weilcornelmedicine

VOLUME 16, NUMBER 2

THE POWER OF THREE

New Dean Augustine M.K. Choi, MD, aims for new levels of excellence in Weill Cornell Medicine's mission: to care, discover, and teach

Weill Cornell Medicine

On Friday, September 23, and Saturday, September 24, 2016, over 350 medical college alumni and guests traveled from near and far to return to Weill Cornell Medicine for Reunion 2016. Thank you to everyone who joined us and helped make this biennial event such a success!



Left to right, Reunion Chair and incoming Alumni Association President Stuart B. Mushlin, MD '73, with Dean Augustine M.K. Choi and outgoing Alumni Association President Spencer H. Kubo, MD '80.



Anthony Fauci, MD '66, was interviewed by Michael Specter of the New Yorker about his remarkable career and the vital contributions he has made to the discovery and treatment of infectious diseases worldwide.

Alumni Reunion



Left to right, Jean Pape, MD '75, and Richard Cohen, MD '75, celebrated their 40th.

Save the date: ?eunion

Friday, October 5 - Saturday, October 6, 2018



Members of the Class of 2011 and guests enjoyed the Gala Dinner Dance at the Plaza Hotel.



Special Achievement Award. Frank L. Douglas, MD '77, PhD '72.



Special Achievement Award. Henry W. Murray, MD '72.

For more information about Reunion, contact alumni@med.cornell.edu

weillcornellmedicine



THE MAGAZINE OF WEILL CORNELL MEDICINE

VOLUME 16, NUMBER 2

FEATURES

22 CITIZEN OF THE WORLD: A CONVERSATION WITH DEAN AUGUSTINE M.K. CHOI, MD BETH SAULNIER

Dean Augustine M.K. Choi, MD, is the son, father, and husband of physicians. An expert in lung disease, he served as chair of the Joan and Sanford I. Weill Department of Medicine and physicianin-chief of NewYork-Presbyterian/Weill Cornell Medical Center before being tapped as interim dean after Laurie Glimcher, MD, stepped down in mid-2016. Choi, who was born in Korea and holds an MD from the University of Louisville, was officially appointed to the position in January. He sat down with *Weill Cornell Medicine* magazine in March to discuss his vision for the institution, his unusual background—including a childhood partly spent in a Malaysian jungle town and a missed chance to be a U.S. Olympian—his family, his research, and more.

28 TREASURE TROVE: INSIDE THE MEDICAL CENTER ARCHIVES BETH SAULNIER

"The archives are a very special place," says Curtis Cole, MD '94, WCM's chief information officer. "It really is the crown jewel of the library." Located on the twenty-fifth floor of NewYork-Presbyterian/ Weill Cornell's Baker Tower, the archives are the repository of Weill Cornell Medicine's history. They contain more than 7,100 linear feet of materials—primarily documents, but also videos, sound recordings, physical objects, and an estimated 20,000 photographs. Among its most intriguing hold-ings are records of the many scientific breakthroughs by WCM's faculty, chronicling decades of discovery on such topics as cervical cancer diagnosis, leukemia treatment, car crash survival, and more.

For address changes and other subscription inquiries, please e-mail us at wcm@med.cornell.edu

Twitter: @WeillCornell Facebook.com/ WeillCornellMedicine YouTube.com/WCMCnews

Cover photo by John Abbott

34 COMMUNITY ACTION: CLINICAL AND TRANSLATIONAL SCIENCE CENTER

ANNE MACHALINSKI

The Clinical and Translational Science Center (CTSC) is a Weill Cornell Medicine-led program that has been supported by nearly \$100 million in funding from the NIH. Over the past decade, the CTSC—which brings together Weill Cornell Medicine, Memorial Sloan Kettering Cancer Center, Hospital for Special Surgery, Hunter College, and other institutions—has assisted thousands of investigators, trained early-career scientists, partnered with community organizations in underserved neighborhoods, and much more. Says founding director and principal investigator Julianne Imperato-McGinley, MD: "CTSC-supported research now serves as an example of what successful interdisciplinary collaborations can accomplish."

Weillcornellmedicine

Published by the Office of External Affairs

WCM SENIOR ADMINISTRATORS Augustine M. K. Choi, MD The Stephen and Suzanne Weiss Dean, Weill Cornell Medicine; Provost for Medical Affairs, Cornell University

Larry Schafer Vice Provost for External Affairs

WCM EXECUTIVE DIRECTOR OF COMMUNICATIONS AND PUBLIC AFFAIRS Mason Essif

WCM DIRECTOR OF CREATIVE AND EDITORIAL SERVICES John Rodgers

> WCM SENIOR EDITOR Jordan Lite

Weill Cornell Medicine is produced by the staff of Cornell Alumni Magazine.

PUBLISHER Jenny Barnett

EDITOR Beth Saulnier

CONTRIBUTING EDITORS Chris Furst Anne Machalinski Adele Robinette

ART DIRECTOR Jennifer Kloiber Infante

ASSISTANT ART DIRECTOR Lisa Banlaki Frank

ACCOUNTING MANAGER Barbara Bennett

EDITORIAL AND BUSINESS OFFICES 401 E. State St., Suite 301 Ithaca, NY 14850 (607) 272-8530; FAX (607) 272-8532



Printed by The Lane Press, Burlington, VT. Copyright © 2017. Rights for republication of all matter are reserved. Printed in U.S.A.



3 DEAN'S MESSAGE

Comments from Dean Augustine M. K. Choi, MD

4 FEIL FAMILY STUDENT CENTER

6 SCOPE

Plans for new student center unveiled. *Plus*: Pascual leads Drukier Institute, Drukier Prize awarded, promoting entrepreneurship, consulting on a Shanghai hospital, 100 percent success on Match Day, five win junior faculty fellowships, and remembering Rees Pritchett, MD '48.

10 LIGHT BOX

Doctors in wartime

12 TALK OF THE GOWN

Relief for essential tremor. *Plus*: Grad student Neel Madhukar, alumnus oversees healthcare for city inmates, a medical memoir from Stuart Mushlin, MD '73, making sense of obesity research, and NYC medical examiner Barbara Sampson, MD '94.

40 NOTEBOOK

News of alumni

47 IN MEMORIAM

Alumni remembered

48 POST DOC

#WeAreWCM: Battling a deadly blood cancer, and honoring her heritage

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

The Case for Mentorship



'I believe that our ability and propensity to share of ourselves in this way, without expectation of tangible return, is among the ultimate measures of leadership and success.'

here are few things more genuinely crucial to success than having the guiding hand of a mentor. Many of us can recall influential childhood mentors whose sage advice has left an indelible mark on our lives: parents and grandparents, teachers and counselors. Mentorship is vital into adulthood, particularly for budding doctors and scientists who are just starting their careers. Working under the tutelage of a mentor is a powerful force; it can bestow confidence, shatter perceived limitations, and strengthen ambitions and even core identity, with productive results and deep fulfillment for the mentee. Yet the benefits of mentorship are not one-directional. Rather, they infuse a transcendence and universality into the professional mission of the mentor, enriching his or her life and career.

Weill Cornell Medicine is ahead of the curve in mentoring and boasts truly excellent mentors who are committed to cultivating these relationships as an integral part of their work. Take Olivier Elemento, PhD, an associate professor of physiology and biophysics, who mentored twenty-five-year-old MD-PhD student Neel Madhukar through the development of a promising computational drug model—a project that is covered in this issue. There's the Weill Cornell Medicine Clinical and Translational Science Center, also highlighted in these pages, which has funded efforts such as a program to prepare junior investigators to submit their first major research proposal and involves regular one-onone work with a senior faculty member. But I want Weill Cornell to lead the curve, and that starts at the top.

Throughout my career, I've had a passion for mentoring, and when my mentees do well, such as getting a grant or a big paper accepted in a top-tier journal, I celebrate their success. The opportunity to have played a role in their accomplishments is invigorating and gives me energy in other areas. I believe that our ability and propensity to share of ourselves in this way, without expectation of tangible return, is among the ultimate measures of leadership and success. Have we nurtured our students, trainees, and young faculty not only to carry our discoveries and best practices forward, but to become their best selves—the doctors and scientists whose potential in part depends on us eliciting it?

All of us can become leaders in mentorship, regardless of rank, and the composition of these relationships can change over time. When my career focused primarily on research activities, I mentored postdoctoral fellows and students (medical and graduate), and as chair of medicine my mentees were residents and faculty. As dean, I now consider our medical students to be my clearest group of mentees, while I continue the ongoing privilege of mentoring our trainees and faculty.

I want to ensure that mentorship not only pervades Weill Cornell's culture, but becomes a constant, defining feature of it so that every student or early-career clinician or scientist receives this type of vital support. I want us to be leaders in this area, to model for other academic medical centers what deep and lasting mentorship looks like, and for all of us to feel privileged for the opportunity to engage in it. This will enable us to truly excel across our mission to care, discover, and teach. The trick will be to incentivize mentoring in the midst of many urgent and competing demands on our time.

We should remember to take the long view. If we as mentors have assumed our mentoring role well, our mentees will become smarter and better than us. Years down the road, perhaps when they are not even at Weill Cornell Medicine, their work may have a real benefit to the wider research community, to patients, and to the world at large. Together, we may engage in a role reversal in which our former mentees begin to mentor us, encouraging us to continue to evolve as physicians and scientists—all for the common good of science, medicine, and society. Weill Cornell Medicine

Feil Family Student Center

A Modern Center for the Healthcare Leaders of Tomorrow

Left to right, Maria Christina Passarelli, MD '19, Vice Chair Overseer Jeffrey Feil, Donovan R. White, MD '20, Student Overseer Raul J. Martinez-McFaline, MD '16



With the goal of advancing Weill Cornell Medicine's mission to nurture the best future healthcare leaders, the Feil family has made an extraordinary gift to establish a state-of-the-art student center on campus. The \$12.5 million gift will expand the institution's dedicated student space by nearly 75 percent, creating new areas for education, collaboration, wellness and student engagement.

The 16,200-square-foot Feil Family Student Center, housed in renovated space on the first and second floors of the main campus buildings on York Avenue, will offer a place for classrooms, meetings, quiet study and informal gatherings to bring students together in the heart of the institution. The new center will complement the Weill Education Center, established in 1996 by Joan and Sanford Weill and other generous donors, and renovated in 2015. The Feil Center will provide a spacious and modern hub for student life, innovation and teaching, and will help to further realize the institution's new curriculum. Construction will begin June 2017.

"The Feil family's generous support over the years has helped cement Weill Cornell Medicine's reputation as a world-class global institution."

Chairman Jessica Bibliowicz

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

Gift Creates Feil Family Student Center



LEARNING & LEISURE: Barbara Hempstead, MD, PhD, senior associate dean for education (left), and Dana Zappetti, MD, associate dean of student affairs, review plans for the Feil Family Student Center.

state-of-the-art center will expand Weill Cornell Medicine's dedicated student space by nearly 75 percent. The facility—which will create new areas for education, collaboration, wellness, and student engagement—is made possible by a \$12.5 million gift from the family of Gertrude and Louis Feil, with the goal of advancing WCM's mission to nurture the best future healthcare leaders. The family is among WCM's foremost benefactors, having supported the institution for more than three decades with gifts totaling more than \$90 million.

"Weill Cornell Medicine's classrooms, labs, and patient exam rooms are bustling with some of the finest medical and graduate students in the country," says Barbara Hempstead, MD, PhD, senior associate dean for education and the O. Wayne Isom Professor of Medicine. "Just as they have entrusted us to provide them with the tools to become scientifically inquisitive, compassionate, and highly skilled physicians, it is incumbent upon us to ensure their wellness and professional growth during their education. Thanks to the Feil family's remarkable generosity, we can maximize the effectiveness of our new curriculum and enhance the student experience."

Construction will begin in June on the 16,200-square-foot Feil Family Student Center, housed in renovated space on the first and second floors of the main campus buildings on the east side of York Avenue. It will offer venues for classes, meetings, quiet study, and informal gatherings to bring students together in the heart of the institution. The new center will complement the Weill Education Center, established in 1996 by Joan and Sanford I. Weill and other donors, and renovated in 2015.

The facility will feature spaces for instruction, small group study, reading, and advanced patient care training, including a computer lab with access to WCM's electronic health records system, giving students a dedicated space to research and identify best practices for their patients during clinical clerkships. An activity room will provide crucial meeting space for the more than sixty student groups on campus, and a lounge will encourage students to gather and reinvigorate amid their rigorous education programs. All rooms will feature flexible configurations and enhanced information technology capabilities.

"Education is Weill Cornell Medicine's lifeblood—it is the way in which we can assure a lasting effect on healthcare and our patients," says Dean Augustine M.K. Choi, MD. "We are deeply grateful to the Feil family, whose generous gift exemplifies our vision for how to shape the best doctors and scientists, and ensures that our institution remains at the forefront of education."

Pascual Named Director of Drukier Institute

Pediatric rheumatologist Virginia Pascual, MD, has been appointed the founding Gale and Ira Drukier Director of the Gale and Ira Drukier Institute for Children's Health. Pascual, who was recruited



diseases; her lab recently developed a personalized approach to identify molecular drivers of disease activity in pediatric lupus patients. An MD alumna of the Universidad Complutense in Madrid, Spain, she has published more than 100 studies in top-tier

to Weill Cornell Medicine as the Ronay A.

Menschel Professor of Pediatrics, investigates

pediatric inflammatory and autoimmune

VIRGINIA PASCUAL, MD

journals and contributed to nearly fifty book chapters and reviews. The Institute was established in 2014 with a \$25 million gift from Gale and Ira Drukier.

Program Promotes Entrepreneurship

Weill Cornell Medicine has launched a program to foster entrepreneurship and innovation. Dubbed the Dean's Entrepreneurship Lab (eLab), it provides resources and educational opportunities to students and faculty who have ideas with commercial potential. The program is aimed at closing the gap between what scientists typically pursue on their own—publishing research, developing a prototype, and getting a patent—and later phases of development, like starting a company. It will help researchers develop a business plan, connect with collaborators and mentors, pitch to investors, and more. Since eLab launched in March 2016, hundreds of students have taken its entrepreneurship course.

Drukier Prize Awarded for Allergy Research

Allergist and immunologist Joshua Milner, MD, has been awarded the second annual Gale and Ira Drukier Prize in Children's Health Research. Milner, chief of the Genetics and Pathogenesis of Allergy Section at the National Institute of Allergy and Infectious Diseases, was honored for his work on the genetic and physiologic basis for allergic diseases and efforts to find advanced treatments and cures. Given to an early-career pediatrician whose research has made important contributions to improving the health of children and adolescents, the prize was established in 2014 as part of a \$25 million gift to WCM that also created the Gale and Ira Drukier Institute for Children's Health.



ALLERGY EXPERT: Joshua Milner, MD (second from right), with (from left) Dean Augustine M.K. Choi, MD, Gale and Ira Drukier, and Gerald Loughlin, MD, the Nancy C. Paduano Professor and chair of pediatrics.

Weill Cornell to Help Plan Shanghai Hospital

WCM has entered into an agreement to assist in the development of an international hospital in Shanghai, working with Tahoe Investment Group, which is developing medical facilities in major cities in China. Tapping its expertise in medical education and patient care, WCM will help guide the planning process for the hospital, which would incorporate Western medical standards. A study will assess the hospital's feasibility, size and scope, facility planning, medical specialties and diagnostic capabilities, overall project concept, and initial development. The work will also involve evaluating the prospect of an education center that would offer international training programs for healthcare professionals. "As a leader in world-class healthcare, one of Weill Cornell Medicine's primary missions is to enhance human health both at home and abroad, providing patients with the highest quality care," says Dean Augustine M.K. Choi, MD. "By leveraging our expertise in operational management and clinical excellence, we hope this project will serve as a leading example of international collaboration as we work with Tahoe Investment Group to develop a facility that will benefit both patients and the healthcare community in China."



FUTURE PEDIATRIC NEUROLOGIST: Min Ye Shen '17 celebrates her Match Day placement. For more photos, see Notebook, starting on page 40.

For the Class of '17, a 100 Percent Match

This year's Match Day was one of the best ever for WCM's graduating MDs. Every member of the Class of '17 matched to postgraduate positions, 87 percent of them to academic medical centers ranked in the top fifty by *U.S. News & World Report*. One student matched to a top military program in medicine, and all the future MDs seeking residencies in the highly competitive specialties of dermatology, ophthalmology, orthopedic surgery, otolaryngology, radiation oncology, and urology earned positions. Thirty-eight percent of the class will pursue primary care residencies in internal medicine, pediatrics, family medicine, and ob/gyn. Forty-two students will remain in metro New York—twenty-three at NewYork-Presbyterian, including sixteen at NYP/Weill Cornell and one to a combined residency with the Columbia campus.

Remembering R. A. Rees Pritchett, MD '48

On March 27, Weill Cornell Medicine lost one of the longestserving members of its community with the passing of R. A. Rees Pritchett, MD '48, at age ninety-three. An internist with a subspecialty in cardiology, Pritchett not only earned his medical degree from WCM, but did his residency at NYP/Weill Cornell, was on the faculty for more than six decades, and served the institution as a fundraiser and indefatigable booster. Known for the natty suit and bow tie that was his ubiquitous uniform, Pritchett only formally retired as the Louis and Gertrude Feil Professor of Clinical Medicine in 2015. His many laurels include an endowed professorship in microbiology named in his honor.

"There will never be anyone like him," Joseph Hayes, MD, professor emeritus of clinical medicine, said in a *WCM* magazine story marking Pritchett's ninetieth birthday. "Somebody who can be that good, that calm, that nice to patients and house staff, so even tempered. Not practicing what he learned in '48, but what he learned two days ago." Pritchett's first wife, Jane, passed away in 2001; he is survived by his second wife, Clare, as well as a daughter, two grandchildren, and a stepdaughter. Gifts in his memory may be made to WCM's Rees Pritchett, MD, Scholarship Fund, 1300 York Avenue, Box 314, New York, NY, 10065, or online at give.weill.cornell.edu.



TIP OF THE CAP...

Phyllis August, MD, the Ralph A. Baer Professor of Medical Research and a professor of medicine, of medicine in obstetrics and gynecology, and of health-care policy and research, winner of the Miriam G. Wallach Award for Excellence in Humanistic Medical Care from NewYork-Presbyterian.

Shuibing Chen, PhD, assistant professor of chemical biology in surgery and of chemical biology in biochemistry, winner of the Pancreatic Cancer Action Network and American Association for Cancer Research Career Development Award.

Frank Chervenak, MD, chairman of the Department of Obstetrics and Gynecology, the Given Foundation Professor of Obstetrics and Gynecology, and a professor of obstetrics and gynecology, accepted as a foreign member of the Russian Academy of Sciences.

Marc Goldstein, MD, the Matthew P. Hardy, PhD, Distinguished Professor of Reproductive Medicine and Urology, winner of the Distinguished Surgeon Award from the Society of Reproductive Surgeons.

Costantino Iadecola, MD, director of the Feil Family Brain and Mind Research Institute, the Anne Parrish Titzell Professor of Neurology, and a professor of neuroscience, winner of the Chancellor's Award from the Neuroscience Center for Excellence at Louisiana State University.

Iliyan Iliev, PhD, assistant professor of immunology in medicine and a scientist in the Jill Roberts Institute for Research in Inflammatory Bowel Disease, winner of a \$100,000 Breakthrough Award from the Kenneth Rainin Foundation.

Samie Jaffrey, MD, PhD, the Greenberg-Starr Professor and a professor of pharmacology, and Thangamani Muthukumar, MD, associate professor of medicine, elected to the American Society for Clinical Investigation.

Carl Nathan, MD, chairman of microbiology and immunology, the R.A. Rees Pritchett Professor of Microbiology, and a professor of microbiology and immunology and of medicine, winner of the International Cytokine and Interferon Society's Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research.

Michael Niederman, MD, associate chief and clinical director of pulmonary and critical care medicine, winner of the Murray Kornfeld Memorial Founders Award from the American College of Chest Physicians for a career spent advancing the treatment and management of pneumonia.



SMALL WONDER: WCM alumni have received many honors—but only Mae Jemison, MD '81, can say she's been a Lego. The former astronaut was among five pioneers immortalized in plastic for their roles in the U.S. space program as part of the toy line's "Women of NASA" set, announced in March.

Five Win Junior Faculty Awards

The Junior Faculty Fellowship Fund, which provides \$50,000 in support to exceptional faculty who are juggling research with childcare responsibilities, recently made awards to five WCM scientists and physicians: So Hyun (Sophy) Kim, PhD, assistant professor of psychology in clinical psychiatry; Amy Kuceyeski, PhD, assistant professor of mathematics in neuroscience and radiology; Kristen Pleil, PhD, assistant professor of pharmacology; Selin Somersan-Karakaya, MD, the Nan and Stephen Swid Research Scholar in Medicine and an assistant professor of medicine; and Claire Vanpouille-Box, PhD, instructor in radiation oncology. The grant was established in 2015 with a \$1.25 million gift from the Anna-Maria and Stephen Kellen Foundation.

FROM THE BENCH

Artificial Intelligence May Aid Cancer Treatment

Artificial intelligence can help predict which drug combinations will work best against particular cancers, say two new studies. In separate work on melanoma and B cell lymphoma, published in *PLoS Computational Biology* and *Cancer Research*, a team led by Olivier Elemento, PhD, associate professor of physiology and biophysics and associate director of the HRH Prince Alwaleed Bin Talal Bin Abdulaziz Alsaud Institute for Computational Biomedicine, used computer simulations to identify drugs that work together to inhibit disease. They then tested those results in the lab, and found that the models had been correct. The findings could bring new treatments to patients more quickly.

Exploring Sugar's Role in Brain Function

A study in *Neuron*—with Timothy Ryan, PhD '89, professor of biochemistry, as senior researcher—helps clarify the role sugar plays in brain



function. His team discovered that brain cells recruit glucose to fuel the transmission of electrical signals that enable people to think, breathe, and walk—suggesting that the brain uses the same process to produce energy on demand as muscles do during exercise. Among its many implications, the work could inform epilepsy treatment, helping to explain how eliminating sugar from the diet prevents seizures in children with a drug-resistant form of the disease.

TIMOTHY RYAN, PHD '89

New Method of Restoring Blood Vessels

There is "an immense clinical need" for endothelial cells that can be transplanted to form new blood vessels to treat patients, notes William Schachterle, PhD, instructor in medicine—and researchers have published details on a way to create them. In *Nature Communications*, they describe a method of transforming amniotic fluid cells into endothelial cells using a gene essential to forming blood vessels in embryos. The work could aid patients suffering from such conditions as tissue damage due to injury or disrupted blood vessels from type 2 diabetes. Says senior author Shahin Rafii, MD, director of the Ansary Stem Cell Institute and the Arthur B. Belfer Professor in Genetic Medicine: "This could potentially be a game changer."

'Cold Caps' Reduce Chemo Hair Loss

A multicenter study has found that special caps that cool the scalp during chemotherapy can reduce hair loss. Researchers tested the system's effectiveness in women with stage 1 or 2 breast cancer and found that two-thirds retained at least half of their hair. The device, DigniCap, was

approved by the FDA in 2015; it's thought to slow

hair follicle cell division, reducing delivery of

chemo to the scalp. "Enabling a woman to preserve her hair during chemotherapy is empow-

ering," says senior author Tessa Cigler, MD,

assistant professor of clinical medicine in the

Weill Cornell Breast Center and a member of the

Sandra and Edward Meyer Cancer Center. "Scalp

cooling allows patients to protect their privacy

and maintain their self-esteem and sense of

well-being." The work was published in JAMA.



TESSA CIGLER, MD

Paper: MDs Should Consider Drugs' Weight Effects

Investigators from WCM's Comprehensive Weight Control Center report that minimizing medication-related weight gain is essential to obesity management. In *Gastroenterology*, they underscore the need for physicians to evaluate the potential side effects of medications they prescribe for patients with obesity, and to familiarize themselves with alternatives that may limit weight gain. Leon Igel, MD, assistant professor of clinical medicine, was lead author.

Newly Found Mutation May Drive Cancer

Using next-generation sequencing technology, scientists have previously traced cancer's roots to mutations that disrupt the sequence of proteins. A study in *Cell* illuminates a possible new driver of the disease: small insertions or deletions of DNA in regions of the genome that do not code for protein. "Those non-coding regions are still important because they contain sequences that affect how genes are regulated,



which is critical for normal cell development," says lead author Marcin Imielinski, MD, PhD, an assistant professor of pathology and laboratory medicine and a core member at the New York Genome Center. Even if these mutations are not shown to cause cancer, researchers note, they could help improve treatment. "These mutations can be biomarkers that help us diagnose a cancer early," Imielinski says, "or they could be used to pinpoint a primary cancer when there are metastases and we can't find the original cancer."

MARCIN IMIELINSKI, MD, PHD

Mutation Drives Prostate Cancer Subtype

A genetic mutation known as SPOP plays an integral part in the growth and development of a prostate cancer subtype. A study in *Cancer Cell* finds that the mutation—which occurs in about 10 percent of prostate cancer cases, affecting 20,000 American men annually—activates two major pathways that are important to cell survival and growth and which contribute to malignancy. "The fact that SPOP activates both pathways breaks the normal balance between the two, allowing cells to grow in an uncontrolled fashion," says co-senior author Christopher Barbieri, MD, PhD, assistant professor of urology.

How Do Anesthetics Work?

Findings from a WCM study challenge a century-old concept of how anesthetics work, and may lead to drugs with fewer side effects. In *Proceedings of the National Academy of Sciences*, co-senior author Hugh Hemmings, MD, chair of anesthesiology and the Joseph F. Artusio Jr. Professor of Anesthesiology, and colleagues report that, contrary to previous paradigms, they demonstrated that general anesthetics at clinically relevant concentrations do not affect the properties of the part of cellular membranes composed of fat, called the lipid bilayer. Rather, they induce unconsciousness by changing the function of proteins that reside on the lipid bilayer's surface. The discovery strongly supports a more modern hypothesis that anesthesia interacts directly with membrane proteins—rather than indirectly through the membrane itself—to inhibit the electrical communications between neurons, triggering unconsciousness.

Bacteria Links Crohn's and Arthritis

In Crohn's disease, the immune system can attack not only the bowels, but the musculoskeletal system as well—leading to spondyloarthritis, a painful condition that affects the spine and joints. As reported in *Science Translational Medicine*, researchers have found a connection



RANDY LONGMAN, MD '07, PHD for

between these seemingly unrelated symptoms: a type of *E. coli* bacteria found in people with Crohn's that can trigger inflammation associated with spondyloarthritis. The team, led by principal investigator Randy Longman, MD '07, PhD, assistant professor of medicine, included scientists from the Jill Roberts Center for Inflammatory Bowel Disease and the Jill Roberts Institute for Research in Inflammatory Bowel Disease, microbiologists at Cornell University, and rheumatologists at Hospital for Special Surgery.

War Effort

In August 1917, the military transport ship Finland left New York Harbor bound for France. Aboard were dozens of doctors and nurses from New York Hospital, which had been tasked by the Red Cross with organizing a hospital to treat casualties in the Great War, already raging in Europe for three years. A total of 417 physicians—260 of them alumni and 201 nurses affiliated with New York Hospital, Cornell University Medical College, or what would become the Cornell University-New York Hospital School of Nursing served in World War I in some capacity; of those, five doctors and a nurse lost their lives. Established in a former insane asylum in Châteauroux, Base Hospital No. 9 treated more than 15,000 patients from September 1917 to January 1919—losing just 133. In this photo of Base Hospital No. 9 from the NIH's National Library of Medicine, operating room personnel from the Medical College and New York Hospital view a demonstration of gas-oxygen apparatus for anesthesia. To mark the centennial of America's entry into the war, the Medical Center Archives mounted an exhibit in the lobby of 1300 York Avenue; entitled "We Heard the Call: Our Doctors and Nurses in World War I," it runs through the summer.

For more on the Archives, see page 28.





Steady Hand

New treatment offers relief for patients with essential tremor

lexandra Lebenthal can't recall a time growing up when her hands didn't shake uncontrollably. Since age three, she has dealt with essential tremor, a neurological disorder that left her struggling with everyday activities like cutting food, pouring drinks, and holding a pen. "It was incredibly embarrassing and frustrating," she says. "One of my earliest memories is crying to my mother about it."

As an adult, Lebenthal-now fifty-two and CEO of a boutique investment firm in Manhattan-tried different medications, but nothing really worked. She found ways to cope over the yearsusing two hands to grip a glass of water, for example. But Lebenthal always longed for the day when she wouldn't have to explain her condition to strangers. "It was something that was always really difficult to talk about," she says. "It's affected me in so many ways."

Then in spring 2016, Lebenthal saw a video on Facebook about an Israeli company that had developed a non-invasive device that uses high-intensity focused ultrasound, or HIFU, to destroy tissue in a tiny area of the brain thought to be responsible for causing tremors. She immediately called her neurologist, who told her about a clinical trial at Weill Cornell Medicine that sought to test the technology. In August, she became the second person in New York to undergo the procedure; it was performed by Michael Kaplitt, MD '95, PhD, vice chairman for research in the Department of Neurological Surgery and a neurosurgeon at NewYork-Presbyterian/



GOOD GRIP: Investment executive Alexandra Lebenthal at home in Manhattan following her successful procedure for essential tremor, which she'd coped with all her life. Before the treatment, she often struggled with mundane tasks like holding a cup of coffee.

Weill Cornell Medical Center, who was the first doctor in the state to use the technique. Since then, Lebenthal's tremors have stopped entirely. "Nobody knows what this means to me," she says. "Every few days there's a new thing that I do that I couldn't do before."

Like the late actress Katharine Hepburn, Lebenthal is one of an estimated 10 million people in the U.S. with essential tremor, characterized by involuntary trembling of the hands, head, and voice. Often misdiagnosed as Parkinson's disease, essential tremor is eight times more common—and unlike Parkinson's, it's usually worse when the body is in motion. Though not fatal, Kaplitt says essential tremor is a progressive condition that can damage a person's quality of life. "It affects how someone functions as a human being," he says. "It can be an extremely debilitating illness."

Most people associate ultrasound with the technology that allows expectant parents to see their developing baby, or the imaging technique that informs diagnoses and treatments. However, HIFU has been used in the past to treat uterine fibroids and cancers of the breast and prostate, and in July, the FDA approved the method for essential tremor. During the procedure, a patient wears a fitted helmet holding 1,000 transducers, or sources of ultrasound waves, while lying inside an MRI machine that helps guide

surgeons to the exact spot in the brain where tremors originate. Kaplitt then works with Levi Chazen, MD, assistant professor of radiology, using advanced imaging to identify the brain circuit responsible for the tremor. This allows them to direct the ultrasound beams at the optimal target for each individual

patient and slowly increase energy levels; no single wave has the strength to do permanent damage, but together they are powerful enough to obliterate this faulty section of the brain. "By taking it out, it frees up the rest of the brain to function more normally," says Kaplitt.

Patients are awake throughout the procedure, which takes about three hours, so doctors can monitor their progress. At various intervals, Lebenthal was asked to draw a straight line or a spiral to assess how well the therapy was working. "If you have tremors that's nearly impossible," she says. But by the end of the process, she adds, "my lines and spirals were perfect. The tremors completely went away." According to the study that the FDA cited in giving its approval—work (not involving WCM researchers) that was published in the *New England Journal of Medicine* in August—patients treated this way at eight international centers retained a 40 percent improvement in tremors and motor function for at least one year. But there are potential side effects, including numbness, weakness, and loss of balance. Lebenthal initially felt unsteady while walking after the procedure, but she says that sensation went away within two weeks.



DRAWING TEST: As colleagues look on, neurosurgeon Michael Kaplitt, MD (center), assesses Lebenthal's dexterity during the MRI-guided treatment.

'Every few days there's a new thing that I do that I couldn't do before,' says patient Alexandra Lebenthal. Kaplitt says HIFU is an alternative to deep brain stimulation (DBS), the leading treatment option for patients with essential tremor who don't respond to medication; it involves implanting an electrode in the brain connected to a battery placed in the

chest. The pacemaker-like device sends continuous electrical charges to the brain that block the impulses causing tremors. While DBS is very effective, Kaplitt—who has been performing it for more than sixteen years—says some patients, like Lebenthal, are hesitant to undergo this more intrusive surgery. With HIFU, he explains, "they're left with no incision and no device left in the body. That's obviously the major advantage."

Moving forward, Kaplitt believes HIFU could possibly help those with Parkinson's, epilepsy, and other movement disorders. His laboratory has also been investigating ways to use focused ultrasound to deliver gene therapy, chemotherapy, or other treatments to specific areas of the brain, as a new way to combat problems that range from brain tumors to psychiatric illness. "There's a real possibility in the next few years—not decades—of trying to apply this to a host of other things," says Kaplitt. "That's extremely encouraging."

As for Lebenthal, she's just thrilled that HIFU has helped her do daily tasks as simple as write her name or sip a cup of coffee. "It's the miracle of science, and the hope it represents for people," she says. "It can truly change lives."

— Heather Salerno



Running the Numbers

Computational biology student Neel Madhukar designs a powerful tool for optimizing drug development

rowing up in Knoxville, Tennessee, Neel Madhukar always assumed he would become a physician. That's what he told his high school teachers, and he pursued a premed track as an undergraduate at Emory University. But that plan shifted after his grandfather, to whom he had long been close, received a devastating diagnosis of liver cancer when Madhukar was a freshman. "There wasn't that much they could do for it," says Madhukar, now a fourth-year doctoral candidate in the Weill Cornell Graduate School of Medical Sciences. "I started reading up, and that's when I realized that even the best doctor in the world can't save every life, because so much more research needs to be done."

It would be too late to cure his grandfather, who passed away just nine months after he was diagnosed. But today Madhukar-who ultimately opted to learn coding and pursue a PhD in computational biology-may be on his way to helping save many other lives. The twenty-five-year-old is the lead developer of a new computational tool for drug discovery called BANDIT (for Bayesian Analysis to find Drug Interaction Targets). BANDIT, which won Madhukar a spot on Forbes's "30 Under 30" list of young people making strides in the healthcare field in 2016, has the potential to supercharge the drug pipeline for everything from cancer to diabetes, getting new compounds into clinical trials more quickly and helping to ensure that drugs are tested in the patient populations in which they're most likely to be effective, says Olivier Elemento, PhD, associate professor of physiology and biophysics and associate director of the Institute for Computational Biomedicine, where he heads the Laboratory of Cancer Systems Biology. As a member of the Englander Institute for Precision Medicine and the Sandra and Edward Meyer Cancer Center at Weill Cornell Medicine, Elemento is Madhukar's thesis advisor in the Tri-Institutional PhD Program in Computational Biology and Medicine. "Many potential drugs that are very promising, that could help patients, are not being pursued because their targets haven't been found," Elemento says. "BANDIT could greatly speed up our ability to find targets in a variety of diseases."

The platform, which Madhukar and colleagues from the Elemento Lab unveiled in 2015 at the annual meeting of the American Association for Cancer Research, draws on recent progress in the computer science subfields of machine learning and artificial intelligence. (Among his collaborators was fellow grad student Kaitlyn Gayvert, who was named to the same *Forbes* list for her own work in the Elemento Lab, on a computational model to better screen drugs for toxicity.) Combining vast amounts of clinical, chemical, and genomic data from a variety of sources, BANDIT detects patterns and uses them to predict the targets of potential drugs and how the drugs will interact with human cells. When the researchers tested the platform on a set of drugs with known mechanisms, BANDIT was 90 percent accurate. And it is already leading researchers to new drugs, including an entire class of small-molecule anticancer agents called imipridones—one of which is now in clinical trials for acute myeloid leukemia, non-Hodgkin lymphoma, and prostate and endometrial cancers. "It turned out this drug binds to a dopamine receptor, a protein called DRD2," Madhukar explains. "If you know what your drug is binding to, you can better select for clinical trials, because you can seek out patients who have that protein expressed in their cancers. Right now, it takes \$2.6 billion and twelve years to get one drug from the lab to the market. Our goal is to use these technologies in any way we can to accelerate that process and reduce the cost."

To that end, Madhukar and Elemento are poised to launch a biotechnology start-up, which will partner with pharmaceutical firms that want to use BANDIT in the hunt for new drugs. Promoting his vision to venture capitalists might seem a world apart from the intensive computer coding that has occupied most of Madhukar's short career, but he says the Bench to Bedside Initiative—which

'As scientists we focus arguments on numbers and specifics, but when you're trying to talk to a broader audience, they want to hear what you care about, the most efficient way to accomplish it, and the financials behind it.'

trains scientists from WCM, Memorial Sloan Kettering Cancer Center, and The Rockefeller University to develop business plans around their discoveries—has helped him hone his delivery. "It convinced us to think not only like scientists, but also like business people," he says. "As scientists we focus arguments on numbers and specifics, but when you're trying to talk to a broader audience, they want to hear what you care about, the most efficient way to accomplish it, and the financials behind it."

While he is delaying the formal launch of the business until after he graduates in May, Madhukar has already settled on a name. The company will be called One Three Biotech, a nod to WCM's address at 1300 York Avenue—and also a mission statement. "You can imagine drug development as a one, two, three process, right?" Madhukar says, offering a version of the pitch he has been giving to potential investors. "One, discover a drug. Two, research the drug. Three, get the drug approved. But we want to get from one to three much more quickly."

- Amy Crawford

Improving Outcomes

Ross MacDonald '03, MD '08, promotes a human rights approach to healthcare in New York City's jails



'PHYSICIANS HAVE A PARTICULAR ROLE TO PLAY': Ross MacDonald '03, MD '08, chief of medicine for New York City's Division of Correctional Health Services, outside his office in Lower Manhattan; he has another on Rikers Island, home to a massive complex of nine jails.

here are 2.3 million people incarcerated in the United States, a number that dwarfs the prison population of any other country, and one that has grown at a staggering rate since the Seventies, when there were just over 350,000 inmates. Mass incarceration is now widely acknowledged as a major problem in our society—and one that professionals in law enforcement, education, public policy, and government are working to address. In New York City, where some 10,000 inmates are housed in the city's dozen jails on any given day—and 55,000 inmates are admitted each year—Ross MacDonald '03, MD '08, chief of medicine for the Division of Correctional Health Services, is tackling this issue from a public health perspective.

On most days, MacDonald drives from his Manhattan home to his office on Rikers Island, across the East River from LaGuardia Airport, where nine city jails are grouped in a massive complex. Tasked with overseeing medical care for inmates in one of the nation's biggest municipal jail systems—which provides roughly 800,000 patient appointments per year—MacDonald has a primary goal of ensuring that detainees receive the care to which the law entitles them. But on a broader scale, he is part of what he describes as a complicated, generations-long, multi-disciplinary effort to roll back mass incarceration—a staggering public health issue in which prisoners and the recently jailed are among the unhealthiest members of society, dealing with high rates of substance use disorders, mental illness, and homelessness that are only exacerbated by imprisonment.

"I believe that physicians have a particular role to play in helping society find alternative ways of dealing with mass incarceration," says MacDonald, who notes that contributing to the scientific literature is part of that role, as is promoting what he calls a human rights approach to medicine that acknowledges the ethical complexities inherent to providing healthcare in a jail setting. But, MacDonald stresses, that isn't enough. He also uses data from his studies on drug treatment and solitary confinement in New York City jails to influence policy makers, police officers, drug enforcement agents, and others to respond to substance use and mental illness with a public health—rather than a criminal justice—approach. "I want to be part of the conversation about how we can help citizens who have been impacted by mass incarceration come back to society, and about how we can minimize the harms of substance use disorders and violence in our communities without resorting to incarceration so quickly," he says.

MacDonald, who is also an attending physician at the Bronx's Montefiore Medical Center and an assistant professor at Albert Einstein College of Medicine, became interested in working with incarcerated people more than a decade ago, when he was a Cornell sophomore. Having decided to major in English rather than premed, he volunteered once a week at the maximum-security Auburn Correctional Facility an hour north of Ithaca, helping inmates improve their writing skills. Participating in what's now known as the Cornell Prison Education Program was a transformative experience for MacDonald, opening his eyes to the realities of how mass incarceration disproportionately affects people of color and the poor. At the same time, he found himself gratified by the one-on-one relationships he developed with the inmates. "It felt like what I'd hoped to experience in a patient-doctor relationship, and as a result, sort of drew me back toward medicine," says MacDonald, who ended up fulfilling his premed requirements before graduation.

With a goal of treating underserved, vulnerable populations, MacDonald earned his MD from Weill Cornell Medical College and completed a residency in social internal medicine at Albert Einstein College of Medicine/Montefiore Medical Center. In 2009, he helped found the Bronx Transitions Clinic, which continues to provide primary medical care to people who were recently released from jail or prison; in 2011, he was named deputy medical director—and promoted a year later to medical director—of the Bureau of Correctional Health Services under the New York City Department of Health and Mental Hygiene.

In January 2016, New York City's correctional healthcare system transitioned from its previous model—in which medical services were contracted out to a for-profit company—to its current one, in which care is integrated into the city's public hospital network and overseen by NYC Health + Hospitals. This distinction is important, MacDonald says, in part because it means that the control over inmates' healthcare delivery is now in the hands of physicians who can think about where inmates are receiving care over the long term. "Having jail healthcare under the same public hospital system that our patients use in their communities removes some of the disruption inherent to imprisonment," he says.

Medical care is now more streamlined, coordinated, and continuous for inmates, MacDonald says. But this change is also important because it's allowed him to recruit mission-driven, academic physicians, who are able to practice the kind of patient-centered and proactive medicine that the complicated jail environment demands. These new hires have assumed important roles, like overseeing clinical education for the staff, handling geriatric patients and issues of palliative care, and treating inmates with substance use disorders. The latter issue is especially significant, given that 75 percent of inmates enter Rikers with recent substance use—nearly 20 percent of them withdrawing from heroin or opioid painkillers.

While MacDonald says that making New York City's jail health system the best in the world is his primary focus, contributing to a larger policy discussion is an important parallel goal. In 2014, he co-authored a paper in the *American Journal of Public Health* that showed that inmates who were assigned to solitary confinement were almost seven times more likely to self-harm than those who were not. The data showed that being diagnosed with a serious mental illness or being eighteen or younger were also predictive of self-harm, leading the investigators to conclude that solitary guidelines should be reconsidered. The paper won the Most Impactful Journal Article award from the New York City Department of Health and was cited by Justice Anthony Kennedy in a 2015 Supreme Court opinion. In addition, it contributed to dramatic changes in how solitary confinement is used in New York City, as today, inmates who are under twenty-one or have a serious mental illness are now excluded from

'I want to be part of the conversation about how we can help citizens who have been impacted by mass incarceration come back to society.'

being placed in solitary. "These types of changes are the product of many different forces and weren't a direct result of our study, but when you're dealing with controversial topics, data is often the least controversial way to approach and spark these conversations about how to reform criminal justice," MacDonald says.

MacDonald has also studied other issues that affect inmates on the local and national level-like how the trifecta of mental illness, substance use disorders, and homelessness often plague the frequently incarcerated, and how incarceration and release from jail represent a huge risk for drug overdose. And to reach a larger audience, MacDonald has for the past four years been working with a New York City-based multi-disciplinary group that brings together prosecutors, Drug Enforcement Agency officers, and others to collaborate on innovative solutions to drug use. He has also spoken to local and federal policy makers at national conferences, like the National Rx Drug Abuse & Heroin Summit, about how sending drug users to jail to "get clean" can actually increase their risk for death from overdose. "Presenting to these audiences allows me to reach people who have much more impact on criminal justice policy than doctors or the public health community do," he says. "In many cases, no physicians have ever spoken to them about the effects that jail and incarceration can have on problems like drug use and homelessness. What they believe might intuitively be helping can actually be causing harm."

— Anne Machalinski

On the Case

In a memoir, Stuart Mushlin, MD '73, reflects on more than four decades of clinical practice



'I wanted to share the joy and privilege of being a doctor and having patients put their trust in you.' gruff Boston cop with a heart of gold. A cynical lawyer whose taste for vodka martinis gets him into trouble. A spy who knows all about the nukes in Kazakhstan. They could be characters drawn straight from the pages of a best-selling thriller—but the real detective in their stories is Stuart Mushlin, MD '73, president of the Weill Cornell Medicine Alumni Association. In his new book, *Playing the Ponies and Other Medical Mysteries Solved*, the internist reflects on their cases and many others from his more than forty years of practice. The cop, he writes, suffered from back pain so bad it made the stoic man scream. The lawyer showed up first with a liver condition, then with a rash that Mushlin traced back to the man's service in Vietnam. The spy had prostate cancer—and that was just the beginning of his problems.

Throughout the book's twenty essays, Mushlin, a master clinician in internal medicine and primary care at Brigham and Women's Hospital and an assistant professor of medicine at Harvard Medical School, presents his patients not just as cases but as people. Along with details of their conditions—ranging from rogue chromosomes to leprosy—he offers details of their lives that helped (or hindered) his efforts at diagnosis and treatment. The clear protagonist of *Playing the Ponies*, though, is Mushlin himself. "This book came from the heart, and it's my voice on the page," he says. "I was giving up full-time practice and taking the first steps toward retirement, and I wanted to share the joy and privilege of being a doctor and having patients put their trust in you."

Mushlin, who studied English as an undergraduate and once considered a PhD in literary studies, weaves his autobiography through the cases in *Playing the Ponies*, which came out in March from Rutgers University Press. "I always knew that part of this book would be memoir," he says. "In your professional life as a physician, you don't share a lot of personal information with your patients, but your experiences are formative, just as theirs are. I wanted to show how our lives—those of my patients, and my own—are shaped by our choices as well as by our circumstances."

In one chapter, he treats a patient with tuberculosis and reflects on how his own father's struggle with the disease influenced his decision to become a doctor. When a woman shows up with a condition that harks back to his first-year physiology class, Mushlin remembers his time as a student at WCM in the early Seventies. Another essay describes the moonlighting gig he took at a small hospital in a blue-collar town when his young family couldn't make ends meet. It was a chance to pick up both extra income and some hands-on lessons that went beyond his training in internal medicine—offering what he calls a "more immediate and gratifying experience" of helping those in his care, compared with advocating lifestyle changes whose benefits would accrue over the longer term. "It made me feel like a real doctor," he writes of sewing up the scalp of a man who'd been conked over the head with a wine bottle, "one who wasn't just trying to persuade people post heart attack to stop smoking and eat less meat."

Mushlin went on to enter private practice as an internist with coverage responsibilities at a community hospital, and in the book's title essay he describes a memorable case he saw there. The patient, whom Mushlin calls S.M., had a rare blood condition that was causing neurological and kidney damage and required a thenexperimental total body plasma exchange. Thanks to the young doctor's quick thinking, the patient lived—but ultimately stiffed Mushlin on the bill. "His wife told me that they had cashed the insurance check, and both had gone to the track and played the ponies," Mushlin writes. "They figured that S.M.'s life was pretty lousy now and I had enough money. And they never returned."

'I've always taught my students to listen to their patients' stories.'

In Playing the Ponies, Mushlin takes readers through the question-and-answer, trial-and-error method that he's used throughout his career. While his nickname among the staff at Brigham and Women's Hospital is "House"for the fictional character's diagnostic acumen, not his misanthropic tendencies-Mushlin is the first to admit that real clinicians don't pull answers out of the air like doctors on TV. "There's inspiration, of course, but diagnosis is mostly perspiration and desperation," he says. Essays with wry titles like "Thinking Can Sometimes Make a Difference" recount the exams, tests, and late-night musings that have led Mushlin to the right answersor sometimes the wrong ones. "I've been puzzled many times, and there are days when your fastball just isn't as fast," says Mushlin. "I wanted to communicate that doctors aren't perfect. We need to learn from our mistakes and from our patients."

Mushlin hopes that the message gets through to the lay readers—"If you like the cases in the Sunday *New York Times*, this book is for you," he says—and the aspiring physicians whom he envisions as his book's ideal audience. "I've always taught my clinical medicine students to listen to their patients' stories," Mushlin says. "Patients will keep you humble. They tell you their innermost secrets and hopes, and you never stop learning. That's what has made being a doctor such a wonderful career." — *C. A. Carlson*





DEDICATED DOC: Alumni Association President Stuart Mushlin, MD '73, at Reunion 2016 (left) and at work at Brigham and Women's Hospital (above), where his nickame is "House"

Weighing the Facts

A psychiatrist parses the often bewildering literature on obesity

ylvia Karasu, MD, and her husband both had fathers who were morbidly obese. The two men-Karasu's dad was an orthopaedic surgeon in the Philadelphia suburbs, her fatherin-law a writer and diplomat in Turkey-suffered serious medical consequences from their weight including adult-onset diabetes, chronic heart disease, and hypertension. But Karasu's father-in-law died at fifty-six, while her dad lived to ninety-one. "That juxtaposition fascinated me," says Karasu, a clinical professor of psychiatry at WCM. "How is it possible that one condition can lead to those extremes in lifespan?"

This question continues to drive much of Karasu's work. In addition to running a private psychiatry practice with a focus on patients in the creative and entertainment fields-in which she treats numerous people who struggle with disordered eating-she writes about health and obesity from a vantage point that's quite different from that of an internist or endocrinologist. She doesn't conduct independent research on the condition, which affects 30 percent of Americans and is considered a worldwide pandemic. Instead, she pores over the hundreds of scientific articles that are published each month on obesity, thinks critically about what she reads, and then categorizes and distills the research findings. The results of this work include four articles in peer-reviewed journals and a regular column for psychologytoday.com, having published more than seventy-five blog posts and counting. "My goal is to

'My goal is to educate both the lay public and medical professionals on obesity's complexities,' Karasu says, 'what I call the "daunting science of weight control." '

educate both the lay public and medical professionals on obesity's complexities, what I call the 'daunting science of weight control,' " Karasu says, "so that they take a more nuanced-rather than narrow-view of this condition."

Before starting her column, Karasu explored some of these complexities in a 2010 textbook for medical professionals, The Gravity of Weight: A Comprehensive Approach to Weight Loss and Maintenance, that she co-authored with her husband, T. Byram Karasu, MD, the Silverman Professor and chairman of psychiatry and behavioral sciences at Albert Einstein College of Medicine/Montefiore Medical Center. (The couple also co-wrote the 2005 book The Art of Marriage Maintenance.) Since then, she has continued to parse research online, covering such topics as why "fat shaming" doesn't motivate people to slim down; how breastfeeding-or being breastfed-can impact weight; and



Svlvia Karasu, MD

why the popular paleo (for Paleolithic) diet is a sham, since "most of the foods available to us today are vastly different from those eaten in Stone Age times."

In the articles she has published in peer-reviewed journals including American Journal of Lifestyle Medicine and American Journal of Psychotherapy, Karasu has addressed such issues as the role of the mental health practitioner in weight loss and how experts define obesity in often conflicting and contradictory ways, depending on their background or academic specialty. "Physicians see obesity as a medical issue, psychiatrists might see it as an addiction issue, and anthropologists see it as a disease of civilization," Karasu says. And it only gets more complicated, as some people think obesity is just body diversity and therefore natural, while others believe it's caused by environmental factors; some think obesity is largely rooted in genetics, while others attribute it to vices like sloth and gluttony, Karasu says.

That connects back to the underlying reason why, Karasu believes, her father and father-in-law had such different outcomes: obesity is not one single condition. "There's as much variation when it comes to obese and overweight people as there is in the general population," Karasu says. Yet we tend to lump together everyone with a body mass index over 30.0, an arbitrary figure calculated by taking a person's weight in kilograms divided by their height in meters squared. When we do so, she says, we make false generalizations, unfairly stigmatize people, and oversimplify what's going on, which can make it more difficult to find solutions. That's why she's advocating that medical professionals, and society in general, adopt a new way of thinking about obesity. "We should stop talking about it as if it's one disorder or disease," Karasu says. "It should be 'the obesities,' plural."

ARASU

'Science for Justice'

Barbara Sampson, MD '94, PhD, is New York City's chief medical examiner

Read aised in a family of physicians, Barbara Sampson, MD '94, PhD, always knew she wanted to go into medicine. She was just ten when, one night at the dinner table, her internist father set her on her ultimate career path by noting his admiration for pathologists, whom he called "doctors' doctors."

Today, Sampson is one the most prominent forensic pathologists in America: since 2014 she has been chief medical examiner of New York City. The first woman to hold the position, she oversees a massive operation with a \$75 million annual budget and more than 600 employees who conduct 5,500 autopsies a year and run mortuaries in Manhattan, Brooklyn, and Queens.

Sampson, who first joined the M.E.'s office as a fellow in 1998, describes her job as "using science and medicine to serve justice." "We're not part of the prosecution or the defense; we're straight down the middle," she says. "We get scientific results, and the criminal

justice system can use those highly accurate results as they will." She stresses that although the M.E's post is politically appointed, her office is fiercely independent. City officials, she says, "know we are an office of science and medicine and we are immune from any undue political pressure. The truth is the truth, and the science speaks for itself."

When Sampson took over as M.E., she had a tough act to follow. Her predecessor, the renowned Charles Hirsch, MD, had turned around a floundering office and made New York the first major city to eliminate its backlog of rape kits, a standard Sampson has maintained. When Hirsch retired in 2013, Sampson became acting chief and earned the official nod the following year. Before his retirement, the two had enjoyed a long and close relationship as friends and colleagues. "His wisdom continues to guide me each and every day," she says.

In addition to conducting autopsies, Sampson's office runs what she calls the country's most advanced public DNA lab; it processes evidence not just in homicides, but in all cases where testing may help, including sexual assaults and property crimes. "The number one thing is serving the families of New York City at a terrible time in their lives, giving them some closure, answering their final questions," she says. "What is the cause of death? How did it happen? Did they suffer? That's the most important part of my job." Her office is also involved in disaster preparedness for events that could



Barbara Sampson, MD '94, PhD

'The number one thing is serving the families of New York City at a terrible time in their lives, giving them some closure, answering their final questions.'

involve mass fatalities, ranging from terror attacks to bus crashes to an Ebola outbreak.

Fifteen years after the largest mass casualty event in New York's modern history—the 9/11 attacks—the M.E.'s office is still working to provide closure to victims' families. As Sampson points out, only 60 percent of the people who perished at the World Trade Center site have been positively identified. "Forty percent of families still have no scientific confirmation that their loved one died that day," she says. "So we go back to these remains as DNA technology improves, and the families are incredibly grateful. We will continue to do that as long as it takes."

— Keri Blakinger



Citizen of the World

A conversation with Dean Augustine M.K. Choi, MD

BY BETH SAULNIER PORTRAIT BY JOHN ABBOTT

> ugustine Choi, MD, is the nexus of a three-generation medical family. His father—who narrowly escaped death in the Korean War—served as South Korea's surgeon general and was a prominent cardiothoracic surgeon before emigrating to America. Dr. Choi's wife, fellow physician-scientist Mary Choi, MD, is an associate professor of medicine in the Division of Nephrology and Hypertension at Weill Cornell Medicine whose similar family history bonded the couple from their first meeting. And the couple's two sons have followed in their footsteps: Justin Choi, MD, will join the WCM faculty after finishing his internal medicine residency at Yale, and younger brother Alex is a medical student at the University of Michigan.

> Dr. Choi came to the U.S. with his parents and three siblings when he was twelve, settling in Kentucky. He earned his undergraduate degree from the University of Kentucky and his MD from the University of Louisville, followed by an internal medicine residency at Duke and a fellowship in pulmonary and critical care medicine at Johns Hopkins. He was a professor of medicine at Harvard and chief of pulmonary and critical care medicine at Brigham and Women's Hospital when, in 2013, WCM recruited him to chair what is now the Joan and Sanford I. Weill Department of Medicine and become physician-in-chief of NewYork-Presbyterian/Weill Cornell Medical Center.

After Laurie Glimcher, MD, stepped down as dean in mid-2016, Dr. Choi began serving on an interim basis; he was officially appointed to the position this past January. He sat down with *Weill Cornell Medicine* magazine in early March to discuss his vision for the institution, his unusual background—including a childhood partly spent in a Malaysian jungle town and a missed chance to be a U.S. Olympian—his family, his research, and more. >

You've assumed the deanship of an already strong institution with a clearly defined mission to care, discover, and teach. Could you talk about the process of defining the next chapter in Weill Cornell Medicine's history?

It has to be a collaborative process. After I officially took office in January, I went on what I call a goodwill tour of all of our academic departments and translational research centers, through their monthly faculty meetings. I gave them an introductory overview and opened it up for questions, and it was wonderful. We are now in the process of evaluating what form our next strategic plan will take. The first strategic plan and accompanying capital campaign was twenty-four years ago, focused on boosting basic science and medical education. The second one

resulted in the construction of the Weill Greenberg Center, which provides patient care. And the third led to the creation of the Belfer Research Building, which is all research. But for the next phase, we need to integrate the three different aspects of our mission into a comprehensive strategic plan addressing education, patient care, and research all at once. After decades of focused growth, we're at a place now where we have a firm foundation across our institution and can concentrate on advancing as a triple threat in academic medicine.

What do you like most about Weill Cornell Medicine?

It's a friendly place—unusually friendly for academia. People collaborate. I think we're serious about our work but not seri-

ous about ourselves, which is why we can retain most of our faculty. And I think the friendliness here reflects the culture in New York City, which is much less reserved than other places. For example, when you get into an elevator in New York, people are talking. When Mary and I first moved here almost four years ago, we asked each other, "Are we supposed to be talking?" because we weren't used to that.

What do you see as the biggest challenges facing Weill Cornell?

Space is a huge issue. We just opened the Belfer Research Building, and it's almost full. But even if you start planning now, how do we continue our growth, short of getting more space? We have to reorganize and get more efficient by forging closer ties among our clinicians, researchers, and educators. The second challenge is New York City competition. We're doing well, but you've got four academic medical centers, all with top-twenty-five-ranked medical schools, on the island of Manhattan, so that's tough. And third, we've had three deans in the last seven years, with different styles, and I think that can be challenging; the passing of Cornell University President Elizabeth Garrett last year also was a terrible shock and loss to the community. Now we are fortunate to have a terrific new president: Martha Pollack is smart, down to earth, and transparent. She's also a scientist. I anticipate building a strong relationship with her that will help deepen the connections between the Cornell campuses in New York City and Ithaca.

Can you talk more about your thoughts regarding collaborations with the main Cornell campus in Ithaca and the upcoming Tech campus on Roosevelt Island?

We definitely want to increase academic integration with the Ithaca campus, and we are augmenting our infrastructure and research collaborations to do this. Weill Cornell Medicine and the Ithaca campus have areas of complementary strength

> that have not been fully tapped yet, and together there is huge potential for us to make an impact on medicine. Already, we have a number of exciting collaborations in cancer research and with the Meinig School of Biomedical Engineering that we hope will eventually enhance patients' health. Another area in which we recently began collaborating in a very innovative way is through an executive MBA-MS program with the Johnson College of Business. The program will bolster the business acumen of future leaders at a critical time for our healthcare system. And Cornell Tech is going to be a game-changer, because it's in New York-even closer to us-and part of the same ecosystem of high-tech innovation. There are several areas where we can really collaborate, such as on proj-

ects involving big data, health information technology, and entrepreneurship. We're also exploring possibilities for joint educational programs.

Do you think there's something special about this scientific corridor, and our collaborations with neighboring partners?

Absolutely. This 68th Street corridor is amazing. Our patients get the best care because of our partnership with NewYork-Presbyterian and our close affiliation with Hospital for Special Surgery; and the research opportunities at Memorial Sloan Kettering and The Rockefeller University for our students and trainees are second to none. Our alliance with NewYork-Presbyterian is strong and I have a close partner in NYP President and CEO Dr. Steve Corwin, who shares our goal of providing the highest quality care for our patients. It has been a pleasure working closely with Dr. Corwin. We're growing our relationship with Hunter College, which has a floor in the Belfer Research Building and is a vital partner in our Clinical and Translational Science Center. All of these reasons are why Governor Cuomo and Mayor de Blasio will be investing more than \$1 billion in state and city life sciences initiatives.

a friendly place—unusually friendly for academia. People collaborate. I think we're serious about our work but not serious about ourselves, which is why we can retain most of our faculty. And I think the friendliness here reflects the culture in New York.'

'Weill Cornell Medicine is



EXPLORING FUTURE CURES: Choi (center) with members of his laboratory team, which investigates the science of lung disease

California and Massachusetts are way ahead in terms of public and private investment in the life sciences and in the number of startups and incubator sites. In New York, we arguably have as many discoveries, but many of those researchers leave town and set up their companies elsewhere. The next step is to leverage those discoveries in New York.

How do you see Weill Cornell's global reach as an asset?

Globally, we are a major player. We are the only U.S. medical school with a location in a foreign land, Qatar. We have some of the best global health programs in Tanzania, Haiti, India, Ghana, and Brazil. We have an exceptional educational program in Salzburg, Austria. We have started some movement in both education and clinical activities in China, as consultants. There are more than 100 million middle- and upper-class Chinese people who want private healthcare, and only half a dozen or so Westernized hospitals to accommodate them. Obviously the need is there. Some of our peer institutions are getting into the market, but you've got to be careful because the culture, language, and political system are different, so economically you've got to be prudent.

Could you describe your leadership style?

One, I'm transparent. I've found with faculty and trainees, if you are transparent and honest, even if the news is not good, they're all professionals and they'll handle it. Number two, consensus building is important. In my work, 85 percent of the stuff is relatively easy, because everyone agrees; it's the other 15 percent where you have to come to a solution. My third style is motivation. I can't see patients for our faculty, do research for them, or teach for them. My job is to motivate them, to keep them interested in our mission.

What role can mentorship play in Weill Cornell's mission?

This is an area I'm very passionate about. I truly believe that mentoring is the key to whether trainees and early-career faculty are successful. At that level, they're all hardworking and smart. But what dictates that some of them succeed and some do not? Good mentoring. Many times in academic medicine there's no right or wrong answer, and mentors can help navigate that. In mentoring, there are not obvious metrics, because the fruits are not next year, or even five years from now. It may be ten years later when that person is not even at Weill Cornell, >



but you've done something for the common good. I think we as an institution are ahead of the curve in our mentorship of students, trainees, and faculty. But we want to lead the curve, and it starts from the top. A challenge is figuring out ways to incentivize faculty to mentor when they have so many other demands on their time and to create a culture of mentorship, not just formal programs.

Could you talk about your current research and the clinical trials you're directing in pulmonology?

As a student, my first interest was oncology, but I switched to lung disease because I liked the ICU. I liked the fast pace. And to be successful in the ICU, you essentially have to become a lung expert. I worked in basic science for about fifteen years, and it turns out that a molecule I was working with produces a gas that has potent anti-inflammatory properties for lung disease. I'm delighted that this discovery has been translated to three clinical trials, all in phase 1/2—on sepsis, idiopathic pulmonary fibrosis, and pulmonary hypertension.

Your wife, Dr. Mary Choi, is also a colleague. What have been the joys and challenges of sharing a life as two busy physician-scientists, having a marriage, and raising a family?

We love it. We appreciate each other's work, and we both know what it means to be a physician-scientist; we share the pains

and successes and understand each other's goals. I am so proud of Mary, who has been continuously funded by the NIH since her fellowship years without a gap, initially with an F32 NRSA grant for postdocs, transitioning successfully to a K08 career development award, and then to a standard independent R01 grant. She's had successful R01 renewals of multiple cycles through today, even during the tough NIH paylines. Mary was able to juggle these academic achievements while ensuring the happiness of a tight-knit family with our two sons. It's been wonderful, even more so now because our laboratories at Weill Cornell have joint meetings, grants, and papers. We didn't talk a lot of shop at home when we were raising our kids, but now that we're empty nesters we tend to do that a little more.

What inspired you to go into medicine?

You might say, "Your dad was a physician, so wasn't it obvious?" After my family left Korea, my dad was the only doctor in a small town in the jungles of Malaysia, and our home was around the corner from the infirmary. On weekends I used to help him—with menial things, but I got exposed to patients, nurses, and doctors and it probably affected me more than I remember or admit. That said, I'm the only one of my siblings who pursued medicine, and it wasn't a forgone conclusion. In high school, I wanted to be a priest. To get into seminary school, they were testing on Dante and Hegel and Plato, but I'd come to the U.S. when I was twelve and my English wasn't there yet. I also thought about anthropology, because that's the study of the history of humankind, and I found the science behind it fascinating. In the end, medicine best fit with my interest in participating in human issues.

When your father was a medical student during the Korean War, he barely escaped with his life. Would you share that story?

My dad was a second-year student when the war started. If you had not yet reached your fourth year of medical school, the communist party killed you for being a capitalist. But if you were in the fourth year they kept you, since you'd know some basic medical care. My father was in front of a firing squad multiple times—blindfolded, the whole bit. Several times the gun did not work, and twice his mom bribed the shooter to spare him. The last time, he was asked if he was a fourth-year. I never saw my dad lie in his life, ever. But he told me the one time he lied was when he said, "Yeah, I'm a fourth-year student."

How did your family end up in Malaysia?

My dad was the surgeon general of South Korea, which was at that time one of the most unstable political environments and countries in the world. He did not like that life and didn't see a future there for his kids, so he did it the hard way—he took us to Malaysia. Back then Malaysia was a developing country with very poor medical care, so the government recruited physicians from Korea. They did not need help in Kuala Lumpur; they needed help in the jungles. I remember my dad saying, "This will all be good for you."

Do you have any specific childhood memories that influenced you?

My dad's job was basically 24/7, but he made a point of coming home for dinner, because he wanted to catch up with the four kids. That influenced me. As busy a life as Mary and I had juggling our careers, we always made sure that from six p.m. to when our kids went

to bed, it was family time. And I got a lot of push-back from my bosses: "What do you mean you're leaving at five o'clock to go to soccer practice?" But I'd never trade that, because at the end of the day your family is the only constant in life.

Why did your dad decide to bring your family to the U.S.?

He was a successful cardiothoracic surgeon, but he felt that for his four kids, the educational system in the U.S. was the future. So he came here when he was forty-three and had to do his internship all over again—and you're talking about the first man in Asia to do open-heart surgery. Sometimes I wonder: When I was forty-three and chief of pulmonary care at the University of Pittsburgh, would I have gone to a foreign country to be an intern for the sake of my kids? For my kids, I would have—but would I have had the strength to start again from the bottom of the totem pole, as my dad did?



COMMON CAUSE: The Choi family boasts three physicians–Justin (far left), Augustine, and Mary–and a future one, University of Michigan medical student Alex

How do you think your experience as an immigrant to the U.S. influences you?

When your peers are preparing for the PSATs and you have just begun formal schooling in English, you've got a challenge. The cultural aspect was also huge. But I think it helped me grow up quicker and made me stronger, and gives me a better balance when I'm on a tough road. There's a drive for survival. I really think this is what

has made America so strong, so great—the strengths that immigrants bring.

What do you like to do in your spare time?

Mary and I are foodies, so we love the cuisine in New York. Mary likes the opera quite a bit. We like to travel. Personally, I've always been a history nut. I love to read about ancient history, like Mesopotamia and China, but I also like post-World War I

history. Korean history fascinates me, and I try to read up on that. I love to watch sporting events on TV, because at one point I was a very competitive athlete.

What sport did you play?

'As busy a life as Mary and I had

when our kids went to bed, it was

because at the end of the day your

family time. I'd never trade that,

family is the only constant in life.'

juggling our careers, we always

made sure that from 6 p.m. to

I played competitive table tennis for more than fifteen years. When I was thirteen, the Chinese coach came to my home and said to my dad and my mom, "We're going to take your son for five years and make him into an Olympic champion." My mom was crying and saying, "We didn't immigrate to the U.S. for you to become a ping pong player." That was a family crisis. Ultimately, I trained for the U.S. team when I was in college and condensed my undergraduate studies to three years to prepare for the 1980 Olympics, but then the USSR invaded Afghanistan, and President Carter boycotted the Games. I still joke that I should have delayed my medical career to be in the next Olympics.

Treasure Trove

The Medical Center Archives are home to thousands of historical photos, research papers, centuries-old patient records, and much more

BY BETH SAULNIER

e rarely get people who just accidentally show up," Lisa Mix, Weill Cornell Medicine's head archivist, says with a chuckle, "because you have to make a real effort to get here." Located on the twenty-fifth floor of NewYork-Presbyterian/Weill Cornell's Baker Towerand accessible only by a human-operated, limited access elevator-the archives are the repository of Weill Cornell Medicine's history. Supported by NewYork-Presbyterian and WCM, they contain more than 7,100 linear feet of materials-primarily documents but also videos, sound recordings, physical objects, and an estimated 20,000 photographs covering the Medical College, the Medical Center, and antecedent institutions such as the Bloomingdale Asylum and the Lying-In Hospital. The facility attracts researchers and scholars from both within and outside the institution, and its materials have been used in such projects as a PBS documentary on the 1918 influenza pandemic and Ken Burns's Cancer: The Emperor of All Maladies.

Among the archives' most intriguing holdings are hospital casebooks containing handwritten patient records dating from 1808 to 1932. They're the focus of a current project by Curtis Cole, MD '94, WCM's chief information officer, who received a \$50,000 grant from the Frank Naeymi-Rad and Theresa A. Kepic Foundation to scan the pages for the purposes of research and preservation. Cole is also overseeing an effort by a computer science master's student at Cornell Tech to develop methods of machine-learning to transcribe the records into searchable text.



VINTAGE VIEW: Pages from a nineteenth-century casebook, preserved in the archives. Right: From the collected papers of automotive safety pioneer Hugh De Haven, a photo of an early crash-test dummy.

"You learn a lot of medicine by transcribing an old medical record," Cole observes. "The ways that doctors view patients and how they conceptualize a case haven't changed—and even much of the diagnosis is still the same." Other gems include the archives' oldest item: the charter from England's King George III that established New York Hospital in 1771.

Part of WCM's Samuel J. Wood Library, the archives are also home to the collected papers of numerous WCM researchers, chronicling their decades of discovery. The following pages showcase a sampling of those holdings, documenting work in fields from cancer to automotive safety. "The archives are a very special place," says Cole. "It really is the crown jewel of the library." >



Safety First

Hugh De Haven



As a research associate in the Department of Pathology in the 1940s and Fifties, engineer and inventor Hugh De Haven conducted some of the earliest investigations into the survivability of automotive and aeronautic accidents-a subject in which he developed a passionate personal interest after a near-fatal crash while trying to qualify as a pilot in World War I. In 1936, De Haven began studying free-fall accidents to learn how the body reacts to impact with such materials as pavement, car metal, soft earth, and fencing. "He retained an interest in this subject and collected clippings and reports about such accidents throughout his life," says the introduction to WCM's De Haven papers. "His findings from these studies, and the implications they had in crash injury, were published in 1942 in an article in War Medicine. Crash Injury research had, in effect, arrived." De Haven's research, as a recent book on public health puts it, "provided strong evidence that the human body was less fragile than had been generally assumed, that the structural environment was the dominant cause of injury, and that the environment could be modified to reduce the likelihood of injury"-leading to such key safety measures as the three-point seatbelt (for which he was co-issued a patent in 1955), helmets, and air bags. Prior to such investigations, he once noted, "people knew more about protecting eggs in transit than they did about protecting human heads."

Leukemia Expert

Richard Silver '50, MD '53



Nobel Laureate

Vincent du Vigneaud, MD, PhD



faculty—and after retiring with emeritus status, he taught on the Ithaca campus. In 1955, during his tenure at WCM, he won the Nobel Prize in chemistry (he's seen in the photo at right accepting the honor) for his studies and synthesis of oxytocin, the "love hormone" that plays a key role in childbirth and human bonding. He also did groundbreaking research on synthesizing oxytocin, penicillin, and other substances. "If one views the totality of du Vigneaud's contributions to science," says a biographical memoir published by the National Academy of Sciences in 1987, "one recognizes a thread of continuity connecting sulfur-containing, biologically important compounds" that extends from insulin to penicillin, oxytocin, vasopressin (a hormone that regulates water retention), and more. This memo to du Vigneaud on a key penicillin study comes from Mary Elizabeth Wright, a WCM research associate in biochemistry in the Forties; it mentions another research associate, Carl Stevens. "I have had the privilege and the thrill of following those researches that I've always wanted to do," du Vigneaud once told a reporter. "I've always had the privilege of working on what I've wanted to work on. I have been accompanied in the various stages of these exploratory researches by a group of fine and loyal associates."



Put to the Test

George Papanicolaou, MD



Famous as the inventor of the Pap smear to detect cervical cancer, George Papanicolaou, MD (below), spent a half-century on the WCM anatomy faculty, where he did much of the research that led to the life-saving screening method. "Millions of women have received the Pap test, and deaths from cancer of the uterus have been greatly reduced because of the test," says the Papanicolaou Society of Cytopathology. "It was predominantly through Dr. Papanicolaou's efforts that cytology became accepted as a basis for diagnosis." While the WCM archives are primarily geared toward preserving documents and photos, its physical objects include Papanicolaou's microscope and slides (left). As one journal's biography of the man affectionately known as "Dr. Pap" notes: "Papanicolaou was a dedicated scientist, as modest as he was hardworking. He did not take vacations, worked seven days a week, and relished immersing himself in the wonders of his research."





Community Action

The Weill Cornell Medicine Clinical and Translational Science Center brings physicians and investigators together with New Yorkers to nurture scientific discoveries intended to improve human health

> BY ANNE MACHALINSKI ILLUSTRATION BY ALEXANDER VIDAL PHOTOGRAPHS BY JOHN ABBOTT

hen Olorunseun Ogunwobi, MD, PhD, an associate professor of biology at Hunter College and adjunct assistant professor at Weill Cornell Medicine needed African-American men to participate in his research on how genetics might play a role in prostate cancer disparities, he reached out to a well-known Bronx community leader to help him establish relationships with potential participants.

Building trust—as Ogunwobi plans to do by holding focus groups and information sessions with these men before he ever asks for the urine or tissue samples he'll need to conduct his lab-based work—is essential, says Barbara Hart, executive director of the Bronx Health

Link, an education, research, and advocacy agency that works to improve health outcomes for residents of the borough. "We know how important it is for people in our community to participate in medical studies and to be part of the scientific research process from the very earliest stages—to share their needs and have their voices heard—to truly improve their health," says Hart, noting that the borough is ranked last among New York State's sixty-two counties when it comes to health indicators like asthma and diabetes rates, as well as maternal and infant mortality. "We want this partnership to last from start to finish—for

researchers to come back and share what they find with us so that we can benefit from the results." Because Ogunwobi's approach includes a promise to return with clinically significant findings, Hart says she was happy to help him.

Ogunwobi's project—conducted in collaboration with Brian Robinson, MD '06, a WCM assistant professor of pathology and laboratory medicine, and Memorial Sloan Kettering radiologist Joseph Osborne, MD, PhD—is one of many supported by the Weill Cornell Medicine-led Clinical and Translational Science Center (CTSC). This NIH-supported program, which began in 2007 with a \$49 million grant (the largest federal grant ever made to Weill Cornell) that was renewed for the same amount in 2012, is part of a larger federal effort to support multi-institutional research consortiums that prioritize collaboration, mentorship, and community participation to promote innovation and foster discoveries so that new treatments get to patients as quickly as possible.

While this interdisciplinary approach to medical research was once considered controversial because many senior scientists and physicians believed it would slow down the research process, today it's clear that the NIH's gamble paid off. The CTSC—which brings

'We know how important it is for people in our community to participate in medical studies and to be part of the scientific research process from the very earliest stages—to share their needs and have their voices heard—to truly improve their health,' says Bronx community leader and CTSC collaborator Barbara Hart.

> together Weill Cornell Medicine, Memorial Sloan Kettering Cancer Center, Hospital for Special Surgery, Hunter College's Center for Translational and Basic Research, Animal Medical Center, Cornell Cooperative Extension's New York City office, and the Ithaca campus's School of Bioengineering and College of Veterinary Medicine, among other institutions—is one of more than sixty such federally backed programs nationwide. In the last decade, WCM's CTSC has assisted at least 3,100 investigators, trained 1,200 >



Julianne Imperato-McGinley, MD

'I'm proud that we've been able to bring together these different institutions—each with their own culture and leadership—to work toward the same mission,' says Julianne Imperato-McGinley, MD.

early-career scientists, hosted 330 seminars and workshops, and partnered with 120 community organizations in areas of New York City where there are obvious health disparities and a special need for preventive services, such as the South Bronx; Jamaica, Queens; and Bushwick, Brooklyn. "I'm proud that we've been able to bring together these different institutions-each with their own culture and leadership-to work toward the same mission," says Julianne Imperato-McGinley, MD, the CTSC's founding director and principal investigator, WCM's associate dean for translational research and education, and the Abby Rockefeller Mauzé Distinguished Professor of Endocrinology in Medicine. "CTSC-supported research now serves as an example of what successful interdisciplinary collaborations can accomplish."

These cross-institutional collaborations, which the CTSC funds with pilot grants of approximately \$50,000 per year for up to two years, are the center's cornerstone. Investigators from various disciplines and institutions use the money to work on innovative, high-risk pilot studies in which the outcome isn't clear in advance. If the study goes well and investigators collect critical early findings to demonstrate why more research should be supported, they can apply to-and have a greater chance of receiving-external funding. That's exactly how Michelle Bradbury, MD, PhD, a professor of radiology in the Gerstner Sloan Kettering Graduate School of Biomedical Sciences, director of intraoperative imaging at Memorial Sloan Kettering Cancer Center, and an associate professor of radiology at WCM, and Ulrich Wiesner, PhD, the Spencer

T. Olin Professor of Materials Science and Engineering at Cornell Ithaca, began their now decade-long collaboration.

In 2007, Bradbury approached Wiesner about potentially working together to see if a tiny nanoparticle he'd developed, called Cornell dots (or "C dots"), could be used to detect cancer cells during imaging. Their early CTSC-funded research led to a larger NIH grant; from there they entered phase 1 clinical trials, formed a start-up company and launched, as co-directors, the \$10 million, NIH-supported MSK-Cornell Center for the Translation of Cancer Nanomedicine. Today, they're studying a newer generation of C dots that deliver drugs directly to tumors; eventually, Bradbury says, the technology could be used to both diagnose and treat various types of cancer. "Without that initial funding—which allowed us to explore the biology of the nanoparticle and figure out how to attach drugs to it—this would > *(continued on page 39)*

MOBILE APPLICATIONS

From the OR to the lab and back again, scientists work to improve a common knee surgery

Mary Clare McCorry is an early-career scientist; she earned her MS in biomedical engineering from Cornell Ithaca in 2015 and is set to complete her PhD there in June, before embarking on a career of labbased research. But as she looks back at her education, she says it was the summer spent observing knee surgeries that inspired her current line of investigation. "More than one million meniscus surgeries take place each year in the United States," McCorry says of the trampolinelike structure that protects the knee's cartilage and helps distribute weight. "But because the gold standard approach is to replace the meniscus with donor tissue from someone who was healthy, immunocompatible, and about the same size as the patient receiving it, it's nearly impossible to meet that demand." Most of the time, McCorry says, surgeons just remove the injured part of the meniscus to reduce the pain, but don't rebuild or replace it. After observing numerous meniscus surgeries at Hospital for Special Surgery, McCorry began exploring how to create a tissueengineered meniscus using stem cells and then anchor it in the body. She linked up with Lawrence Bonassar, PhD, an Ithaca-based professor of biomedical engineering, and Lisa Fortier, PhD '99, a professor of large animal surgery at Cornell's College of Veterinary Medicine, who contributed to the project's design. Scott Rodeo, MD '89, the HSS orthopaedic surgeon and clinical scientist whom McCorry observed in the operating room, provided insights on how the tissueengineered meniscus would work best in the people that need it.

Offering early-career scientists the opportunity to collaborate with clinicians and investigators from different fields—and to see the power of translational research as they're starting their careers—is

While this is workable in the short term, research shows that about ten to fifteen years down the road, patients develop side effects like worsening knee pain, degen-

eration of the cartilage, and arthritis. Since meniscus injuries typically happen in tandem with a tear to the anterior cruciate ligament, or ACL—common in sports like soccer, skiing, and football—the patient is often young. In the worst-case scenario, they injure their meniscus at fifteen, have arthritis by thirty, and undergo a total knee replacement (which only lasts a decade) soon after.

'This early exposure to the clinical side of things really fires up young investigators and gives them some context for what they're doing, which is critical,' says Scott Rodeo, MD '89.

> essential, says Rodeo, who has worked with two trainees out of the eighty who have received grants from the CTSC to support their pre- and post-doctoral work. "There's so much basic research done, but it doesn't always get translated," says Rodeo, also a professor of orthopaedic surgery at WCM. "This early exposure to the clinical side of things really fires up young investigators and gives them some



Scott Rodeo, MD '89

context for what they're doing, which is critical."

During the project's two-year term, which ended last year, the team figured out how to better engineer the artificial meniscus at its interface with the bone, and seed a mold with a culture of stem cells derived from both the meniscus and a patient's bone marrow, which is easier for doctors to access. Bonassar plans to take these findings to apply for external funding. Eventually, the team hopes that a patient with an injured meniscus would get an MRI or CT scan from which investigators could generate a replica anatomical mold, which they'd seed with stem cells and implant in the body during surgery. Because it's designed to grow and adapt to the patient's anatomy, this tissue-engineered meniscus should reduce the risk of knee pain and arthritis later in life.

NEXT GENERATION

Evi Giannakakou, PhD, mentors tomorrow's investigators

The CTSC has done more than fund Evi Giannakakou's early investigations into how a blood test could be used to predict drug resistance in men with prostate cancer to better determine their care. It has also supported her efforts to help young scientists launch their careers. "The CTSC has been critical to the success of both of my main academic pursuits," says Giannakakou, PhD, a professor of pharmacology and director of a program that helps earlycareer investigators apply for their first major grant. "It helped me and my collaborators collect preliminary data that allowed us to apply for larger federal opportunities, and got a much-needed program off the ground."

The research that the CTSC supported back in 2008 involves a collaboration between Giannakakou and David Nanus, MD, the Mark W. Pasmantier Professor of Hematology and Oncology in Medicine and chief



Evi Giannakakou, PhD (left), and David Nanus, MD

of hematology and medical oncology at NewYork-Presbyterian/ Weill Cornell Medical Center, as well as Brian Kirby, PhD, a professor of mechanical and aerospace engineering at Cornell Ithaca. The trio teamed up about a decade ago, when Kirby presented his work in microfluidics at a cross-campus symposium meant to spur collaborations. Soon after, Giannakakou and Nanus approached him to see if he'd be willing to design a device that could isolate circulating tumor cells in blood samples collected from men with prostate cancer. They explained that while the standard of care for prostate cancer patients was either chemotherapy or hormone-based therapies, there was no adequate way to determine which treatment would work for individual patients. Their hope was that by studying genetic markers from the circulating tumor cells, they could help clinicians customize therapies soon after their patients are diagnosed.

Kirby agreed to join forces, and today, blood-based liquid biopsies like the one Giannakakou and Nanus first proposed have had a huge benefit on the field. "This research allows you to obtain tumor information from the patient as often as you like, with a simple blood draw," Giannakakou says. "In addition, while the information you receive from a traditional tissue biopsy is limited by the location from which the cells were removed, circulating tumor cells tell a more complete story about the entire progression of disease throughout the body." Giannakakou is now using this approach to help explain why prostate cancer cells often become resistant to standard therapies over time, and along with Kirby has adapted the technology to ultimately study circulating tumor cells in cancers of the lung, breast, and gastric system.

Giannakakou is simultaneously doubling down on her mentorship efforts. In fall 2015, she started a program modeled after a Harvard CTSC initiative that prepares junior investigators to apply for the NIH's oldest and most commonly used grant, the R01. The WCM CTSC sponsored the program and contributed \$20,000 to get it off the ground, and Giannakakou notes that it has had a remarkable success rate—50 percent—in applications that have received federal funding. "The CTSC was critical to its success," she says, "and I will forever be grateful for that." have been a much slower process," she says. "The CTSC is responsible for getting this on the path to patients."

Bradbury is now set to pay it forward. She has signed on to mentor early-career, CTSC-supported scientists, who are eligible to receive pre- or post-doctoral grants for interdisciplinary, translational research. "It's really important that we actively engage with different levels of students and junior faculty," Bradbury says, "because we understand what needs to be done to start a big translational research project and can help guide young people onto a successful path." To achieve this same aim, the CTSC also invites anyone affiliated with a partner institution to take part in regular educational opportunities, including a master's degree in translational research and day-long seminars on writing winning grants and publications or working with the FDA.

When it comes to the CTSC's third core tenet—engaging with New Yorkers—Imperato-McGinley says she's pleased with how far these relationships have come as the CTSC marks its ten-year anniversary. "Clinicians and scientists at Weill Cornell Medicine have always had a considerable responsibility to address health disparities that medically underserved, racial and ethnic minority populations face," Imperato-McGinley says, "but before this grant came along, we weren't working with



Importantly, CTSC-supported investigators are now reaching out directly to underserved New Yorkers, asking for medical information to address their needs and to recruit them for minorityfocused clinical research that bears on their health. "We're finding creative ways to tackle the country's biggest health problems, and are really going from the bench to the bedside and then into the community," Imperato-McGinley says. "That's as innovative as you can get."



TEAM EFFORT:

Collaborators on a CTSC-supported study of prostate cancer in African American men include (in photo at left) WCM's Brian Robinson, MD '06 (left), and MSK's Joseph Osborne, MD, PhD, as well as Hunter's Olorunseun Ogunwobi, MD, PhD (below left), and Barbara Hart of the Bronx Health Link.

'Clinicians and scientists at Weill Cornell Medicine have always had a considerable responsibility to address health disparities that medically underserved, racial and ethnic minority populations face,' Imperato-McGinley says, 'but before this grant came along, we weren't working with communities as intensely as we needed to be.'



NEWS OF MEDICAL COLLEGE AND GRADUATE SCHOOL ALUMNI



Dear Alumni,

My wife and I are fortunate to spend time near Sarasota, Florida. John Ringling, who was a founder of Ringling Brothers Barnum and Bailey Circus, decided in the late Twenties to have the circus, both animals and performers, winter in the Sarasota region. The area is replete with circus memorabilia and with subtle reminders of that era.

So it was that two recent events triggered some thoughts about medicine, progress, and balance in life.

The first was that the company that owns the circus decided to shut it down. The reason is simply that times have changed. What was an engaging and awe-inspiring spectacle to children and families for over 100 years is now slow and totally passé. Its passing brought to my mind how much and how quickly things change in our society, and in our profession.

When I was an intern, the pharmacopoeia was readily mastered. Today, new drugs are coming to market at an increasingly rapid pace, and the bench-to-bedside utility of these drugs is more powerful than ever before. I was describing to my wife my student experiences in my surgery rotation, and how I enjoyed scrubbing in on gallbladder surgeries. I told her that now, with laparoscopic methods, surgery is faster and less invasive, and patients and hospitals are happier. So, like the circus having to adapt or go under, we too have to adapt or lose the faith of our patients.

The second Sarasota event that provided some food for thought was the high-wire act of the Flying Walendas. The Walendas live in and around Sarasota. They help train fledgling high-wire acts for circuses around the world. They were practicing a high-wire pyramid, where about eight people are coordinated in an elongated, vertical rectangle, when someone lost their balance and the entire structure in the sky collapsed. Fortunately, no one lost their life, but a number of the performers were severely injured.

The accident brought to mind the "high-wire act" that is involved today in the practice of medicine. Patients, learning, skill sets, family, regulations—all have to be balanced in a tricky equipoise that is, frankly, often beyond a normal person's capabilities. How to keep the entire structure balanced and in the air is a challenge for all physicians. How to give those physicians tools to assist them in this complex high-wire act is something we need to do better. As a profession, we need to enable our colleagues to admit that the balancing act is very difficult. By creating an open dialogue and a feeling of camaraderie we can help to prevent early burnout, tensions within our families, and patient discontent.

As spring turns to summer, I hope all of you reading this can find a happy balance to your life, both professionally and personally.

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

1940s

Margaret Swann Norris, MD '49: "I have nothing exciting to report, but am in fairly good health for a 91-year-old. I keep active and would enjoy hearing from any classmates."

Peter Rogatz, MD '49: "I am living in Port Washington, NY, with my wife, Marge. We were married the day after the end of my final exams at WCM (which we all knew then as CUMC) and five days before my graduation. Marge and I look forward to celebrating our 68th anniversary in June. Now retired, I serve on the ethics committees of the state medical society and several other medical organizations and I am vice president of End of Life Choices New York, an organization that advocates for improved endof-life care and for legalization of physician aid in dying for terminally ill, decisionally capable persons who want to control the circumstances and timing of their deaths."

1950s

Calvin Kunin, MD '53, reports that he is well and enjoying semi-retirement with his wife, llene, at their winter home in Tucson. He still attends medicine grand rounds and infectious diseases conferences at the University of Arizona. He planned to make his 22nd annual visit to Taiwan in March 2017 as a mentor to fellows and faculty in infectious diseases. His most notable non-scientific accomplishment is that 20 of his photographs have been published as fillers in the New England Journal of Medicine, and one more is on its way. Cal enjoyed reading The Invention of Nature: Alexander Humboldt's New World by Andrea Wulf. ("It's great biology without the molecular component.") He has fond memories of his classmates and would love to chat with them about their life experiences. He can be reached at ckunin @ columbus.rr.com.

Harry Daniell '50, MD '54: "I retired from my solo practice of general internal medicine on July 31, 2015, and enjoy finalizing several manuscripts I had not yet completed. I continue to run in local road races where they let me start an hour early."

Roger Ecker, MD '57: "It is with sadness that I report the death of my WCM classmate Max Kartchner, MD '57. He died at the age of 85 on my 85th birthday, December 24, 2016, in Benson, AZ. Max was my roommate at York Court West, a barracks that was being used as a dorm while Olin Hall was being built. He married Dona, his wife of 62 years, after that first year of



GOING PLACES: Matthew Schelke '17 (right) celebrates Match Day with friends.

medical school. My wife, Judy, and I visited them in 2010 in Benson, and visited the Kartchner Caverns, discovered on the family ranch; it is now a state park. He was a true Arizonan, physician, and rancher."

Donald P. Goldstein, MD '57: "I retired from Brigham and Women's Hospital on December 31, 2015, after 55 years. I'm keeping busy with exercise, courses at local colleges, participation in a ukulele band, and helping to care for my wife, who has Alzheimer's."

Bernie Siegel, MD '57: "I just heard from my classmate Bill Plauth that Fred Smith, MD '56, died recently. Fred played a role in my freshman year at WCM. I originally was assigned a room in the nurses' dormitory when my roommate asked if I would switch so he and his friend Ron could room together. I said okay and moved into the old Army barracks on York Avenue. Fred was my roommate. He was choosing medicine as a second career and was 16 years older than I was. I had skipped two grades and was young and socially naive. Fred became my chosen dad and gave me instructions to sit at my desk and study and not go into the hallway when other students were frantic about an upcoming exam. He told me not to participate as a volunteer in a class where you hyperventilated oxygen, as it was dangerous to do. Well, the professor picked me and I did black out and fall to the floor, and I learned Fred was so right, but when I came back to a conscious state I also enjoyed the panic the professor showed thinking about the headline stating, 'Med student killed in experiment.' Anyway, Fred has been in my

heart for all these years and I also shared this in a letter to his spouse when Bill gave me her address. There are no coincidences."

James Hollister, MD '58: "I am getting older but not wiser, having experienced interesting conditions in 2016 including viral meningitis, from which I recovered with some instability. Then in October I had angina again and four of my coronary arteries needed help. I had successful quadruple coronary bypass surgery at Yale. I've been getting back to walking and feeling pretty good again."

1960s

Paula Wolfe Brill, MD '62: "After a rewarding career in pediatric radiology at our alma mater. I retired in June 2015 and am now professor emerita of radiology at WCM. Retirement has allowed me to take some great trips abroad and to enjoy all that New York City has to offer. Within the US, my most frequent destinations are Los Angeles and Boise, ID, where my children live. Three grandchildren are teenagers now, with the oldest a freshman at the University of Colorado, Boulder. I'm working, along with co-authors in Europe and Asia, on the fourth edition of our book, Bone Dysplasias: An Atlas of Genetic Disorders of Skeletal Development, soon to be published by Oxford University Press. I'm delighted to have been able to stay in touch with several classmates through the years: Muriel King Taylor '58, MD '62, Tony Saidy, MD '62, Paul Stolley, MD '62, Barbara Weisinger '58, MD '62, and Sara



GAME, SET, MATCH: Class of '17 members Cindy Parra (left), Emilie Williamson (center), and Mesha Shaw

'My time at Weill Cornell was for me one of the most positive experiences of my life. I have enjoyed very much my experiences since I left; however, I have never felt more comfortable in any setting.'

— Anthony Fauci, MD '66

Winter, MD '62. I'd enjoy catching up with other classmates in person in NYC or by e-mail: pwbrill @ gmail.com."

Carmine Bedotto, MD '66: "The two things I value from med school are the emphasis on taking a good history and doing a good physical before proceeding with the patient care. This was reinforced during my residency. I found that younger MDs rely on tests rather than utilizing a proper history and physical. Secondly, since I had retinal detachment surgery after my first year, I

think I appreciated the patient's perspective. I especially enjoyed continuing my relationship with the Eye Program at the University of Miami and serving on my local hospital board. Unfortunately, many local hospitals are run by local business people who do not fully appreciate what the relationship should be between the medical staff and the hospital. I hope that I improved the functioning of our hospital, at least a little. Personally, I retired about nine years ago. Since my wife's health is not perfect, we have moved from Boca Raton, FL, to Virginia near Charlottesville. My son, his wife, and our grandchildren are there, so we decided to be close to them. I still enjoy golf, and with our new home a lot of gardening."

Randy Bell, MD '66: "Because of bilateral knee surgery at West Point, I was not recommended for any further duty and was sent to Ft. Huachuca, eventually becoming an air observer and combat surveillance officer. I served in Hawaii with the Third Squadron, Fourth Cavalry, and then was Recon Platoon Leader of the First Battle Group, 14th Infantry. After another knee injury and hospitalization at Tripler Army Hospital, I was fortunate to be accepted into medical school. After graduating, I was assigned to Walter Reed Army Medical Center for my internship and residency in ophthalmology. These were busy years at Walter Reed, with the flood of casualties from Vietnam, including several classmates and friends from the classes of '58, '60, and '61. After Walter Reed, I was sent to Valley Forge as chief of ophthalmology. Soon I became commander of the 348th General Hospital and 338th Medical Group. I completed the Command and General College twice, then Army War College and the National War College at Carlisle, PA. After being promoted to Brigadier General, I assumed command of the 90th US Army Hospital, Rockville, Maryland, which included all the medical assets in Virginia, West Virginia, and Maryland, and some of the assets I had previously commanded in Pennsylvania, New Jersey, and Delaware. After this I became deputy commander at Walter Reed in 1988. I met and subsequently married Mary Anne Gallagher. Since then we have traveled extensively, eventually closing my medical practice and moving to Rehoboth Beach, DE."

Richard Borrison, MD '66: "My funniest experience in medical school related to my working in the hospital chemistry laboratory every fifth night. A request for a serum amylase required spending an hour in the lab doing nothing while the chemicals 'cooked.' Rather than go home I would sleep on a lab table. Imagine the surprise on a janitor's face when I arose from the dead as he found me on the table."

Michael Dosik '62, MD '66: "Medical school was a watershed period in my life. WCM was small, responsive, and nurturing. I remember Dean Larry Hanlon '35, MD '38, describing how he tried to select a class: it should be made up of people with a broad spectrum of strengths who would not only succeed as individuals but meld into a caring, coherent group that would recognize differences but respect and appreciate the talents and achievements of each and every member. I believe he succeeded admirably with our class. After I finished my second year of residency in internal medicine at UCLA, my first wife and I lived and worked in Micronesia (Truk, now Chuuk) for a year, one of the highlights of my life. I was chief of internal medicine (and the only internist), and along with an American surgeon, a pediatrician, and five Trukese medical officers took care of the far-flung population of 30,000. After a one-year oncology fellowship at MSKCC, I took the first board exam in medical oncology and, along with about 360 intrepid souls, became one of the first board-certified oncologists. From there I went into practice near Stony Brook, NY. Twenty-six years later I retired. The practice I started now has around 25 oncologists, six offices, and 350 employees. In addition to being a president of that practice, I also managed to become chief of oncology/ hematology at two local hospitals in Port Jefferson, NY. For the last 16 years, I have done the occasional locum tenens in oncology, mostly in Alaska working with Alaska natives. I also taught fellows at Stony Brook and am still active in the Breast Cancer Tumor Board at Stony Brook University, where I give old man advice and occasional lectures. I have two wonderful daughters (Lia and Diana) and they have added three grandchildren (Lia's twins now age 4 and Diana's son age 1). They delight me and my wife, Lyn."

Anthony Fauci, MD '66: "My feelings and reflections about my experience at Weill Cornell Medical College are crystal clear. Without a doubt (despite what some people say about medical school), my time at Weill Cornell was for me one of the most positive experiences of my life. I have enjoyed very much my experiences since I left; however, I have never felt more comfortable in any setting. This was due in large part to the classmates and other students with whom you spent every day, working hard and—when we had the time—playing hard, from sports in Central Park to scuba diving trips to the Caribbean. We wanted to do things with each other, be it study or play. We liked each other, trusted each other, enjoyed being with each other, and cared deeply for each other. All of this was enhanced by the general spirit and tone of the institution itself. It was just a wonderful place to be. As I have gotten older and have reflected upon my life experiences, when thoughts of my years at Weill Cornell come to mind, I feel like a bright ray of sunshine has swept across me. Sounds corny, but it is true."

David G. Fraser '63, MD '66: "After 42 years of vascular surgery, I retired in 2008. Louisa, my wife of 54 years, is a professional artist and getting ready for a new show next month for the 'Living Room,' a place for abused women to find a home. She has had several commercial one-woman shows in San Francisco, Tucson, and other cities, and we now do some shows to help various charities. I am a Luddite and am happily ignorant of many things after working as a clinical professor of surgery (UCSF) in charge of teaching the FP residents and interns and med students for 32 years. As far as med school memories, the most significant thing I can recall is being at the next cadaver table from **Tony** Fauci; he has to be a hero to all of us."

Mark H. Kaplan '62, MD '66: "We had a rousing turnout at our 50th Reunion and all enjoyed seeing our close friends after so many years. Everyone gave us an update on their lives, which told of hard work and commitment to humanity, excellence, and love of family and friends. Our class has made major contributions to medicine including classmates who rose to be department and division chiefs, organizers of large medical practices, providers of excellence in care to their communities, and providers of care to the needy and to persons throughout the world, as well as heads of large medical societies and experts in exotic fields such as botany, malacology, enology, skiing, hiking, and many other endeavors. Collectively our class produced over 3,235 published scientific papers in peer-reviewed journals, work that added to our understanding of medicine. To a one, each person loved being at WCM, and each had wonderful memories of their years together. We had a great time viewing the movies we made in those years including Sidney's Disease, Dr. Ben Case History, and Physicians and Surgeons Yes, Doctors No! Classmates sent in wonderful pictures of their families and friends and old pictures from their years at Weill Cornell. These are also available in the alumni office. We are all looking forward to our 60th Reunion and hope we will stay healthy enough to enjoy the remaining years of our lives."

Ken Lippman, MD '66: "Perhaps the most meaningful WCM teaching for me is depicted on the New York Hospital Seal of the Good Samaritan: 'Go and Do Thou Likewise.' That dictum has resonated in my soul all of these years. Patient care has been my priority. And my practice has allowed me intensely personal and prolonged contact with such a myriad of people. In the Physician's Oath to Maimonides it states, 'In the sufferer let me see only the human being.' I just completed my 43rd year of solo private practice of internal medicine and rheumatology in Westport, CT. And the past several years I've devoted my practice to Medicaid patients. So challenging, so rewarding, and so exhausting. In October I received the Physician Extraordinaire Award from the Fairfield County Medical Association celebrating my 50 years of continuous medical practice. But surely my most extraordinary medical contribution was my Vietnam War service. My wife (a 1965 CUNYH School of Nursing BSRN with two years of postgraduate psychiatric nursing experience) and I shipped off to Japan in August 1967. Happily, we both got assigned to Tokyo, to what we were told was the only Mobile Army Surgical Hospital (MASH) in Southeast Asia: the 7th Field Hospital, an orthopaedic surgical hospital. There we were, a general medical officer and a psych nurse to be converted into orthopaedic war wound specialists. The Army's training was

excellent, and it turned out that our surgical training (at what was then called NYH-Cornell) had prepared us well. Upon our return my wife, Dee, earned medical and EdD degrees in nursing education and curriculum from Columbia University Teachers College, became a professor of psychiatric nursing for 34 years at Fairfield University, and taught her students clinical skills at the West Haven V.A. Hospital. There she reconnected with Vietnam War veterans with PTSD and TBI and became a veteran's advocate and the national vice chair of the Vietnam Women's Memorial Project that eventually emplaced the statue of the three women and fallen soldier near the Wall on the Mall in Washington, DC. It has been my honor and duty to support her in these humanistic and patriotic endeavors. She clearly became the high flyer, and I the wind beneath her wings."

Ned Rankin, MD '66: "A physician's occupation is one that's trusted and respected. You never see patients at their best, but you should always do your best for them. Well do I remember the night the apartment building under construction on First Avenue caught fire, sending rockets of oxygen and acetylene cylinders over the neighborhood. It must have been early 1963. The night of the blackout I was on a surgery ward at Bellevue. We received two patients: a would-be robber who was apprehended and beaten about the head by the police, and a financier



IN WRITING: Guang-Ting Cong '17 shares his good news.

who got off his train at Grand Central to call his wife and fell off the platform onto the tracks and broke his shoulder. At that time Bellevue had wards and one separate patient room. The robber, the broker, and the police guard went there, as the ward was full. The broker thought it was great and came back to bring us cake and Cross pens. I had a hand in training 72 UCSF urology residents during my years at Kaiser Oakland. We raised four children, all of whom went to Exeter, married good people, and are in interesting professions. They have produced ten grandchildren with an eleventh on the way. I'm not as sure that I would move to California now, but it sure was a great place in 1966. I did end up working in a MASH hospital in Vietnam and am sure I'm the better for that experience. Whatever you hear about Oakland, it has the temperature closest to 70 degrees year-round of any American city and it's a gardener's paradise. It did snow here in 1974. When I get tired of Oakland, we have a place in a redwood forest in the Santa Cruz Mountains from which you can't see or hear anyone."

Arthur H. Stein, MD '66: "Our class enjoyed our 50th Reunion. So many participants expressed their gratitude and good fortune to have been able to enjoy the privilege of attending WCM. Thanks to classmates Mike Dosik, Mark Kaplan, and Susan Stewart for their prodigious efforts to bring us together and make the reunion such a success. My son, Benjamin, inspired by my reaction to the reunion, posted a podcast of an interview he had with **Tony** Fauci, our distinguished classmate. It's available at www.purposeup.com/ep8/. On a personal/ professional note, I was fortunate to have been elected to the status of Distinguished Life Fellow of the American Psychiatric Association in 2011. More recently, in December 2016 I was selected to receive the Edith Sabshin Teaching Award given by the American Psychoanalytic Association, which 'recognizes members who have made outstanding contributions as educators."

Rob Sullivan, MD '66: "My time at Weill Cornell was awesome. I loved learning medicine with inspired and humorous classmates. I gained a foundation that served me well throughout my career. I remember the advice of Walter Model, MD '32: 'There are no such things as medicine side effects. Every medication has a range of effects. Pick the one you want, then advance the dose until you either achieve your goal, or the other effects become intolerable.' The words of **Preston Wade, MD '25**, also stick in my mind: 'Even when you do everything right, the outcome can be a disaster.' The Christmas Party skits at Olin Hall were memorable. I had the good fortune to marry a wonderful girl, raise two outstanding children, and be blessed with two wonderful granddaughters. I've spent thirty years of medical practice teaching students and residents at Duke University Medical Center. I helped establish a Family Medicine Residency Program at the University of North Carolina at Chapel Hill, and served as vice chairman of Community and Family Medicine at Duke University Medical Center. I was the founding director of the Office of Health Promotion and Disease Prevention in the Department of Veterans Affairs and the founding medical director of Community Care of North Carolina. And I'm also proud of improving care in nursing homes as medical advisor for the State of North Carolina Division of Health Service Regulation."

Laura Ureta, MD '66: "Life is a series of chapters; we are fortunate that we get to live them in a country where medical institutions like WCM and Memorial Sloan Kettering are available. This is a difficult but doable chapter in my family's life, and the access to MSK has made the difference in the results. It's been a privilege to spend my life practicing medicine, the most rewarding and soul satisfying of all careers. Witnessing the care given my family by the compassionate and competent physicians at MSK has been so comforting. I am both honored and humbled to have been part of this profession."

John Welch, MD '66: "What sticks in my mind is the dedication of our great teachers. I had a remarkably fun time on the delivery service and on the orthopaedics rotation. Over the years I developed my own formula to predict intraocular power for implants, taught residents about glaucoma at the University of Colorado for 15 years, and built a successful and happy practice with three (soon to be four) partners. I have a wonderful wife, Andria, four kids (two boys and two girls), and eight grandchildren. Please look us up if you come to Colorado. Our mountain residence is near Beaver Creek at Arrowhead."

John Witwer, MD '66: "Fifty years? I thought this was our 25th Reunion! Now you tell me! Sorry I was unable to make it. In medical school I had outstanding classes in anatomy and the anatomical and physiological basis of physical diagnosis. Drs. Asche, Lampe, and Hochstein were great teachers. I also worked in the City Medical Examiner's Office with Drs. Helpern, DeMaio, and Baden. My greatest compliment came from a patient who told the attending on rounds that she liked me because I was 'roguish.' Hopefully I did the minimum amount of harm in my career and was kind and did right by those in my world."

Ron Rankin, MD '68: "My wife and I took a trip to Panama for our 50th anniversary in January."

Jeffrey S. Borer, MD '69: "I am now the chairman of the Cardiovascular Devices Committee of the International Standardization Organization, which sets manufacturing standards for cardiovascular devices. Though I have now stepped down from my administrative positions (chairman of medicine and chief of cardiovascular medicine) at SUNY Downstate, I continue to direct two research institutes (Howard Gilman Institute for Heart Valve Diseases and the Schiavone Institute for Cardiovascular Translational Research)."

1970s

Charles I. Jarowski, MD '72: "Joan and I are happily retired and settled in Provence in southern France, in the Luberon near Avignon. If any of my classmates are in the area, email me at stretchynyc @ gmail.com and we can set up a meet-up. Life is beautiful here."

Judith Nowak '70, MD '74: "My husband, Esra Bennathan, emeritus professor of political economy at Bristol University, UK, died in March 2016. I continue in my psychiatric practice in Washington, DC, traveling often to my home and family in London, UK."

Warrick L. Barrett, MD '75: "Several wonderful things happened for me and my family during the past year. In March, the lovely Ashley Siler of Williamsburg, VA, became the bride of my older son, Galen, in Atlanta, GA. In June, the lovely Alyssa Colbert of Milwaukee, WI, became the bride of my younger son, Gregory, on Martha's Vineyard, MA. In September, Emily Lucas, my guest, and I enjoyed ourselves at the Weill Cornell Reunion in New York City. In December, Darius Wilkins, the older of my two grandsons, graduated mid-year from the North Carolina Agricultural and Technical State University in Greensboro, NC."

Jerome F. Cuyler, MD '76: "In 2009, I went to Watertown, NY, to take on the duties of medical director at Mercy Care Center. I've become 'Grandpa Jerry' five times over: four boys and one girl. Needless to say, they are the light of my life and play a large part in keeping me alive and young. I was recently inducted into Leading Physicians of the World, Class of 2016. This honor feels very nice. I went back to WCM for the 40th Reunion. If you have not been back to WCM in the last ten to 15 years, this should be number one on your bucket list. What will greet your eyes is what a world-class, state-of-the-art, cuttingedge medical education and research facility looks like. Everywhere you look you will see new glass and steel structures ready to educate the next generation of medical professionals and to make the next significant scientific breakthrough. If you have not yet contributed to WCM, what are you waiting for? You will be surprised at the ways there are to contribute, ones which can fit your current financial situation. I will be looking at ways to increase my giving. Help relieve the financial burden on today's medical student."

Gerald B. Kolski, MD '76: "My wife, Susan, and I celebrated our 50th anniversary in December in California. We had an earlier celebration with our children and grandchildren in Lake Tahoe in July. We now have four grandchildren. I'm semiretired, working two days a week in Huntsvillle, TX. Our children are widely separated: Andrea lives down the street from us in Texas, Brian in Newport Beach, CA, and Melissa in Chicago."

Mark Dibner, PhD '77, is founder and board chairman of Kramden Institute, a 501(c)(3) that he started in 2003 with his son, Ned, then 13. Kramden (Ned/Mark spelled backwards) collects, refurbishes, and donates computers to students in grades 3–12 who have no home computer. They started with 42 computers re-built in their basement in Durham, NC, to give computers to all the kids on Ned's school honor roll. Fast forward 13 years, and Mark and his wife, Elaine, both volunteer half their time to Kramden, which has just awarded its 26,300th computer and has had over 12,000 volunteers and 12 paid employees. Kramden added a digital literacy education program in 2014. In 2016, it awarded 4,030 PCs and had more than 1,000 students in its various courses, with support from more than 2,000 volunteers and corporate support from companies including Fidelity, MetLife, RedHat, Lenovo, Cisco, Google, and many others. Mark writes in a note to WCM: "Imagine being a student today with no computer at home to do homework on or get e-mails from teachers and fellow students. It's wonderful to see the families get these computers, PUMPED UP: Khalil Anchouche '17 (second from left) congratulates Juan Duran '17 (left) on his Match Day placement.



knowing that they will then have computing in their homes."

Ellen Ebert, MD '77, recently retired from her practice of gastroenterology in New Jersey. She is traveling and pursuing her interests in ballroom dancing, art, and history. Her son is in Washington, DC, with two small boys, and her daughter is in New Jersey, pregnant with her first child.

Harvey Guttmann, MD '79: "In addition to my ongoing role as chief of gastroenterology, I have assumed the position of president of the medical staff at Abington Hospital, representing over 1,000 physicians as we solidify our merger as equal partners with the Jefferson University Health System. Our son, David, is the upcoming chief resident in radiation oncology at Penn, and our daughter, Allison, is a second-year resident in medicine at NYU/Bellevue. Everyone remains busy."

1980s

Mark Gudesblatt, MD '80: "I married Sharon Inkeles '79, MD '83, in 1981. Ron Kaleya, MD '80, was one of multiple WCM classmates who attended our wedding. Our oldest daughter, Melanie, and her classmate Sara Kaleya (Ron's daughter) both graduated from Cornell University in 2009, and Sara also attended Melanie's wedding to Jamie Apgar in May 2015. Cornell connections seem to transcend generations."

Sharon Strong, MD '81: "Phil Bossart, MD '81, and I had so much fun at the fall 2016 reunion. How great to connect with friends and enjoy New York City for a few days."

Christopher Gribbin, MD '84: "Hi all!

'If you have not been back to WCM in the last ten to 15 years, this should be number one on your bucket list. What will greet your eyes is what a world-class, state-of-the-art, cutting-edge medical education and research facility looks like.'

— Jerome F. Cuyler, MD '76



WELL PLACED: Krupa Patel '17 shares her happy Match Day news.

I'll become the president of the Medical Society of New Jersey this May. I'd love to see any classmates at the event. Our daughter, Caitlin, is a third-year student at WCM and having at least as much fun as we did."

Tom Massing, PA '84: "I wanted to add myself as a graduate of the PA program (formerly surgeon assistant program) Class of '84, and to point out that I was in the second group to receive the certificate of added quality designation in thoracic and cardiovascular surgery. Also, I am a fellow of the Association of Physician Assistants in Cardiovascular Surgery."

Steven Stein, MD '84: "I have been named chief medical officer for Trinity Health Continuing Care. In that role, I oversee the clinical care of all of our home care agencies, hospices, skilled nursing facilities, senior housing complexes, and PACE sites across the country. I was honored to be one of just a handful of physicians to participate in the White House Conference on Aging in the East Wing where President Obama and his cabinet led discussions on how we can improve the lives of older adults. On a personal note, I am proud of my wife and my three kids, who have all chosen a life of public service. Best wishes to the Class of '84."

Brian Aboff, MD '85: "I have accepted the position of senior associate dean for Graduate Medical Education and DIO at Virginia Commonwealth University in Richmond. In my new capacity, I will be responsible for overseeing 75 residency and fellowship programs comprising over 700 residents and fellows. I'll be leaving my current position as director of the Internal Medicine Residency Program in March and will be starting at VCU in April. It's an exciting opportunity that allows me to continue to pursue my passion for medical education and patient care."

David E. Fisher, MD '85: "I'm entering my ninth year as chairman of dermatology at Massachusetts General Hospital, Harvard Medical School. I run a large research lab and direct the MGH Melanoma Program. I'm married with four sons. In June 2016 we experienced a terrible family tragedy when our son Samuel died suddenly just after completing a charity triathlon event through Goldman Sachs, where he worked. It was indescribably painful. Our oldest son, Jonathan, was married in December 2016 and is a third-year medical student at Harvard. Our two younger sons are in college and high school."

Lisa Lavine Nagy, MD '86, was invited to present at NIEHS in Triangle Park, where she and colleagues covered environmental exposures in air, food, water, and habitats leading to inflammation, insulin resistance, obesity, and many chronic neurologic and autoimmune diseases. Causes of electromagnetic and chemical sensitivity were enumerated, namely toxigenic indoor mold, pesticide, and solvent exposure. Voltage-gated Ca channels are thought to be involved in the physiology of the condition.

Stephen Rosenfeld, MD '86: "In January, I was appointed chair of the HHS Secretary's Advisory Committee on Human Research Protections (SACHRP)."

Zoe Tilton, MD '88: "My grandson, Tristan Frias, was born on June 23, 2016, to my son, Camilo, and his wife, Katie, both students at NYU."

Jacqueline W. Brooks-Muller '85, MD '89: "Together with Dr. Lauren O'Neil, director of the Health Careers Advising Program at Cornell University, I have created an internship/ mentorship program for graduates who are taking one to two gap years prior to medical school matriculation. I have enjoyed such success with my first intern that I'm in the process of hiring another. The applicants are extremely bright and inspiring. This is a wonderful opportunity to give back and mentor a younger future colleague interested in pursuing a career in medicine. It's an invaluable, rewarding experience for both mentor and mentee alike; I would highly recommend participating. If you'd like more information regarding how to get involved, please contact me at drjmuller @ aol.com."

Marlene Wust-Smith '85, MD '89, a



board-certified pediatrician at Cole Memorial Medical Group, was named a "Community Star" by the National Organization of State Offices of Rural Health, which acknowledged outstanding rural healthcare leaders and providers on National Rural Health Day.

1990s

David Rosenberg, MD '93: "Our daughter, Alexandra, was accepted into Cornell University and will be part of the Class of 2021."

Marie Jhin, MD '94, a board certified dermatologist and author of *Asian Beauty Secrets*, married Erik Lassila in Cabo, Mexico, in December 2016, with **Jeanie Leddon, MD** '96, in attendance. Their lives are full, with now five children together.

2000s

Rebekah Gee, MD '02, was named the Secretary of Health and Hospitals for the State of Louisiana in January 2016. She oversees the expansion of Louisiana's Medicaid program, which will allow as many as 300,000 working poor access to health insurance. Gee, who was the state's Medicaid medical director, also served as a professor of health policy and management in obstetrics and gynecology at LSU.

2010s

Ben Angarita, MD '10: "I finished my child and adolescent psychiatry fellowship at Mount Sinai and moved to the Upper West Side. I am in full-time private practice as a therapist in the Upper East Side and am an assistant clinical professor of medical education and psychiatry at Mount Sinai."

Rebecca Jones, PhD '11, is an assistant

ON POINT: Brendan Barrett '17 reveals his match.

professor of neuroscience at Weill Cornell Medicine. Her research is based at the Sackler Institute in Manhattan as well as the Center for Autism and the Developing Brain in White Plains. She studies the development of the social brain and how and why this differs in those with autism spectrum disorders and typically developing individuals. She uses a variety of technologies in her research including functional MRI, wearable devices, and eye tracking to examine neural systems that drive social behavior and how these systems change across age.

Katherine Heyman Saunders, MD '11, finished her obesity medicine fellowship with Dr. Louis Aronne and joined the Comprehensive Weight Control Center at WCM. She specializes in the care of patients with obesity and weight-related medical complications. She enjoys teaching WCM medical students as an MS1 preceptor and mentoring students through a variety of programs such as LEAP, Heart-to-Heart, and the Women in Medicine Mentoring Program.

Abigail Horstmann, PhD '17, will be joining the BGB Group as a medical writer.

We want to hear from you!

Keep in touch with your classmates.

Send your news to Chris Furst: cf33@cornell.edu

or by mail: Weill Cornell Medicine 401 East State Street Suite 301 Ithaca, NY 14850



IN MEMORIAM

'45 MD—William C. Robbins, of Mount Dora, FL, June 4, 2016; rheumatologist; clinical associate professor emeritus of medicine at WCM; affiliated with Hospital for Special Surgery, New York Hospital, and the Rockefeller Institute and University Hospital; US Navy officer.

'47 MD—Charles "Mickey" LeMaistre of Houston, TX, January 28, 2017; served as chancellor of the University of Texas System, president of the University of Texas MD Anderson Cancer Center, and president of the American Cancer Society; former chief resident in medicine at New York Hospital and assistant professor of medicine at WCM; winner of numerous honors including the NASA Distinguished Public Service Medal; appointed by President Kennedy to the Advisory Committee on Smoking and Health; tireless advocate for cancer prevention, treatment, and research; veteran of the U.S. Army and Public Health Service.

'53 MD—Aaron Ganz, of Boca Raton, FL, February 3, 2017; internist; founded South Shore Internal Medicine Associates; chess player; painter; sculptor; horticulturist; ardent supporter of civil rights and liberal causes.

'55 MD—Ronald S. Romig, of Pinehurst, NC, January 25, 2017; general surgeon; staff member of Reading Hospital and Medical Center; US Air Force veteran; outdoorsman; fly fisherman; active in professional affairs.

'57 MD—Max J. Kartchner, of Benson, AZ, December 24, 2016; anesthesiologist; worked primarily at St. Joseph's Hospital in Tucson, AZ; also operated the Kartchner Clinic/Benson Hospital; provided anesthesia for hundreds of surgeries performed by his twin, Mark, a surgeon, for the underprivileged in Bolivia and Nicaragua; served LDS medical missions with his wife, Dona, in Central America and Chile; cattle rancher; avid reader of westerns; active in community, professional, and religious affairs.



We Are WCM

A third-generation physician with family roots in Barbados, Adrienne Phillips, MD, assistant professor of medicine, focuses her research and clinical practice on a deadly blood cancer that disproportionally strikes Caribbean natives



was a competitive figure skater growing up, and I think that discipline-practicing at 5 a.m. before school-has stuck with me. I remember working hard to learn a jump called an axel; I fell and broke my arm and was very frustrated, but I'll never forget the first time I landed it in competition. It taught me to be persistent-and that applies to my career as I've faced challenges in my research. I am a medical oncologist and hematologist specializing in bone marrow and stem cell transplant, and I study adult T-cell leukemia/lymphoma, an aggressive blood cancer; on average, patients with this type of cancer survive less than a year. It's caused by a virus that's endemic in the Caribbean, where about 20 million people carry it, though less than 5 percent get the disease. Some of my research has been on its epidemiology, studying the Caribbean-American population in Brooklyn, and conducting clinical trials of a number of novel therapies, including immunotherapy. The published statistics on the disease unfortunately haven't improved, but I can count a handful of cases where when a patient's prognosis

was less than a year yet they lived as long as five-so I do feel that I'm helping my patients live longer. Serving the Caribbean population in New York, I've developed strong relationships, not just with patients but their family members. I think it's important to them that I'm someone who understands their culture, who looks like them, who understands what they've been through. Even though I'm practicing in New York, I'm treating patients who immigrated here looking for better lives-just like my grandfather, who came from Barbados to attend City College before going to medical school. My family has given me strong role models, particularly female ones. My mother is an oncologist who was president of the American Medical Women's Association of New Jersey; my grandmother was the first superintendent of Provident Hospital, which was the allblack hospital in Baltimore, and she was dedicated to training black physicians and nurses and providing care to minority patients. Both of them modeled strength for me-not just professionally, but in their devotion to community. That's my family's legacy."

Weill Cornell Medicine



Create your legacy today and help transform the future of medicine.

There are many ways to support Weill Cornell Medicine, but a charitable bequest is among the most popular. Why? Because a bequest allows you to make an important gift and provides you with the financial flexibility to retain full use of your assets during your lifetime. You can direct your gift to support a faculty member or program area that has special meaning for you.

One of the simplest ways to create a legacy is to name Weill Cornell Medicine as a beneficiary of your:

- Will or trust
- IRA or retirement account
- Bank account
- Brokerage account
- Life insurance policy
- Donor advised fund account

If you have already included Weill Cornell Medicine in your plans, please let us know so we can acknowledge your generosity and welcome you to our Lewis Atterbury Stimson Society.

For more information on how to create a legacy for Weill Cornell Medicine or for suggested beneficiary language to share with your attorney or financial institution, please contact us:

Planned Giving Office Phone: (646) 962-9567 Email: plannedgiving@med.cornell.edu

This information is provided for educational purposes only. Weill Cornell Medicine and Cornell University are not financial, legal or tax advisors. Please contact your advisors regarding your financial, legal or tax needs. Weill Cornell Medicine 1300 York Avenue, Box 144 New York, NY 10065

PRSRT STD US Postage PAID Permit 302 Burl., VT. 05401



Take a look at our digital version!

iPad, iPhone, and Android apps too.



www.weillcornellmedicine-digital.com