scientists about productivity. But the pleasure I have with my kids, I wouldn't exchange for anything else.

Having kids gave me a strong reason to become a better scientist—and a better person. Nathaniel, my eight-year-old, is my inspiration. He reminds me of who I am. He says, 'My mother is a scientist—she knows everything. I hope I become like her.' Before he was born, everyone liked me, my mentor thought I did great work, and I was very proud of it, but I never felt I wanted to be a better person. My son makes me feel I should be a better person because my name will be associated with his.







Heather Yeo, MD

Assistant Professor of Surgery and
of Healthcare Policy and Research

When I was in my surgery residency, two women in the year ahead of me left training, and it really was upsetting to me. It made me wonder: As a profession, are we not supporting women enough, or is it that I'm getting a distorted view of things? So I started working in conjunction with the American Board of Surgery to look at dropout in surgical training as well as fit and support. Recently, we have found that women have a higher dropout rate—23 percent versus 17 or 18 percent for men. But if you start looking at other factors, it's more complicated than gender. Some of it may be support structures: For a man in training, being married is protective, and for a woman, being married or having children can add additional stress depending on your support structures. Without a change in the rate of women becoming full professors, it's going to take 121 years for us to reach parity at the highest levels of academic surgery. My hope is to start thinking about ways that we can improve that.

I think that there is, particularly in surgery, a toughness component that surgeons feel that it is important to portray, and you don't want to say you need help from people. But if you look around, many of your male colleagues are getting help from other people. As a working mother, you need support, just like working fathers do. You have to not be ashamed to take it sometimes.

There's certainly a lot of implicit bias, but as a woman, you're also pulled in a lot of directions. I remember driving in the car when my daughter was about two and half and could just speak and I said to her, "I love you, baby," and she goes, "but you've gotta go to work." I realized that is what she must have heard me say before. It makes you think about how you prioritize things.

Still, my husband once said to me that the best thing you can do for your child is to be a strong woman role model. His support has really helped me. My daughter is now applying for middle schools. The topic for one of her application essays was, "If you could create a twenty-first century Mount Rushmore, who would be on it and why?" I felt moved that she put me on it and said it was because "my mom is a woman and a scientist and she helps take care of people with cancer."

As a woman who's in an unconventional career, you don't always feel your confidence in yourself. To see my daughter's confidence and feel like I maybe contributed to that just by the expectation of what she saw is very rewarding for me.

A SENSE OF Relief

A collaborative institute brings together researchers from Weill Cornell Medicine and the Ithaca and Tech campuses—along with NYC community groups—to combat chronic pain in older adults

BY BETH SAULNIER



No Pain



Mild Pain



Moderate Pain

In a senior center in the Bronx's Riverdale neighborhood, the lunch tables have been pushed aside to make room for an hour-long tai chi class. Most of the participants—an ethnically diverse, predominantly female group of about thirty—are seated in orange plastic chairs, though some are in wheelchairs; at around the midway point, those who are able will stand up for the class's more dynamic second half. A few walkers are parked at the periphery and a dozen canes line the floor, evidence of their owners' physical challenges. Still, the students follow their instructor's movements with energy, gusto, and interest. "As you move your hands, try to feel the air," the teacher tells them as they perform a motion called Repulse Monkey. "Imagine the air being thick. Feel it against the back of your hands, against your palms, between your fingers. The more you can feel the air as you move through it, the more attention you're paying to the exercise. The more you're thinking about what's for supper, the less good the exercise is going to do."

The class, held twice a week at Riverdale Senior Services, is entitled Tai Chi for Balance and Fall Prevention—but its benefits go far beyond what the name implies. It gets older adults out of their apartments and into a social setting. Its movements help make participants stronger and more limber. Its meditative aspects can lower stress and improve mood. And to top it all off, it helps combat one of the greatest ills that many older adults face: chronic pain. "We

often use this haiku bullet: 'Pain is common, morbid, and costly,' " says pain expert Cary Reid, MD, PhD, an associate professor of medicine and the Irving Sherwood Wright Associate Professor in Geriatrics at Weill Cornell Medicine. "It's one of the most common reasons that bring people to the doctor, and we spend a lot of money—not all of it very effectively—trying to manage it."

Activities like the tai chi class trace their roots to a collaborative project between Riverdale Senior Services and a research group that Reid directs, a Cornell University-based organization dedicated to exploring ways to alleviate pain in older adults. Called the Translational Research Institute on Pain in Later Life (TRIPLL), it's one of the most active and long-standing collaborations among the Cornell campuses—comprising researchers and graduate students in Ithaca, at WCM, and at Cornell Tech, plus dozens of >

**'We often use this haiku bullet:
Pain is common, morbid, and costly,'
says Cary Reid, MD, PhD, director of
the Translational Research Institute
on Pain in Later Life.**



Severe Pain



Very Severe



Worst Pain

'At TRIPLL, there's a wonderful point-counterpoint repartee of ideas,' says Carol Mancuso, MD, a professor of medicine who did research under a pilot grant.



Elaine Wethington, PhD



Karl Pillemer, PhD

community organizations serving seniors in New York City. "It's a very broad and deep collaboration," says co-director Karl Pillemer, PhD, a professor of human development on the Ithaca campus who holds an appointment as a professor of gerontology in medicine at WCM. "Because of our use of video conferencing, Skype, and frequent meetings, it's honestly not much different than if we were all in the same building. A number of us work with our TRIPLL colleagues even more than with people on our own campuses."

Founded in 2009 with a five-year grant from the NIH's National Institute on Aging (which was renewed in 2014), TRIPLL is one of twelve federally funded Edward R. Roybal Centers for Translational Research on Aging nationwide, each of which focuses on a different aspect related to the health and well-being of older Americans. With a concentration on non-pharmacologic methods of pain relief, TRIPLL brings together faculty from a variety of disciplines, including clinical medicine, epidemiology, gerontology, the social and behavioral sciences, computer science, and more. "Pain is a huge problem—it's one of the things that keeps people homebound," says Riverdale Senior Services director Julia Schwartz-Leeper, who regularly consults with Reid and uses the institute's webinars to train her staff. "The work that TRIPLL does is critically important."

A Growing Problem

Given America's aging demographics, the issue of treating pain in older adults is only getting more pressing. TRIPLL co-director Elaine Wethington, PhD, a medical sociologist who's a professor of human development on the Ithaca campus, notes that one third of older adults have chronic pain—"and the majority of those find inadequate relief." Wethington goes on to point out that rising obesity rates will only make the problem more dire. "Pain is more >

SEED FUNDING

TRIPLL funds three or four pilot projects annually, providing \$5,000 to \$25,000 in support with the aim of nurturing findings that will lead to larger grants from the NIH and elsewhere. That's



Carol Mancuso, MD

what happened for Carol Mancuso, MD, a professor of medicine who won a grant to study how expectations of relief of back pain correlate with patients' perceived outcomes of spinal surgery. The project garnered additional funding from the Agency for Healthcare Research and Quality and an internal award from Hospital for Special Surgery; Mancuso published in the *Clinical Journal of Pain* and presented at meetings worldwide. "At TRIPLL, there's a wonderful point-counterpoint repartee of ideas," she says. "That's valuable compared to the traditional model,

where a clinical investigator like myself might partner with only one psychologist or pain management expert."

Emanuela Ofidani, PhD, a postdoctoral fellow at WCM's Center for Integrative Medicine, is partnering with the WCM-affiliated Rogosin Institute to evaluate the efficacy of meditation to relieve pain in older patients undergoing kidney dialysis. Dimitris Kiosses, PhD, associate professor of psychology in clinical psychiatry, is developing a psychosocial intervention for older adults experiencing pain and negative feelings. "It's



Dimitris Kiosses, PhD

based on the assumption that chronic pain contributes to negative emotions such as anxiety, sadness, discouragement, and helplessness," says Kiosses, "and vice versa, that negative emotions may



Yuhua Bao, PhD

modulate or alter pain perception."

Yuhua Bao, PhD, associate professor of healthcare policy and research, used a pilot grant to study pain management and outcomes in older patients receiving hospice care,

using a large national data set. The work, published in the *Journal of Pain and Symptom Management*, inspired another line of investigation into prescription drug monitoring programs and their impact on physician prescribing. "As I was reviewing the literature, I realized that unsafe and inappropriate prescribing had become a population-level issue that directly contributed to the opioid epidemic," she says. "So the TRIPLL pilot funding jump-started another area of my research."



BODY AND MIND:

The twice-weekly tai chi class at Riverdale Senior Services in the Bronx routinely draws dozens of participants.



Cary Reid, MD, PhD

Due to other age-related conditions, Reid says, 'being eighty with pain is different than being forty or twelve.'

prevalent among people who are overweight or obese," she says, "and Baby Boomers are more likely to be overweight and obese than the generation before."

Effective, evidence-based alternatives to pharmaceuticals are sorely needed, TRIPLL researchers say. One reason is that older adults may have pre-existing conditions, such as heart failure or kidney problems, that analgesics frequently exacerbate; they are also often on multiple medications with which pain drugs interact. Older adults with cognitive issues may have trouble adhering to a dosage regimen. "Being eighty with pain is different than being forty or twelve, because of the other conditions that people often have as a consequence of getting to eighty," Reid says. "So these co-morbidities begin to constrain treatment choice."

The epidemic of opioid abuse also complicates matters. Fear of addiction, even if unfounded, may discourage older people from taking pain drugs, or may make their adult children wary. And, Pillemer points out, reducing the number of opioid prescriptions can have larger benefits—by, say, keeping the drugs out of a medicine cabinet where they could be misused by family members or others. "Our inability to deal with chronic pain through non-drug methods is a huge problem," says Pillemer, who adds that research on eldercare issues has shown that watching a loved one suffer untreated pain takes a marked toll on caregivers. "In terms of an issue that makes the largest number of people miserable, chronic pain is at the top. But it's not a high-profile problem that has an easy cure, so it doesn't attract as much research funding."

With the aim of countering that, TRIPLL awards grants for

TECH SOLUTIONS



Geri Gay, PhD

Thanks to collaborations between WCM researchers and counterparts on the Ithaca and Tech campuses, a number of TRIPLL projects are harnessing technology to assess, prevent, and ameliorate pain. Ithaca-based information science professor Geri Gay, PhD, directs the Interaction Design Lab, which is developing a prototype for a device—worn as a pendant—that users squeeze to report pain, gathering more accurate data than if patients are asked to recall how they felt. "It will be with you all the time," she says, "and you can assess in the moment how you're feeling—when you're walking, going upstairs, trying to sleep."

Gay's lab is working with Ithaca-based associate professor of information science Tanzeem Choudhury, PhD, and mobile health expert Deborah Estrin, PhD, on ways to use cell phones to assess—both actively and passively—how pain is impinging on an older person's daily life. "One of the big problems is measurement," says Estrin, a professor of computer science at Cornell

Tech and of public health at WCM. "Pain is experienced so individually from one person to another, it's difficult for people to give accurate quantitative feedback. It's important to come up with measures that do a good, objective, and sensitive job of helping people report pain, so you can assess if you're on the right track with a therapy."

Estrin and colleagues are developing an app that uses a phone's GPS and accelerometer to see how mobile a person is—say, whether it takes them longer than usual to get out of the house. And with a simple, image-driven interface, users can report



Deborah Estrin, PhD

whether pain is interfering with daily activities. "You can't find out through the phone that they're having trouble loading the dishwasher because bending over hurts their lower back, so you want people to self-report," she says. "Instead of asking the same standardized questions, we want to do this in a more personalized way. If somebody doesn't have steps in their building, you don't need to ask them about that."



TOUCH-SENSITIVE: Versions of a device, developed in Gay's lab, that lets users report pain levels

Ithaca-based information science postdoc Hane Aung, PhD, and former graduate student Mashfiqui Rabbi, PhD '15, have completed a TRIPLL-supported feasibility study on an app to encourage physical activity in people with chronic back pain. The app creates personalized activity suggestions—such as, "Why don't you go for a walk around the Central Park Reservoir?"—that are based on a user's habits, which are automatically tracked by the smartphone's sensors. Initial data from a small study indicates that targeted suggestions are adopted more often than generic ones, Aung says, and a larger study is in the works.

pilot studies; holds monthly ‘work in progress’ seminars linking researchers on the various campuses; mentors grad students, post-docs, fellows, and junior faculty; and serves as a resource to New York City community service agencies, whose tens of thousands of clients provide a deep bench of volunteers for research studies. “For years there’s been a consensus among researchers that pain is not just a biological phenomenon, it’s also a social and a psychological one, but there are few centers in the U.S. that look at pain from this biopsychosocial perspective,” says Wethington, who also holds an appointment as a professor of gerontology in medicine at WCM. “Our commitment is to understand these aspects as completely as we can—to get really smart people working on them, to publish papers in places where they’ll have an effect on practice.”

Community Focused

George Kaufman, MD, has treated pain as a physician—and experienced it as a patient. Now eighty-five, the Riverdale internist retired in 2000; around that time he developed severe pain in his neck, which was traced to spinal stenosis. “I went through all kinds of stuff including three epidurals, which did nothing,” says Kaufman, chatting at Riverdale Senior Services on a Wednesday in November. “I was on a series of drugs including oxycontin and fentanyl, which didn’t do a lot for me. I wound up mostly using acetaminophen and codeine, six to eight pills a day.” Eventually, Kaufman adopted a daily regimen of mindfulness meditation, which has allowed him to reduce his use of drugs. “I start breathing into the area of my neck, trying to soften that area, to relax it,” he explains. “As I breathe out I focus on letting the toxins in my neck go out. I keep doing that and get into a meditative state. It really does help—not all the time and not perfectly, but I’m down to four codeines a day.”

Given Kaufman’s personal and professional interests, he was an eager participant when researchers from TRIPLL—then in its earlier incarnation, the Cornell Institute for Translational Research on Aging—came to the senior center in 2008 seeking participants for a study. Called Taking Community Action Against Pain, it evaluated the efficacy of an Arthritis Foundation pain control program, which included strategies and exercises for stretching, endurance, and relaxation. Reid, Pillemer, and other colleagues were studying the program’s efficacy at three senior centers with different client bases: the Riverdale one, whose members are largely white and Jewish; one in Harlem that predominantly serves African Americans; and another in the Bronx with a heavily Latino and Latina client base.

The study, which found that the program had clear benefits across all ethnicities, helped forge strong partnerships between the researchers and the agencies—and even the participants themselves. Kaufman, for one, was inspired to found a pain support group that he ran for several years. “The TRIPLL people have been tremendously helpful,” says Andria Cassidy, deputy director of Riverdale Senior Services. “They were the impetus for us addressing pain management, period. We as a community resource need to integrate pain management into everything we do. Even having lunch with friends and socializing—that can be a distraction from your pain.”

The TRIPLL researchers stress that their relationships with community partners are a two-way street: the agencies provide not only research participants but invaluable front-line experience on the



STAYING ACTIVE: Research participant and retired internist George Kaufman, MD, at Riverdale Senior Services

realities of pain in older adults. Meanwhile, TRIPLL offers resources like expert advice and evidence-based assessments of how well particular programs work. “We know what we do is helpful,” says Schwartz-Leeper, “but in terms of getting funding, we’re always working to have real data for the impact we have on people’s lives.”

In the eyes of Evelyn Laureano, PhD, the TRIPLL project had another, less tangible benefit. Laureano is president and CEO of the Neighborhood Self-Help by Older Persons Project, the agency that runs Casa Boricua, the other Bronx senior center that participated in the Arthritis Foundation program study. To her, having investigators from an Ivy League university eager to understand the needs of her clients—who come from underserved minority communities—was profound. “People who had very low education and literacy levels were being asked by these Cornell researchers what they thought about these programs,” she recalls. “They were involved in town hall meetings in which Dr. Reid and his staff presented their findings and asked for their opinions. This collaboration had an amazing impact on their sense of self-esteem and empowerment. It was a real give and take, and it did a lot to help the seniors understand that their voices are being heard.” ■

Early Intervention

With a state-of-the-art mobile unit and pioneering research, WCM is at the vanguard of treating stroke patients—for whom ‘time is brain’

BY HEATHER SALERNO



DURING STROKES

2 Million

BRAIN CELLS LOST EVERY

60 Seconds

STRONG RECOVERY: Pierre Georges Bonnefil in his Manhattan apartment, where he suffered a stroke several years ago

For Pierre Georges Bonnefil, the morning of February 6, 2013, started off like any other. He made coffee for his wife, Marysia, and watched the news before getting ready for his job as an immigration attorney. But then Marysia noticed something was wrong: the left side of Bonnefil’s face had begun to droop and he suddenly couldn’t move his left arm. “I started to speak, but she said it made no sense whatsoever,” says Bonnefil. “That’s when she put two and two together and called 911.”

Bonnefil was having a stroke, a condition that affects nearly 800,000 people in the U.S. every year. According to the Centers for Disease Control and Prevention, one American dies from a stroke—which happens when blood flow to the brain is interrupted—every four minutes, making it the fifth-leading cause of death and a major cause of serious, long-term disability. Rushed from his midtown Manhattan apartment to NewYork-Presbyterian/Weill Cornell Medical Center—ranked among the country’s top institutions for advanced stroke care—Bonnefil was diagnosed with a middle cerebral artery (MCA) stroke, meaning that one of the largest blood vessels in the brain was blocked. “It was pretty much as bad as it gets,” says Babak Navi, MD, MS ’15, assistant professor of neurology at Weill Cornell Medicine and medical director of the Weill Cornell Stroke Center, who treated Bonnefil at the hospital.

But Navi says Bonnefil was luckier than most: because his wife recognized the signs and called for help right away, he was given a clot-busting drug just seventy-four minutes after his symptoms began. Getting swift medical attention also meant he was able to receive endovascular therapy, a procedure that involves inserting a catheter into the brain to remove the clot. Bonnefil went home five days later; although he attended outpatient physical therapy for three months to strengthen the left side of his body, he was back to most normal activities within weeks. “He came back very quickly—that doesn’t always happen,” says Navi. “Stroke is incredibly time sensitive, arguably more than any other disease. Each minute that a typical stroke goes on, patients on average lose about two million brain cells. So every minute counts.” >

PHOTO: JOHN ABBOTT

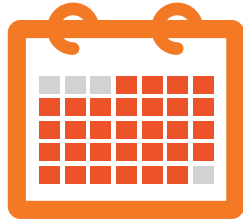


1 Month

OF HEALTHY LIFE LOST,
ON AVERAGE, PER

15 Minutes

OF POSTPONED
STROKE TREATMENT



MOBILE UNIT: The specially equipped ambulance (below) is designed to diagnose and treat stroke.



Racing the Clock

Bonnefil is a prime example of how early intervention is critical when it comes to stroke. Neurologists often use the phrase “time is brain” when talking about the disease, since it’s well established that the sooner patients receive treatment, the better off they’re likely to be. Even short delays can make a big difference: a 2014 study by the American Heart Association found that stroke survivors lose an average month of healthy life for every fifteen minutes of postponed treatment. Weill Cornell Medicine, with heavy support from NewYork-Presbyterian, began leading a study of a mobile stroke treatment unit, the first of its kind on the East Coast. The unit, launched also in collaboration with Columbia University Medical Center and the FDNY—does more than reach stroke victims quickly: it also provides a pipeline of subjects for time-sensitive clinical trials being conducted at WCM, as well as other research initiatives that may lead to new therapies.

The unit is a customized emergency vehicle that brings a highly specialized team of experts, diagnostic equipment, and stroke-specific drugs right to a patient’s doorstep. “The key to treating stroke patients is getting to them as early as you can, as fast as you can, and this unit makes that possible,” says the program’s executive director, Matthew Fink, MD, neurologist-in-chief and chief of the Division of Stroke and Critical Care Neurology at NYP/Weill Cornell and the Louis and Gertrude Feil Professor and chairman of the Department of Neurology at WCM. “But this is just the beginning. I view this unit as something transformational that may dramatically change the way we deliver care.”

The unit is deployed in the neighborhoods surrounding NYP/Weill Cornell at East 68th Street and NYP/Columbia at West 168th Street, where a combined total of nearly 2,000 stroke patients come for aid every year. Staffed by a neurologist, two paramedics, and a radiology technician, the unit is dispatched weekdays between 7 a.m. and 3 p.m. when an emergency call comes in to New York City’s 911 system and operators suspect a stroke. (Eventually, those hours of operation will be adjusted based on the times when most stroke calls come in.) Unlike a traditional ambulance, it includes a portable computed tomography (CT) scanner that can image a patient’s brain on the spot, so the medical team is able to determine whether a stroke is ischemic (caused by a blood clot) or hemorrhagic (which occurs when a weakened blood vessel ruptures). For ischemic strokes—which account for 87 percent of all stroke cases—vital medications can be administered immediately, such as the one Bonnefil received called tissue plasminogen activator, or tPA, which is considered the “gold standard” for recovery. If patients receive tPA within four and a half hours of the onset of symptoms, they have a much greater chance of surviving and avoiding long-term brain damage; after that, the drug offers no benefit.

Thanks to the unit, a neurologist sees stroke patients immediately, rather than waiting until they get to the emergency room. While en route, the doctor can signal ahead to hospital colleagues, who can be poised for additional tests or alternate remedies as soon as a patient arrives, further streamlining the process. (Eventually, the on-board neurologist will shift to being on call at the hospital; he or she will use telemedicine to evaluate those picked up by the unit without delay, using a remote audio-visual system to ask >

PHOTOS: NEWYORK-PRESBYTERIAN



Babak Navi, MD, MS '15

UNIT FUELS NIH TRIALS

Investigators are using the mobile unit as a way to enlist patients for clinical trials in stroke prevention, acute stroke treatment, and stroke recovery that are now under way as part of the NIH's StrokeNet network of twenty-five regional stroke centers across the country. Weill Cornell Medicine doctors are studying such topics as whether endovascular therapy, which is usually only done within six hours of stroke symptoms, could benefit patients treated between six and sixteen hours of onset; and whether a drug typically used to remove excess iron from the body might work to reabsorb blood in the brain after an intracranial hemorrhage.

Navi is WCM's site principal investigator for StrokeNet's POINT (Platelet-Oriented Inhibition in New TIA and Minor Ischemic Stroke) trial, which aims to determine the safety and efficacy of a combination of low-dose aspirin and another blood-thinning drug in reducing the risk of stroke, heart attack, and other complications in patients who have already had a transient ischemic attack (otherwise known as a mini-stroke) or a minor ischemic stroke. "Many of the stroke patients who come in through the mobile unit may be eligible for these trials, so it allows us to identify, recruit, and enroll them quicker," says Navi. "By studying these interventions, the more likely we are to identify a new treatment that we can provide to the stroke community at large."

PHOTO: STUDIO BROOKE



Only 1%

OF U.S. STROKE PATIENTS RECEIVE CLOT-BUSTING TREATMENT WITHIN THE 'GOLDEN HOUR' — THE FIRST

60 minutes

AFTER SYMPTOM ONSET

AT AGE
50
RISK OF STROKE
Doubles
WITH EACH DECADE OF LIFE



questions and examine the patient and CT scans in real time; this way, neurologists can still determine treatment for stroke patients more quickly, and attend to other tasks while waiting for a call to come in.) “The conventional ambulance system was never designed to treat out in the field; patients aren’t seen by a doctor and don’t undergo testing until they get to the hospital,” says Fink, who first proposed the mobile program two years ago. “The mobile unit essentially becomes an extension of the emergency department.”

New Yorkers at Risk

Advanced stroke care is particularly important in places like New York City, which has a growing population that is becoming increasingly elderly and ethnically diverse. African Americans, Asian Americans, and Hispanics have a higher chance of dying or being disabled from stroke than whites, in part because of genetics and other contributors that increase the likelihood of risk factors such as hypertension and diabetes. And though the disease affects people of all ages, the risk of having a stroke is far greater as one gets older. According to the city’s Department for the Aging, as a result of demographic shifts, the number of older whites living in New York dropped by nearly 10 percent between 2000 and 2013, while minority members of that age group shot up by 55 percent in that



same period. In addition, the total number of seniors is projected to increase to 1.86 million by 2040, which means that one in every five New Yorkers will be over age sixty by then. “After the age of fifty, the risk of stroke doubles with every decade,” says Fink. “So that’s a major problem, because people can reduce or eliminate some risk factors, but we can’t change our age.”

Indeed, on only its second day in operation, the stroke unit responded to a call from a doctor’s office on the Upper East Side, where a woman in her nineties had come in for a routine checkup. While there, she began to feel dizzy and weak on one side. The unit’s medical squad sped to the site and was able to give the woman tPA within the “golden hour,” so named because the treatment is even more powerful if administered within sixty minutes of the onset of symptoms. That’s rare; only about 1 percent of stroke patients nationwide receive tPA in that ideal window. As a result, she made a complete recovery. “It was a moment that made me proud to be a doctor,” says Mackenzie Lerario, MD, the mobile stroke unit program’s medical director and an assistant professor of clinical neurology at WCM, who treated her. “We can come in and treat patients quicker and more effectively than we ever could before. It’s an elegant solution to a complex problem.”

The concept of the mobile stroke unit originated in Germany, where physicians who studied this method reported in 2012 that it reduced time to treatment by about 25 minutes compared to regular emergency transport. Subsequent studies have also shown significant time reductions at the Cleveland Clinic and the University of Texas Health Science Center in Houston, where the first U.S. mobile stroke units began operating in 2014. Researchers are still investigating whether these shorter response times directly correlate to improved outcomes, but earlier this year a group of doctors in Berlin published an article in *Lancet Neurology* that seems to support that theory. Their study found that patients treated by mobile units had a lower death rate and less severe disabilities three months after a stroke than those who received conventional care.

WCM, Columbia, and NYP are collecting data to assess their own unit’s efficacy, tracking patient information such as mortality rates, degree of disability, length of hospital stay, and type of complications for up to a year after initial treatment at either facility. Health expenditures are being examined, too, to determine the value of such units for academic medical centers and healthcare systems, including the feasibility of expanding to include additional units and incorporating mobile care into insurance reimbursement models. “I think that’s highly possible because if you’re preventing disability by giving tPA to patients quicker, the patients who are less disabled are going to use fewer healthcare resources in the future,” says Lerario. “They’ll have fewer rehabilitation needs. They’re going to be admitted to the hospital less frequently with complications of stroke.”

To Fink, these mobile units open up even bigger possibilities. Not only do they have the potential to radically improve stroke outcomes, he says, they could represent a shift in how providers deliver overall emergency care. “Right now we’re doing this for stroke, but I can imagine that this might extend to other kinds of emergencies like heart attacks or trauma—where we treat patients out in the field and not wait until they come to the hospital,” he says. “This might be the first of many new developments in taking the hospital out to the patient.” ■

PHOTOS: NEWYORK-PRESBYTERIAN

EXPLORING STROKE’S CAUSES

As clinicians improve care for stroke patients, scientists at WCM’s Feil Family Brain and Mind Research Institute (BMRI) are examining a wide range of topics involving the condition. The institute’s director, Costantino Iadecola, MD, says one major goal in the clinical arena is to figure out what causes strokes that are classified as cryptogenic, or of unknown origin; this is imperative, he says, since one-third of ischemic strokes fall into this category and people who have already had a stroke are more likely to have another one. “If we can identify the cause, we are in a better position to prevent future strokes,” says Iadecola, a professor of neuroscience and the Anne Parrish Titzell Professor of Neurology. “Therefore, finding a cause can have a profound impact on how we take care of these patients.”

To do that, Navi and Hooman Kamel, MD, an assistant professor of neurology, hope to identify new risk factors, such as subtle dysfunctions of the heart, as well as the association between stroke and cancer. In addition, the institute’s basic science researchers have found that cells of the immune system are crucial; Iadecola and his colleagues now know that certain immune cells can dramatically help reverse post-stroke brain damage, while others appear to exacerbate it. Another recent discovery, headed by Josef Anrather, DVM, a professor of neuroscience, indicates that bacteria normally present in our gut can also help repair stroke-induced brain damage. Iadecola notes that these findings could lead to promising new treatments, ones that may also need to be given to stroke patients quickly. If that’s the case, he says the mobile stroke unit could play a central role in testing early-stage interventions. “Should our science suggest that we have a new drug or a new therapeutic approach, we now have a way to deliver these novel treatments early,” says Iadecola. “It opens up new horizons for stroke therapy.”



TIME TO TREATMENT
REDUCED BY

25 Minutes

WITH MOBILE STROKE UNIT
COMPARED TO REGULAR
EMERGENCY TRANSPORT

LIFE-SAVING POTENTIAL: Neurology chair Matthew Fink, MD, sees the unit as a possible model for quickly treating patients with a variety of medical conditions.

NEWS OF MEDICAL COLLEGE AND GRADUATE SCHOOL ALUMNI



Dear Alumni,

I write this letter just before Thanksgiving. Here in the Northeast, the leaves have turned and the trees are now mostly barren. The change of seasons is a fitting analogy for the recent divisive national election. Renewal and change, with a shift in our nation's priorities, is in the air.

In this time of transition, it is worthwhile to remember the verities that Weill Cornell Medicine stands for. We are an intellectually open and respectful community. We embrace values that are enduring, not of the moment. We seek the best minds and character to populate our incoming classes. And we are mindful that we are a profession with obligations to others that transcend our personal needs or wants.

In my daily professional life I attempt to uphold the standards that my WCM role models exhibited by their behaviors. And by doing so, I believe I am giving back both to my profession and to the institution.

At the Alumni Association we continue to fund core initiatives, such as the Weill Cornell Community Clinic, to make life better for the patients the students encounter, and to provide our students with experiences that will enable their future success. In this manner we are upholding the essential values of our profession: to assist, to nurture, and to educate.

As the government transitions, so may the prioritization of basic research funding and financial aid for students. We will continue to advocate for the values we have always embodied—to care, discover, and teach. Our mission at WCM will endure, regardless of who is in Washington.

All of us at the Alumni Association hope that you enjoyed a reflective and happy holiday season with family and friends. Spring is just around the corner.

Stuart Mushlin, MD '73
President, Weill Cornell Medical College Alumni Association
stuartmushlin@icloud.com

1940s

B. Sam Lacy, MD '44: "Greetings to any classmates in Kansas."

Charlotte Rush Brown, MD '45: "David Brown, MD '45, and I reluctantly left New Canaan, CT, to be near our three girls in Providence, RI. It was difficult after so many years of being very involved. We are now in a very nice retirement home."

Herbert McCoy, MD '45: "After cruising to Cuba and Dubai earlier this year, we are planning a cruise to Alaska. Hope to make 96 in December next."

Manuel Furer '45, MD '48: "I'm finally retired at age 91. Congratulations/condolences are welcome! I'm sad to be retired, but I just don't have the energy anymore. My wife, Vivian, is enjoying this time with me. Rachel, my eldest daughter, is a social worker in New York and an advocate for affordable housing for the underprivileged. My younger daughter, Jessica, is an internist in Oakland, CA. Our son, Andrew, died in 2010."

Margaret Swann Norris, MD '49: "I am living in the independent living section of a retirement complex not far from Vanderbilt. I still enjoy traveling and had a great trip to the Galápagos Islands in June."

1950s

Chuck deProsse '46, MD '50: "I just returned from our 65th Reunion. The only other classmate there was **Francis A. Wood, MD '50**. We had a very nice visit. I had **Pete Bossart, MD '51**, and **Stan Birnbaum, MD '51**, as tablemates at the gala at the Plaza."

Robert C. Hafford, MD '50: "I would love to hear from any classmates."

Stanley J. Birnbaum, MD '51: "I am still trying to stay active. I do some teaching and committee work at WCM."

Alan Van Poznak '48, MD '52: "Enjoying my sixteenth year of retirement; everlastingly grateful for the superb teachers that we had."

Richard J. Weishaar '45, MD '52: "I prefer the old days. Not always good, but much better for the guys in solo practice."

Ames L. Filippone '50, MD '53: "I've been retired now for sixteen years, have multiple interests, and am enjoying every minute. I took a recent trip to Rome and the Adriatic."

George Dermksian, MD '54: "I continue to attend and contribute to grand rounds in



HANDS-ON LEARNING: Graduate students from WCM, the Ithaca campus, and Cornell Tech mentored NYC high schoolers at the first-ever Big Red STEM Day, held at WCM in November.

medicine at St. Luke's/Roosevelt Hospital Center, now part of the Mt. Sinai Health Care System. After 40 years of chairing the Archives Committee of these two venerable institutions, I resigned my position because of inadequate time to devote and the need for younger colleagues to appreciate the archival treasures. I continue my philanthropic work with the Physicians' Home (supporting destitute physicians and/or their families) and the Armenian Medical Fund (initiating and supporting medical care and institutions in Armenia)."

Kenn Hubel, MD '54: "Jan and I are happily surviving in a retirement community in Iowa City where we moved last year. Two daughters are nearby, as well as four grandchildren and three of their offspring. Great jazz and dance, the Joffrey Ballet, Emanuel Ax, the Cleveland Orchestra, and Renée Fleming will be here this year. I'm enjoying playing in two bands and have a loving wife and family. We count our blessings. We're at khubel11@gmail.com."

William E. Morse, MD '54: "My three sons and four grandchildren are doing very well. My golf has gotten much worse, but my duplicate bridge is better."

Thornton M. Stearns, MD '54: "I'm doing well in retirement in Scottsdale, AZ."

William Hillis, MD '55: "I gave up Goshen, CT, after 16 years and moved to a 'retirement area,' Ashlar Village in Wallingford, in January 2014. Barbara and I have done well, with six daughters, six grandchildren, and two greats."

Ronald J. Dorris, MD '56: "I retired from patient care in late 2014 and love retirement. Carole and I celebrate our 60th anniversary this year. We travel to Florida and abroad yearly and travel to Lenox, MA, frequently. We traded in

our ski house for a second home, where we enjoy music and theater. Life is great."

Ed Margulies, MD '56: "I've finished six months of summer in Chicago, to be followed by six more months of summer in Naples, FL. I'm still playing 18 holes of golf, but from the ladies' tees. Lots of duplicate bridge. I'm active in synagogue life, and am slowly trying to catch up with the accumulating grandchildren. The oldest is 11. Paulette still puts up with me, miracle of miracles."

William H. Plauth, MD '57: "Walt Menninger, MD '57, visited in mid-September for several days. It was good fun. One of his old friends from Topeka was retiring from the Santa Fe Opera and Walt's daughter and her husband were here to attend performances of the Opera, hence a triple reunion. I really enjoy the articles in WCM magazine, especially the one about **Monika Safford, MD '86's** work in Alabama."

Bernie Siegel, MD '57: "Let us all learn to treat the patient's story and the cause and not just the diagnosis and result. As Jung said, 'The story shows human background and suffering and only then the doctor's therapy can begin to operate.'"

James M. Hollister, MD '58: "I am slowing up a bit. An episode of viral meningitis in June resulted in a hospital stay and a chance to see hospitalists in action."

Irwin R. Merkatz '55, MD '58, and John T. Queenan, MD '58, were inducted into the American College of Obstetricians and Gynecologists Hall of Fame in May 2016 at the annual clinical meeting in Washington, DC.

Edward E. Wallach, MD '58: "I retired over the past two years from gynecologic practice. I'm now active in med school departments



CODE CRACKERS: Big Red STEM Day activities included learning to write computer games.

'My wife and I went to our recent Reunion. It was great. The program was good, but what I enjoyed most was the instant re-bonding of friendships made so long ago.'

— CARL G. BECKER, MD '61

and committees. Joanne and I are enjoying life beyond medicine. My new title is University Distinguished Service Professor Emeritus of Gynecology and Obstetrics at Johns Hopkins University School of Medicine."

L. Davis Arbuckle, MD '59: "I spend summers in Point Roberts, WA, just south of Vancouver, and winters in Punta Gorda, FL. I would love to see any of my classmates at either spot."

James E. Shepard, MD '59: "Sally-Jean and I had an enjoyable nine-day trip to Alaska in a 55- to 60-passenger cruise boat. Hope to be able to make it to New York City for WCM Reunion next year."

1960s

David B. Robbins, MD '60: "Great Reunion. Kudos to **Ken Barasch, MD '60**, for splendid class dinners."

Clay Alexander, MD '61: "I'm currently editing my fifth novel, a surrealistic look at real life. It's a stimulating tale with interwoven philosophy, theology, and of course a touch of physiology. The title will be "The Curious Rebirth of Tom Hunter." I was sorry to miss Reunion, but plan to be at the next. Stay well, everyone."

Carl G. Becker, MD '61: "My wife and I went to our recent Reunion. It was great. The program was good, but what I enjoyed most was the instant re-bonding of friendships made so long ago. In fact, it made long ago seem a good deal less so. There were many conversations regarding getting together in New York, or elsewhere, and many promises to keep in more frequent touch."

Don Fischman, MD '61: "Barbara and I now live in Rochester, NY, where she heads the newly endowed Wegmans School of Health and Nutrition at RIT. I paint oils most days and serve as a docent at the Rochester Museum of Science and Education on other days."

Roger D. Soloway '57, MD '61: "I retired from the active practice of hepatology on August 31, 2016. I never thought I would be able to reach this point in my life. As I look back, I have had a very rewarding life as a hematologist, academician, and researcher. As a result of my work, I've been able to make great friends and co-workers in China, Japan, Bolivia, and Israel. I've traveled to those parts of the world on multiple occasions. Marilyn and I had a wonderful time at the 55th Reunion. I realize that each of my classmates has been successful in one or more ways in life and

I was very lucky to have been their classmate. My oldest grandson graduated from Yale last June and is now working in finance in New York City. I'm trying to adjust to the retired life split between Galveston, TX, and Haverford, PA."

William R. Hazzard '58, MD '62: "It's great to be back at Wake Forest and the Aging Center here for my final years."

Anthony Saidy, MD '62: "On page 43 of the last issue, my name appears in connection with two events that were aborted. Alas, an intercurrent virus prevented me from witnessing the US team take gold in the Chess Olympiad in Azerbaijan in September. And the expected invitation to Brooklyn did not come. The item should be re-classified to the department of alumni pipe dreams."

Muriel King Taylor, MD '62: "My husband, Jack Taylor, died at the end of July 2016 after a life filled with building—himself—four saltwater sailboats and three homes, traveling much of the world by navigating us to New Zealand and back to Washington State, twice doing the Intra-Coastal from Bay City, MI, through the Great Lakes and Erie Canal, dodging icebergs in Glacier Bay, AK, and islands in the Sea of Cortez."

James E. Bernstein, MD '64: "Defying the odds at 77, I am CEO of Eniware, bringing portable surgical instrument sterilizers that use no electricity, heat, or water, to the developing world, refugee camps, and militaries throughout the world. My children are active, from social entrepreneurship in Uganda to hedge funds in New York City."

Don Catino, MD '64: "I'm semi-retired, working three-day weeks doing ambulatory primary care in New Hampshire and hoping to be working in New Zealand again January–June 2017. Lots of time now for my wife, five kids, ten grandchildren, bike, gym, good books, and travel. Life is good."

Robert L. Wilson, MD '64: "Recently, **Bob Schmidt, MD '64**, and I had breakfast with **Burt Dudding, MD '64**, in Mesa, AZ. He described his journey since graduation as a 'tortuous route,' starting with a pediatric residency at the University of Minnesota and academic positions at the University of Kansas and University of Nevada, Reno. Burt is married to a practicing pediatrician and the father of 9-year-old twins. His license plate reads FRDRMOM. More recent travels include New York, Vermont, Arizona, and this summer a move to Maine. Not surprisingly, music remains a significant part of

Burt's life. Remember those Christmas shows! He has been a choir director and church organist in most of his venues. He even took the time to study and become an Episcopal priest. Bob Schmidt has retired from surgical practice and takes pleasure in following the Green Bay Packers as well as attending to his garden and lawn. I'm living in San Diego with a teaching position at UCSD, sharing the intricacies of hand anatomy with medical students and orthopaedic residents. Besides sailing, I plan to be skiing next winter, if I can avoid being on the receiving end of another orthopaedic procedure."

Robert Farrell, MD '66: "My daughter, Christine, was married on October 22 to Mr. Kim Coto. The couple enjoyed their honeymoon in Bora Bora. She is an ER nurse at NYP/Weill Cornell."

John Marquardt, MD '67, and his wife, Betty, are retired and living at Ocean Reef Club, Key Largo, FL. They have six children and sixteen grandchildren.

John H. Shenasky II '63, MD '67: "We spend the winter months on the western shore of Maryland, where I practiced urology until my retirement. The summers are in Pleasure Beach (Waterford, CT) at our beach cottage. We're enjoying our eight grandchildren and occasional trips to New York City from here via train. I'm still golfing while walking. Happy 2017."

Thomas Bird, MD '68: "I have been appointed the Arthur B. Krause Professor of Neurogenetics in the Department of Neurology at the University of Washington in Seattle."

William C. Klingensmith '64, MD '68: "I just published *The Mathematics and Biology of the Biodistribution of Radiopharmaceuticals: A Clinical Perspective* (Springer). It summarizes math, including some of my own, that I have been interested in throughout my career in nuclear medicine. Not exactly for a general audience, but might be an effective treatment for insomnia."

Kit Lane, MD '68: "I'm enjoying retirement on the coast of Maine, on a small saltwater farm near Acadia National Park, and working with the local hospice volunteers."

Allen A. Nimetz '64, MD '68: "I continue to enjoy the full-time practice of general and interventional cardiology. Having first- and second-year George Washington medical students rotate through my office increases the fun of practice. I keep in touch with **David Greene, MD '68**, classmate and Olin Hall roommate. I'm looking forward to the next major reunion."

John I. Gallin, MD '69: "I just took on a new job at NIH as associate director for clinical research and chief scientific officer of the NIH Clinical Center. I will be stepping down as director of the NIH Clinical Center after 22 years in that position after a new CEO is identified."

Kenneth Peelle '65, MD '69: "I'm semi-retired, doing locum tenens radiology. I'm licensed in ten states. And I have a nice gig in Maui three or four times a year."

1970s

Peter W. Blumencranz, MD '70, published an article in the *Annals of Surgery* in September 2016: "Locoregional Recurrence After Sentinel Node Dissection With or Without Axillary Dissection in Patients with Sentinel Node Metastases: Long-term Follow-up From the American College of Surgeons Group (Alliance) ACOSOG Z0011 Randomized Trial."

Lloyd R. Dropkin '66, MD '70: "I retired in August 2014 and built a house on Cayuga Lake just north of Ithaca, where I'm originally from. I'm enjoying retirement after 44 years in New York City attached to NewYork-Presbyterian/WCM."

John Kirk, MD '70: "I'm still fully employed in my practice of internal medicine/geriatrics in New London, NH, where I'm now in my 40th year and having the joy of caring for families over generations—truly old friends. I was honored by the New Hampshire Hospital Association as the Medical Staff Leader of the Year."

Roy M. Nuzzo, MD '70: "I continue to work in pediatric orthopaedics with a concentration in reconstructive surgery with the cerebral palsy community. Home base is Overlook Hospital in Summit, NJ, part of the Atlantic Healthcare System. I recently relocated from Westfield, with wife Jo, to the woods of Clinton Township, NJ. Lots of beautiful trees."

Richard Bailyn '67, MD '71: "After many years of private practice of neurology in Boca Raton, FL, I rejoined the full-time faculty of the University of Miami, the position that attracted me to Florida following residency training with Drs. Plum and Posner at WCM. I direct the neurologic services and teaching activities at a satellite clinic of the University of Miami in Boca Raton. I reside with my life companion, Margo, in Highland Beach. Between the two of us, we have three wonderful sons, ages 38, 31, and 25—a real estate developer, an attorney, and an Internet marketing entrepreneur. No spouses or grandchildren as yet"

Frank J. Bia, MD '71: "I'm an emeritus professor of internal medicine at Yale School of Medicine, specializing in tropical diseases, refugee and immigrant health, and international health. I received the Ben Kean Medal from the American Society of Tropical Medicine and Hygiene. I enjoy ballroom dancing with my wife, Peggy, and watching my sons find their own ways in life. I enjoy collecting 78 rpm records from the 1920s and '30s. I remember classes in tropical medicine with Ben Kean and rounding in physical diagnosis with Elliott Hochstein (I was lucky to have him as my tutor). I'm proud of WCM's clinical training in history taking, physical diagnosis, and patient care."

Arnold Cohen, MD '71, is the chairman emeritus of the Department of Ob/Gyn at Einstein Healthcare Network and professor of ob/gyn at Sidney Kimmel Medical College at Thomas Jefferson University. He writes, "At WCM I remember learning physical diagnosis from Elliott Hochstein, cadaver dissection, and loving my ob/gyn fourth-year rotation. I'm proud of my background of learning to listen to patients, do a physical exam, and make a clinical diagnosis. A lost art."

Ronald K. Harris, MD '71: "Although I'm retired from Atlantic Health System Surgical Associates, I am now a first surgical assistant on request for 12-15 cases per month. At WCM I had four wonderful years and preparation for surgical residency at NewYork-Presbyterian/WCM. I'm proud of the institution itself, and the respect of patients and colleagues."

Richard T. Hoppe, MD '71, is the Henry S. Kaplan-Harry Lebeson Professor in Cancer Biology and the chair of radiation oncology at Stanford University. He is the recipient of numerous awards including the Gold Medal from the American Society for Radiation Oncology and the Janeway Award from the American Radium Society. From his time at WCM he remembers the holiday week parties, shooting pool in Olin Hall, playing bridge with other young married couples, Olin rooftop parties, Betty's burgers, the Recovery Room, Acropolis, Altos Pizza, Dresner's and Il Vagabondo, and Elliot Hochstein, George Stassa, **Tom Meikle '51, MD '54, Fletcher McDowell, MD '47,** Lee Winston, Ben Kean, **Wilbur Hageman, MD '51,** and **Paul Sherlock, MD '54.** He's proud that WCM continues to be among the top-ranked medical institutions in the world.

Robert Lauren, MD '71: "I'm the chairman of neurology at Medstar Washington Hospital Center and a professor of neurology at

Georgetown University. My expertise is in acquired metabolic disease of the central nervous system. I've stayed happy in one job as it has been quite varied, and as the job has changed over the decades. I remember the fourth-year curriculum at WCM was all elective. I'm most proud of my classmates."

Richard Lynn, MD '71: "The 45th Reunion was a wonderful opportunity for those of us fortunate enough to have attended, especially the Friday evening class dinner at the Cornell Club. In attendance were '71 classmates **Richie Lynn, Arnie Cohen, Lou Rambler, Steve Rosenblatt, Henry Pitt, Rich Hoppe, Rich Bailyn, Tom Moore, Ron Harris, Frank Bia, Bob Laureno, Nestor Tomycz, John Perlmutter, and Ken Schwartz**, along with spouses, significant others, and family. We had a moment of silence for those of our class who have passed on (**Mitch Koch, Flo Crawford, Russ Vergess, Dave Gutknecht, and Angel Olazabal**). I am proud to have been elected to the board of directors of the Weill Cornell Medical College Alumni Association, and will do my best to represent our class and those vintage years at 1300 York Ave."

Thomas S. Moore, MD '71: "Personal highlights for me were the births of our three children and the birth of our granddaughter, our only grandkid so far. I enjoy travel, photography, cooking on the Big Green Egg, and visiting our far-flung family."

Henry A. Pitt '67, MD '71: "I have three successful children, four wonderful grandchildren, and one marriage. I've traveled to 50 countries and all 50 states. My current interests include sports, travel, and (not enough) golf."

Steven Rosenblatt, MD '71: "I have four grandchildren so far. My daughter is in medical school, one son is a pilot, and the other son is a movie editor. I'm a docent for the San Antonio Holocaust Museum, enjoy golf, skiing, and travel, and am trying to re-learn how to play my saxophone."

Bill Schnall, MD '71: "I've been married 43 years and have two daughters. The older works for Nordstrom corporate and the younger is an epidemiologist with the CDC. I've supervised and helped construct three homes and volunteer in multiple local organizations including five years as president of a nonprofit. I'm more content and happier than I ever imagined possible. My hobbies include bonsai, gardening, woodworking, travel, and real estate investing."

Kenneth V. Schwartz, MD '71: "I've had several administrative positions since starting at Griffin Hospital in Derby, CT, including chief of cardiology and medical director and vice president of medical affairs. Currently I'm a member of the Griffin Faculty Practice hospital-owned multispecialty group. In my free time, I enjoy tennis, golf, and flying."

Nestor Tomycz, MD '71: "I married in 1971. In 1974, I took a four-month cross-country trip and visited more than 20 national parks, climbed Lassen Volcano, had bear encounters in Yosemite and King's Canyon, then went to Baja California, Mexico City, and Acapulco. I earned my pilot's license in 1978 and took up the motorcycle in 1979. I traveled to Brazil when Halley's Comet was visible. I've watched a volcanic eruption, with earthquake, in Ecuador, saw Machu Picchu in Peru (five days after an inferior MI in Cuzco), and visited Egypt, Israel, Spain, Ukraine, Europe, and the Canadian Rockies. My hobbies are photography, piano music, science fiction, and chess. I have three granddaughters in the Pittsburgh area."

Allan Gibofsky, MD '73, was invited by the Panama Ministry of Health to present and discuss "Strategies for Optimizing Treatment of Patients with Rheumatoid Arthritis."

Dan Hunt, MD '73: "After serving for nine years as the co-secretary for the Liaison Committee on Medical Education (LCME, medical school accreditation), I've transitioned to half time with the Association of American Medical Colleges, continuing some domestic accreditation and with an increased focus on helping other countries create their own accreditation systems. This change in scope of work allowed me to move to a new home located on the ridge between Napa and Sonoma valleys just outside of Santa Rosa. I'm blessed with three grandchildren and one more on the way, and there is now more time for family activities as well. If you are in the area, drop by. Stone carving, dry rock wall building, and gardening fill in the gaps. Big shout out of thanks to **Gar LaSalle, MD '73,** for the wonderful cache of stones for future sculpting projects. Contact me at dhunt@aamc.org."

Benjamin A. Lipsky, MD '73, was selected by the Veterans Affairs Society for Practitioners of Infectious Diseases (VASPID) to receive their Lifetime Achievement Award. The citation states, "The Award is presented annually (since 2011) to honor an individual who has had a profound impact on the practice of Infectious Diseases

within V.A. Medical Centers across the country—through their passion, professionalism, and contributions to providing excellence in clinical care, conducting seminal research, and in promoting education within the field of Infectious Diseases." The V.A. healthcare system is the largest in the US, with over 150 university affiliated medical centers. Ben worked for more than 35 years at the V.A. Puget Sound (Seattle) that is affiliated with the University of Washington.

Stuart B. Mushlin, MD '73: "I have a book coming out in March 2017: *Playing the Ponies and Other Medical Mysteries Solved*. It's a book of interesting cases and people. I'm mostly retired. I still teach a bit and mentor a bit, all at Brigham and Women's Hospital."

Robert J. Quinet, MD '74: "I retired as chair of the rheumatology department in 2014. I'm still the program director of the rheumatology fellowship program at Ochsner Foundation Hospital in New Orleans. My wife is still teaching world history at St. Martin's Episcopal School and is the social studies chairperson. My older son, Stephen, is a neuro-radiologist at the Medical College of Wisconsin, and my younger son is a recent graduate of Tulane University."

Thomas M. Anger, MD '75: "Grandchildren Maya and Laura are ages 7 and 3. I'm back to work three days a week with a pediatrician in northwest Indiana. I'm still cycling and taking vocal lessons at Old Town School of Folk Music."

John Lee, PAC '75: "I am an alumnus of the Cornell Physician Assistant Program (then known as the Surgeon's Assistant Program). My subspecialty since completing my training is in cardiothoracic surgery. I've recently taken on a new position in Oahu, HI, as director of the Hawaii Permanente Postgraduate Critical Care–Surgery PA Fellowship Program, which started its first PA Fellow on April 1, 2016. This is also the first postgraduate PA Fellowship of its kind for the entire Kaiser system nationwide. In fact, we are currently searching for our next 2017 PA Fellow, so interested, highly motivated senior PA students and recent PA graduates may apply."

Karen Robertson, MD '75: "I'm still working and still having fun."

Walter F. Schlech, MD '75: "It was great to see everyone at Reunion. No one's changed a bit. Shout out to the two Richards and Libby for arrangements. Open invitation to all to come stay with us in beautiful Nova Scotia."

Ralph C. Budd, MD '77: "I have been at the University of Vermont in rheumatology/

immunobiology since 1989. I currently direct the Vermont Center for Immunology and Infectious Diseases and just finished editing the 10th edition of the *Textbook of Rheumatology*. I've been researching mechanisms of cell death in the immune system as it relates to lupus and rheumatoid arthritis. This past May I was given the title of University Distinguished Professor. Lenore and I celebrated our 41st anniversary this year and love our life in Vermont. We welcome any Cornellians who may pass through."

Vincent deLuise, MD '77: "I have retired from clinical practice and still teach at Yale University in the department of ophthalmology and at the national meetings. I also serve as adjunct faculty at WCM in ophthalmology and am on the advisory committee of the Music and Medicine Initiative (MMI) at Weill Cornell Medicine and write program book notes for the MMI Orchestra concerts."

Elliot Mayefsky, MD '77: "I became director of the general surgery residency program at Orange Regional Medical Center in Middletown, NY."

1980s

Rosemary Meisner Klenk, MD '80: "I've had 35 years in pediatric practice in Fairfield County, CT. I was named the county's 'Top Doc' in 2016. Soon I will welcome **Chip Cornell, MD '80**, to head orthopaedics at Stamford Hospital. Reunion was great, especially the speakers and, most especially, the interview with **Anthony Fauci, MD '66**."

Sharon A. Strong, MD '81: "I continue seeing homebound elderly in their homes and assisted living facilities, including hospice and palliative care."

Walter E. Donnelly, MD '82: "'Twas a milestone year for the Donnellys. After my bride, Karen, and I rode our bicycles to Vermont from Cincinnati last fall to celebrate our 30th anniversary, the entire family was able to summit Mt. Kilimanjaro in December. Our eldest, Kevin, graduated from Ohio State Med and is interning in Cincinnati prior to starting dermatology at Drexel next year. Middle son Ryan got his master's in biomedical engineering and is working for the EMR giant EPIC. Erin is finishing her BME degree and starting to work."

Bruce Hirsch, MD '82, and Susan Hirsch, MD '84, will be celebrating their 35th anniversary this year by going on a safari.

They bought a shack on the Long Island Sound that they plan to demolish, and then build their dream house over the next two years. For now, they have no place to live. Their eldest son, Eric, 29, received a PhD and is teaching anthropology at McGill University in Montreal. Their middle son, Zach, is a top reporter at NCPR, up in the North Country in Plattsburgh, NY. Their youngest, Jake, is a junior at Columbia University and plans to become a lawyer. Nobody is married yet, therefore no grandkids yet. Their dog, Scoop, is 7 years old and says "Woof" to all of you.

Michael M. Ziegelbaum, MD '82: "I've recently completed presidency of the Nassau County Medical Society and currently am president-elect of the medical staff at Long Island Jewish Hospital. I continue with relief missions and training in Haiti."

Gregg Hartman, MD '83: "I am the medical director of perioperative services and vice chair of the Department of Anesthesiology at Dartmouth-Hitchcock Medical Center. Benjamin, 21, is in his third year of engineering, and Matti, 18, is in the first year of pre-med, both of them at Northeastern."

Maureen R. Tierney, MD '83: "I have been named the director of the Program to Prevent Healthcare Associated Infections in the State of Nebraska Department of Public Health. Yes, this New York City girl and her family now live in the heartland. My husband is a lawyer who was recruited by Union Pacific Railroad. Both our sons, John and Jim, are happy at Creighton University studying environmental science and economics, respectively. We do go back to our house on Cape Cod every summer for a few weeks, so please come and visit."

David A. Haughton, MD '84: "It was a busy two-month stretch recently. I had a show in the first week of October in Seattle along with my friend, the great Vancouver artist Michael Abraham, and a solo show that opened in the last week of November. I will be retiring completely from medicine by December 2017, assuming the role of full-time 'starving artist.'"

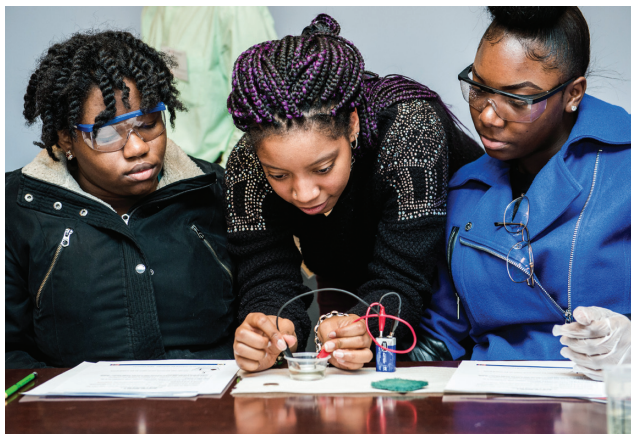
Rocco F. Marotta, MD '85, PhD, was honored at Silver Hill Hospital's annual Giving Hope Gala with the 2016 Visionary Award for his outstanding work as a psychiatrist in the



INSPIRING YOUTH: Big Red STEM Day included sixty high school students from communities underrepresented in science, technology, engineering, and math.

'After my bride, Karen, and I rode our bicycles to Vermont from Cincinnati last fall to celebrate our 30th anniversary, the entire family was able to summit Mt. Kilimanjaro in December.'

— **WALTER E. DONNELLY, MD '82**



INQUISITIVE NATURES: Big Red STEM Day was a cooperative effort between Cornell and the New York City Department of Education.

hospital's Transitional Living Program. Accepting it, he reflected, "Our driving force is the needs of our patients and their families, who are dealing with dangerous and painful conditions. We are dealing with people in crisis, living in a world in conflict. Our staff must sacrifice much to be able to do this, and I am so lucky to work with them here at Silver Hill in this task."

Montgomery Douglas, MD '86: "Just a quick note that we moved from New York to Connecticut in 2016. Now I'm the chair of family medicine at the University of Connecticut School of Medicine in Farmington and St. Francis Hospital and Medical Center in Hartford. We live in West Hartford. Returning to the Hartford area is like coming home because that's where I started when I migrated from the islands at age 19, and where I went to college at the University of Hartford."

Walter A. Klein, MD '87: "Life is great. All three daughters have graduated from college. The practice is doing well. My wife, Marnie, and I are involved in a variety of volunteer activities and are doing our best to see the world. Germany, Switzerland, and Iceland were some of the highlights this year, with more to follow. It's simply unbelievable to think that medical school was 30 years ago."

Alexander D. Babich, MD '88: "My older son, Stefan, got married in July and started law school at Georgetown in August. My younger son, Luke, graduated Stanford with honors in political science and is now back in his native St. Louis and running for a city council seat. I'm still running a successful pathology practice with six partners and am happily married to my lovely wife of 32 years, Sarah."

Bruce E. Clurman, PhD '88, MD '89: "I was named executive vice president and deputy director of the Fred Hutchinson Cancer Research Center, where I also hold the Jose Carreras/E. Donnall Thomas Endowed Chair for Cancer Research. I still have strong Cornell ties: my son, Jesse, graduated in 2015 and works in the Cornell Investment Office. My daughter, Annelie, just graduated from Colgate and works in my old stomping ground at Memorial Sloan Kettering in clinical research. Deb and I have been married for 27 years after we met on a ward at Payne Whitney, where she was the charge nurse during my psych rotation."

Theresa Rohr-Kirchgraber, MD '88, was recently named a "Local Hero" by the IU National Center of Excellence in Women's Health and the American Medical Women's Association. The award is for women physicians who have made an impact on their community. The winners are physicians who tirelessly care for their patients and help others without looking for commendation, mentors who support colleagues and students both formally and informally, and those who have demonstrated a zest for medicine and their zeal to make a community healthier. The award was given at the Women in Medicine reception held in Indianapolis in September 2016.

1990s

Li-Ming Su '89, MD '94: "As the new chair of the Department of Urology at the University of Florida College of Medicine, I'm pleased to announce the addition of **Brandon Otto '04, MD '09**, to our outstanding faculty. Like me, Brandon is a 'Triple Red,' having graduated from Cornell University, WCM, and urology residency at NYP/Weill Cornell. He then completed his fellowship in minimally invasive urologic surgery at the University of Florida this past year. Go Big Red."

Louise Greenspan, MD '95: "I am a pediatric endocrinologist at Kaiser Permanente San Francisco and a clinical professor of pediatrics at UCSF. I recently published *The New Puberty*, a book based on our research into the determinants of early puberty in girls. I spoke at last year's TedMed and at this summer's Spotlight

Health/Aspen Ideas. I am living in San Francisco with my husband and two children and enjoy my clinical practice and research."

Stephen J. Marra, MD '96: "It was great catching up with my study buddy, **Kathryn Quinn, MD '96**, and discussing my new position with Murray Hill Medical Group in Manhattan."

2000s

Josh Dines, MD '01: "I'm working at Hospital for Special Surgery on the sports medicine service. I continue to be one of the team doctors for the New York Mets and a consultant for the New York Rangers."

Folorunsho Edobor-Osula, MD '07, is a pediatric orthopaedic surgeon and assistant professor at Rutgers NJMS Department of Orthopaedics.

Bojana Zupan, PhD '09, is an assistant professor of psychology at Vassar College, where she teaches in the neuroscience and psychology programs and runs a research lab.

2010s

Yosif Ganat, PhD '11, completed his training in Lorenz Studer's lab. He joined the New York Stem Cell Foundation as a staff scientist in 2015. He has extensive experience in generating hESC-derived midbrain dopamine (mDA) neurons and grafting these cells into rodent models of Parkinson's disease, and has authored over seventeen peer-reviewed publications. At NYSCF he adapts various hESC neural differentiation protocols to automated array for applications in Alzheimer's and Parkinson's diseases.

Joshua Linscott, PhD '14, is completing his third year at Tufts University School of Medicine and plans to pursue a career in urology with the hope of using his dual degree to improve the treatment and understanding of urothelial cancer. Work from his PhD thesis was recently published in *PNAS*. He lives in Portland, ME, with his wife, Kristen, and their one-year-old son, Calvin.

Jamie McBean, PhD '14, works in Manhattan at BGB Group, where the main focus is on pharmaceutical marketing and medical education. As an associate medical director, he oversees a number of different projects, ranging from making interactive digital panels at scientific congresses to convening groups of physicians to discuss the impact of cutting-edge research on drug approvals.

Joel Schrock, PhD '14, received the Lee Family Scholarship to pursue his MBA at Cornell's Johnson Graduate School of Management, graduating in 2015. While in Ithaca, he focused on creating opportunities for interaction between MBA students and graduate students in the sciences, including a partnership between the Graduate School's Bench to Bedside Initiative (BBI) and the Big Red Venture Fund, where he served as a fund manager. In summer 2015, he became a manager in Pfizer Consulting and Execution, an internal management consulting group, where he has worked on a number of projects across functions and business units. He lives in New York City with his wife, Emily Berman.

J. Bryan Iorgulescu, MD '15, a resident in the Department of Pathology at Brigham and Women's Hospital, was recently awarded a two-year, \$43,460 extramural LRP grant for his project, "Quality Improvement of Cancer Pathology Diagnoses: Determining Predictors of Discordant Diagnoses and Resulting Patient Outcomes," from the National Cancer Institute of the NIH. His research focuses on clinical quality improvement, cancer immunotherapies, and applied health informatics.

Christina Maksymiuk, PhD '15, did her graduate work in Dr. Carl Nathan's lab; during her doctoral studies, she did internships with The Solution Lab and JMP Securities. Shortly after graduation she joined Bionest Partners, a boutique healthcare consulting firm with offices in New York and Paris. She has worked on projects across multiple therapeutic areas, but her specialization and interest is in oncology and infectious disease diagnostics.

Rob Frawley, PhD '16, is a full-time staff scientist with BioBus Inc., a nonprofit science-teaching organization based out of Manhattan. In this role, Rob teaches K-12 students in local schools various aspects of biology four days a week and organizes a high school internship program focusing on marine biology in the East River. He is also an adjunct professor at Marymount Manhattan College, teaching microbiology and epidemics/infectious diseases, and the swimming coach at the New York Athletic Club, which had three swimmers compete in the 2016 Olympics in Rio.

Sarah Kishinevsky, PhD '16, recently accepted a position in the Weill Cornell Medicine Dean's Entrepreneurship Lab.

IN MEMORIAM

'52 MD—John F. Kurtzke of Falls Church, VA, December 1, 2015; neurologist; helped establish the field of neuroepidemiology; professor of neurology and community and family medicine at Georgetown University; chief of neurology services at the Veterans Administration Hospital; developed a disability scale for multiple sclerosis patients; consultant in neurology at Bethesda Naval Hospital; retired two-star admiral, US Naval Reserves; author; active in professional affairs.

'52 MD—Elizabeth Barrows Watson of North Andover, MA, February 24, 2015; anesthesiologist at Bon Secours, now Holy Family Hospital; also practiced at Bryn Mawr Hospital.

'53 MD—C. Peter Albright of North Danville, VT, June 2, 2016; practiced medicine on Cape Cod and in Burlington, St. Johnsbury, and Danville, VT; past president of the Vermont State Medical Society and of the American Holistic Medical Society; member of the Pumpkin Hill Singers and the North Country Chorus; traveler; peace activist; environmentalist; woodworker; active in community and religious affairs.

'54 MD—Robert Newton of Sudbury, MA, April 3, 2016; urologist; pioneer in male infertility; practiced at Newton-Wellesley Hospital; also worked at New England Cryogenics; served in the Medical Corps Reserves.

'55 MD—Reginald Harned Isele of Austin, MN, May 31, 2015; physician at Austin Medical Center for 40 years; US Air Force veteran; physician at Eglin Air Force Base; president of the Austin Symphony and the Austin Artist Series; Rotarian; active in community, professional, and religious affairs.

'56 MD—Mitchell Mills of York, PA, formerly of Springfield, VA, February 20, 2015; cardiovascular thoracic surgeon; chief of thoracic surgery at Bethesda Naval Hospital; professor emeritus at George Washington University School of Medicine; US Navy Captain; medical officer on the aircraft carrier *Bonhomme Richard* and the hospital ship *USS Repose*; active in community, professional, and religious affairs.

'56 MD—Frank G. Moody of Houston, TX, August 12, 2016; professor and chair of surgery at McGovern Medical School; expert on the

surgical treatment of peptic ulcers, gallstones, inflammation of the intestine, and morbid obesity; also taught at the University of Utah, the University of Alabama, and UC San Francisco; author; mountain hiker; skier; active in professional affairs.

'56 MD—Frederic W. Smith Jr. of Portland, OR, August 8, 2016; chief of gastroenterology at the Veterans Medical Center; professor emeritus of medicine, Oregon Health & Sciences University; veteran; active in professional affairs. Wife, **Mary Dewitt Smith, MD '59**.

'57 MD—J. William Costello of Colorado Springs, CO, September 2, 2016; retired ob/gyn; practiced at Providence Hospital; clinical assistant professor, Georgetown University Medical School; also practiced in Hutchinson, Pratt, and Hays, KS, before retirement; medical officer, US Air Force; active in professional affairs.

'58 MD—Simmons Lessell of Lexington, MA, May 9, 2016; director of neuro-ophthalmology at the Massachusetts Eye and Ear Infirmary; professor of ophthalmology at Harvard Medical School; active in professional affairs.

'54, '58 MD—Hibbard E. Williams of Davis, CA, July 26, 2016; endocrinologist; expert on kidney stone disease; professor of general medicine and the second dean of UC Davis School of Medicine; professor, medical genetics division chief, department vice chair, and executive chief of staff at UC San Francisco; chair of WCM's Department of Medicine; physician-in-chief at New York Hospital; enjoyed boating, travel, writing, winemaking, and cooking; active in professional affairs.

We want to hear from you!

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cf33@cornell.edu

or by mail:
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We Are WCM

Associate Dean of Diversity Linnie Golightly, MD '83, is an associate professor of clinical medicine and of medicine in microbiology and immunology. In addition to her research aimed at combatting infectious disease in the developing world, she teaches parasitology—the course that inspired her professional path



When I took parasitology in my second year of medical school, I was surprised to learn that there were so many diseases that were major causes of morbidity and mortality worldwide that weren't major problems in the U.S. I ended up going to Brazil to study mucocutaneous leishmaniasis—a disease, spread by a sand fly, that can cause horrible disfigurement. We would take a bus to a small town and get picked up and taken to a tiny village; then each day we'd go in a Jeep as far as we could, walk up into the hills, and go house to house to survey the families. It was amazing that there were all of these people with a disease that could have such horrific consequences—and so few people in this country even know about it. It made me want to do something about these diseases and led to my choosing a career in global

health. Now I teach a class in this subject—the one that changed my life—and I feel a sense of responsibility to help my students find their passion as well. One moment that has stayed with me was when I was teaching at our location in Qatar and speaking to a small group of female students. I asked them what they wanted to talk about, and one said, 'We want to hear about how you blend being a wife and mother with your career.' And I thought, 'Here I am, an African American woman speaking to women in Qatar, and they have the same questions as women back home.' Even though I was from a much different place, they thought I could help them navigate their way. It helps to show that despite our differences—geographic, cultural—we have common needs and desires that bind us together as people." ■

ABBOTT



Weill Cornell Medicine

Join the Dean's Circle



Interim Dean Augustine M.K. Choi, MD, welcomes David Gluck, MD '57, to the Dean's Circle with a commemorative pin and certificate.



Dean's Circle member Richard U. Levine, MD '66



Ernest Sosa, MD '78, Connie Newman, MD '78, Edward Nejat, MD '04



2016 Dean's Circle Dinner with Interim Dean Augustine M.K. Choi, MD

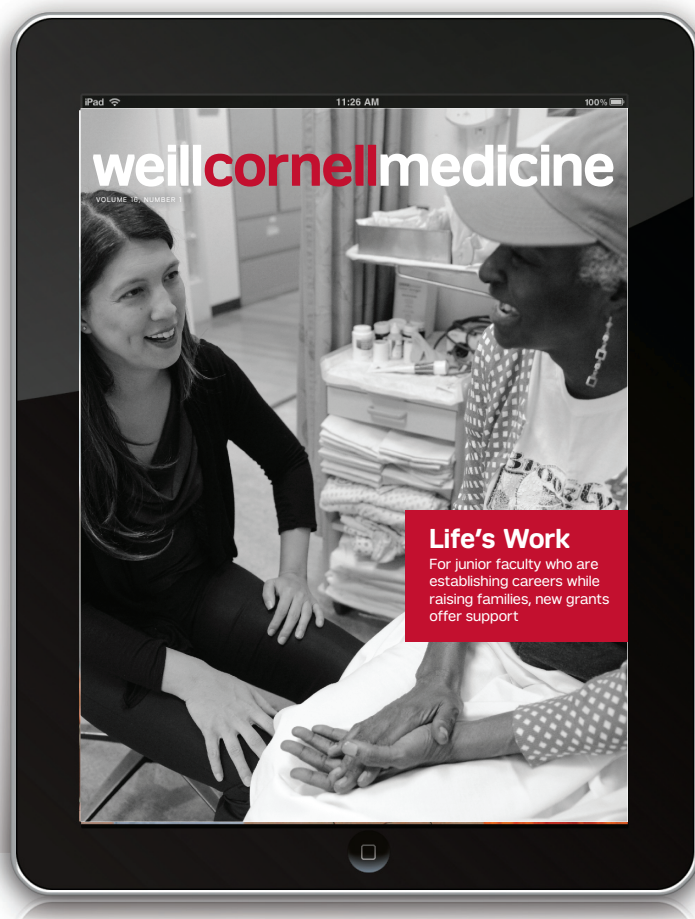
The Dean's Circle, Weill Cornell Medicine's most prestigious alumni giving society for leadership donors, was established in 1997 to recognize alumni who have made significant financial commitments to ensure the continued excellence of the Medical College. Dean's Circle members help Weill Cornell Medicine carry on its tradition of rigorous academics, transformational research and outstanding patient care.

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For more information about becoming a Dean's Circle member, please visit <http://alumni.weill.cornell.edu/alumni-giving/deans-circle> to download our Dean's Circle brochure, or contact Vanessa Ball, Alumni Gifts Officer: (646) 962-9473 or vlb2005@med.cornell.edu.

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