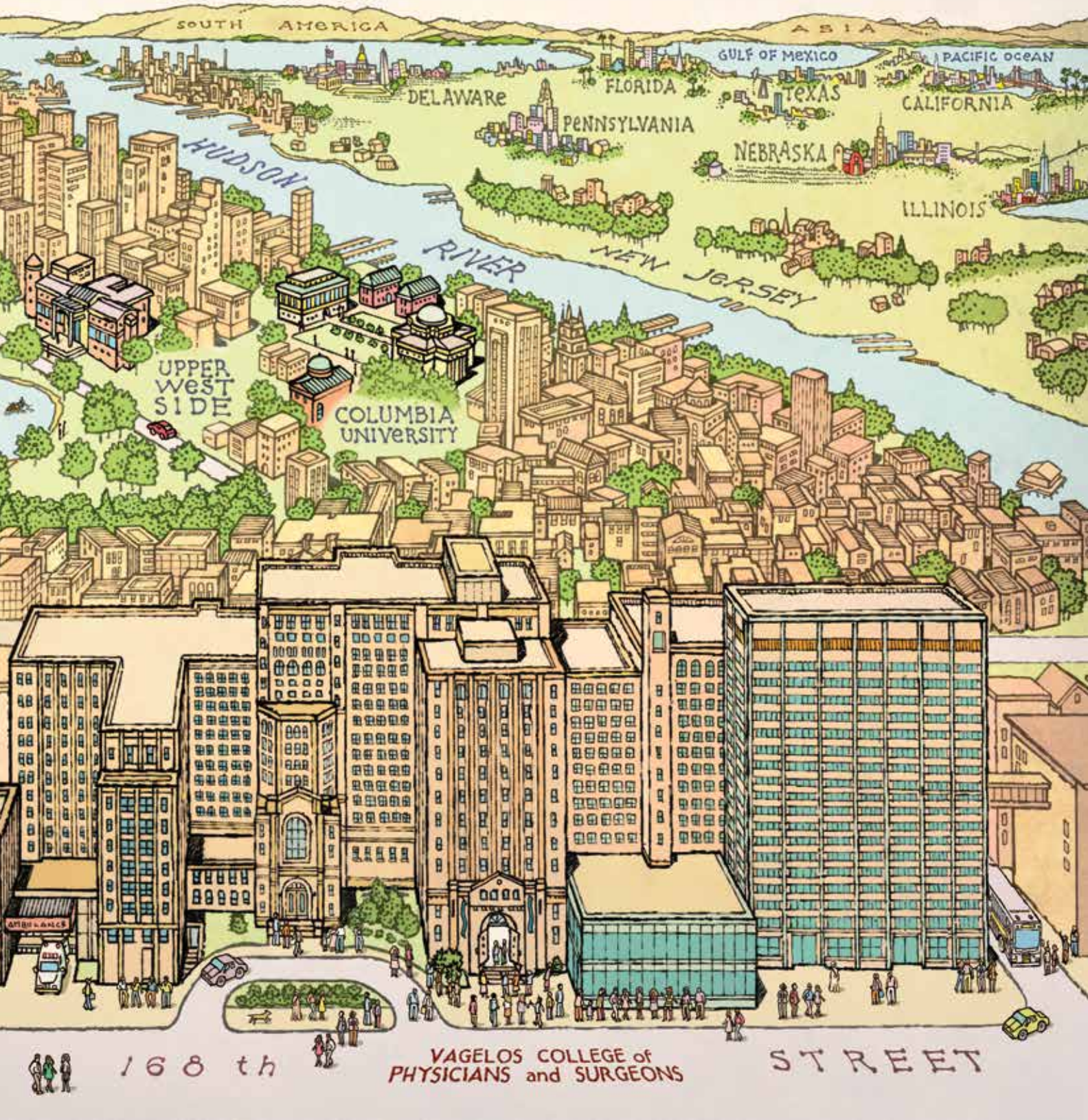
Columbia Medicine

FALL 2024

Columbia University Vagelos College of Physicians & Surgeons



Dear Readers,

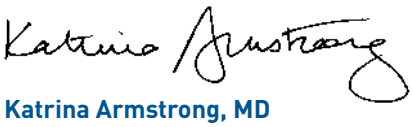
The 2024-25 academic year has begun, and we welcomed the MD Class of 2028 in another moving Arnold P. Gold White Coat Ceremony in August. With the new academic year, we also have turned to our ambitious plans to reimagine PhD education at Columbia. The Vagelos Institute for Biomedical Research Education, funded through the generosity of Diana and Roy Vagelos'54, has begun implementing a new Biomedical PhD Pathway that will provide a new academic home for our PhD students and create a strengthened research environment to educate the next generation of scientists. This fall we will unveil new PhD tracks that will prepare scientists to tackle challenging research questions and generate world-changing scientific breakthroughs.

As we redouble our commitment to training the next generation of clinicians and scientists, we are deeply proud of the many ways VP&S faculty and alumni have changed health care over the course of the medical school's 257 years. An essay in this issue by the outgoing editor revisits a very small selection of those contributions, the individuals who made them possible, and the ways the magazine's storytelling has kept VP&S history alive.

Our scientists, physicians, and surgeons continue to innovate to identify better ways to prevent, diagnose, and treat disease, and artificial intelligence is a valuable partner in our innovation. Some of our best minds in AI explain in this issue why it is important that we trust in the technology and its potential to expand our impact on health care.

Other stories in this issue—remembering a beloved teacher, celebrating a student's national poetry win, and illustrating the potential of gene therapy—show why VP&S continues to be a leader in education, research, and patient care, 257 years and counting.

All my best,



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Dean

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Columbia University Vagelos College of Physicians & Surgeons

Vol. 44 No. 2
Fall 2024

in this Issue

departments

6

features

ON THE COVER: "VP&S and Its Place in the World." People who have worked at VP&S for many years—as has *Columbia Medicine* magazine's editor—can come to think of the place as the center of the universe. The soon-to-be-retired editor explains why the school remains such a towering place in medicine and in her career. Article, page 28. Illustration by John Roman.

News from around the Vagelos College of Physicians & Surgeons

VP&S news

RUDY DIAZ

Graduation 2024

The 2024 graduation ceremony honored 142 students who received MD degrees and 86 students who received PhD degrees in biomedical sciences.

Anthony Fauci, MD, chief medical adviser to the president of the United States from 2021 to 2022, delivered the graduation address. He reflected on the challenges and lessons learned during the COVID-19 pandemic, which profoundly impacted the Class of 2024 and changed the landscape of patient care and scientific research.

He addressed the spread of anti-science beliefs, misinformation, and the "normalization of untruths" and stressed the urgent need for health professionals to push back on these trends. "Seek and listen to opinions that differ from your own, but critically analyze information, which you have learned to do so well here at Columbia, so that you can discern and challenge weak assertions built on untruths.

"Our collective future is in your hands. You and your humanity are the keys to optimal patient care and are integral to the path that you have chosen."

Columbia Breaks Ground on New Biomedical Research Building

Elected officials joined Columbia and VP&S leaders, neighborhood representatives, and medical center community members at a May 30 groundbreaking for the eight-story biomedical research building that will be located at West 167th Street and Audubon Avenue. The building, expected to open in Fall 2026, will house state-of-the-art research laboratories and community engagement spaces and will be the first university-owned research building in New York City that does not rely on fossil fuels. "We're in a time in medicine and science that is truly incredible," said VP&S Dean Katrina Armstrong. "We have an opportunity to advance science and technology to improve lives and care for patients in ways that I never had anticipated when I first moved into medicine." Columbia University President Minouche Shafik said, "We are on the cusp of major new innovations that will transform medical care and human health, and for VP&S this means generating the knowledge that will take humanity forward, using the latest tools and the best knowledge in science to tackle the problems of human health and disease. And this new building will advance the VP&S mission to engage in serving our community and in an environmentally sustainable fashion."

JENNY GORMAN

U.S. Rep. Adriano Espaillat, Katrina Armstrong, Roy Vagelos, and Diana Vagelos

Students Honored for Research Achievements

Twelve VP&S students won awards at the annual Student Research Day in April. The 12 were among 74 students who presented their research to colleagues, fellow students, faculty, and leadership. The presentations included research posters with explanations of the students' methodologies, results, and inspiration.

The event also recognized a faculty member who has shaped a student's scholarly project experience. The 2024 Scholarly Projects Faculty Mentor of the Year is Syed Ali Husain, MD, assistant professor of medicine.

DIANE BONDAREFF

Front row, from left: Amy Shteyman, Madison Heath, Aleksandra Recupero, Paul Lewis, Meghana Giri, William Britton, and Guillermo Almodovar Cruz. **Back row, from left:** Kavya Rajesh, Alice Vinogradsky, Anil Lalwani (associate dean for student research), Katrina Armstrong (dean), Monica Lypson (vice dean for education), Prashanth Kumar, and Frederick Lang. Not pictured: Damian Teasley.

RECIPIENTS OF AWARDS IN FOUR CATEGORIES:

MD/PHD

1ST PLACE:
Aleksandra Recupero, "Optimization of an Automated Behavioral Platform to Assess the Developmental Timing of Behavioral Maturation"

RESEARCH YEAR

1ST PLACE:
William Britton, "Interrogating a Partial Epithelial-to-Mesenchymal Transition Program in 3D Patient Derived Organoids of Head and Neck Squamous Cell Carcinoma"

2ND PLACE:
Paul Lewis, "Adolescents Caring for Community by Promoting Literacy on Insurance, Stroke, Health Education, Emergencies, and Dementia (ACCOMPLISHED): A Community Health Worker (CHW) Program"

3RD PLACE (TIE):
Kavya Rajesh, "Development and In Vivo Characterization of Biohybrid Conduits for Growing Heart Valve Replacements"

Damian Teasley, "Local Delivery of Topotecan Induces Immunogenic Cell Death and Associated Myeloid Response in GBM"

SCHOLARLY PROJECT

1ST PLACE:
Frederick Lang, "SGLT2 Inhibitors for Transthyretin Amyloid Cardiomyopathy: Short-Term Analyses of Efficacy and Safety"

2ND PLACE:
Alice Vinogradsky, "Long-Term Outcomes of Heart Transplantation in Adults with Congenital Heart Disease: The Impact of Single-Ventricle Versus Biventricular Physiology"

3RD PLACE:
Madison Heath, "Gut Colonization with Multidrug Resistant Organisms in the Intensive Care Unit: A Systematic Review and Meta-Analysis"

SUMMER RESEARCH

1ST PLACE:
Amy Shteyman, "Characterizing the Effects of Focused Ultrasound Therapy in Healthy and Alzheimer's Disease Neurons"

2ND PLACE:
Guillermo Almodovar Cruz, "Impact of heart transplant allocation policy change on outcomes of extracorporeal life support for cardiogenic shock with acute decompensated heart failure versus acute myocardial infarction"

3RD PLACE (TIE):
Meghana Giri, "Engaging Youth in Pollution and Lung Health Monitoring in Washington Heights, New York City: A Pilot Study"

Prashanth Kumar, "Association of MGMT Promotor Methylation with Survival in Low-grade and Anaplastic Gliomas After Alkylating Chemotherapy"

Ali Gharavi Appointed Chair of Medicine

Ali Gharavi, MD, has been appointed chair of the Department of Medicine at VP&S and physician-in-chief at NewYork-Presbyterian/Columbia University Irving Medical Center. He had served as interim chair since April 2023. He succeeds Donald Landry'83, who chaired the department for 16 years.

Dr. Gharavi is the Jay Meltzer, MD, Professor of Nephrology and Hypertension in the Department of Medicine, where he has served as chief of the Division of Nephrology since 2014 and director of the Center for Precision and Genomics since 2019. During his tenure as a division chief, Dr. Gharavi oversaw a major expansion of the clinical programs and achieved a five-fold increase in extramural research support. Under his guidance, the division also established a pioneering program for precision nephrology.

After joining Columbia in 2003, Dr. Gharavi developed a research program focused on the molecular genetics of kidney diseases. His work has led to the discovery of genes and risk loci for IgA nephropathy and congenital kidney defects. His research on IgA nephropathy has identified new biological pathways that have now been successfully targeted for treatment of this disease. His work also has demonstrated the utility of clinical sequencing for the diagnosis and management of patients with kidney disease. His overarching goal is to bring personalized genomic medicine to all specialties of internal medicine.

RUDY DIAZ

Ali Gharavi

Dr. Gharavi was elected to the American Society for Clinical Investigation and the Association of American Physicians. He received the Judson Daland Prize for Outstanding Clinical Investigation from the American Philosophical Society, the National Medical Award from the Kidney and Urology Foundation of America, and the Homer Smith Award from the American Society of Nephrology.

Rachmaninoff Piano Restored to Former Glory

Luke Cai

For generations, the vision of being a well-rounded student who finds fulfillment in both extracurricular activities and coursework has attracted students from a variety of backgrounds to study at VP&S. Students with musical talents in particular have found the community of artists at VP&S to be a welcoming and creative environment where they can continue to refine their skills in the off time between classes and clinical rotations. For many, the allure of a legendary piano now residing in the Vagelos Education Center—the Rachmaninoff piano—was their first encounter with the artistic side of VP&S.

"Students and faculty use it with joy," says Jean-Marie Alves-Bradford, MD, associate dean for student affairs, support, and services. "The reputation of the piano is a highlight and draw for students, and it holds tremendous meaning and pride for the school."

Most people know the piano previously owned by Russian pianist and composer Sergei Rachmaninoff for its prominence in the "Musical Mondays" concert series held in VEC by the VP&S Musicians' Guild. The series is just one of the events that welcome musicians and music enthusiasts, including students, faculty, alumni, and staff members.

Until recently, the piano fell silent due to age and disrepair. Thanks to an initiative by former Senior Associate Dean for Student Affairs Lisa Mellman, MD, and the generosity of donors, including the family of the late Clyde Wu'56 and Helen Wu, the piano underwent refurbishment in the spring of 2023.

The latest refurbishment is one of many throughout the piano's tenure at VP&S. During the latest refurbishment, multiple repairs over several months included replacing the cracked sound-board and the pin block responsible for keeping the piano in tune and installing an ambient temperature and humidity control system for the room that stores the piano to ensure no further damage occurs.

Following the extensive refurbishment, Dongwon Lee'24 and Luke Cai'28 performed at a recital where they played works by

Chopin and Debussy, marking the first performance featuring the restored piano and providing a moment of appreciation to Dr. Mellman.

Mr. Cai, an MD/PhD candidate who is a pianist, was attracted to VP&S by the piano and the school's tradition of combining medicine and the arts. As a member of the VP&S Musicians' Guild leadership board, he worked with facilities and the student affairs office on the logistics of the refurbishment.

"The piano, much like how music itself can often be, is a unifying entity for the community. It welcomes those who play it to share a piece of themselves," says Mr. Cai.

"For the students specifically, the Rachmaninoff piano serves not only as a preeminent avenue for self-expression, but also as an enduring, physical manifestation of the link between medicine, science, and the arts that VP&S encourages."

The link between medicine and art has an impact not only on a student's daily life while at VP&S, but also on the honing of skills necessary to be a well-rounded physician and musician, Mr. Cai says. Just as the nature of music is more than a combination of sounds, the "sounds" of medicine have more to offer when taken as a whole piece.

"This skill of listening closely, with the aim of conjuring a whole from the details, readily translates to science and medicine, be it the cognition required to perceive as music the sounds we sense or gathering and interpreting the story that a patient tells," says Mr. Cai.

"Similarly, my experience in attempting to tame the sound of the Rachmaninoff piano has shown me that mere technical proficiency in any one discipline is insufficient. Instead, it is the integrative and interpretive aspects that characterize a skillful practitioner."

— Payton Clark

A VIDEO OF MR. CAI'S PERFORMANCE IS AVAILABLE AT **vagelos.columbia.edu/magazine.**

News in Brief

Oliver Hobert

Arthur G. Palmer III

Two researchers have been elected to the National Academy of Sciences for distinguished and continuing achievements in original research. **Oliver Hobert, PhD,** is professor of biological sciences at Morningside and professor of biochemistry & molecular biophysics at VP&S. He studies the molecular mechanisms responsible for generating the remarkable diversity of cell types found in the nervous system. Using C. elegans as a model system, his laboratory has revealed the regulatory mechanisms that control terminal neuronal identity and demonstrated that these mechanisms are conserved in chordates. Dr. Hobert is also an investigator of the Howard Hughes Medical Institute and a member of the Department of Systems Biology at VP&S. **Arthur G. Palmer III, PhD,** is the Robert Wood Johnson Jr. Professor of Biochemistry & Molecular Biophysics. He uses nuclear magnetic resonance spectroscopy to study the structures and dynamical properties of proteins and other macromolecules. Methods developed in Dr. Palmer's laboratory have opened new opportunities for characterizing rare structural states of macromolecules that are important in diverse biological processes, including enzyme catalysis and molecular recognition.

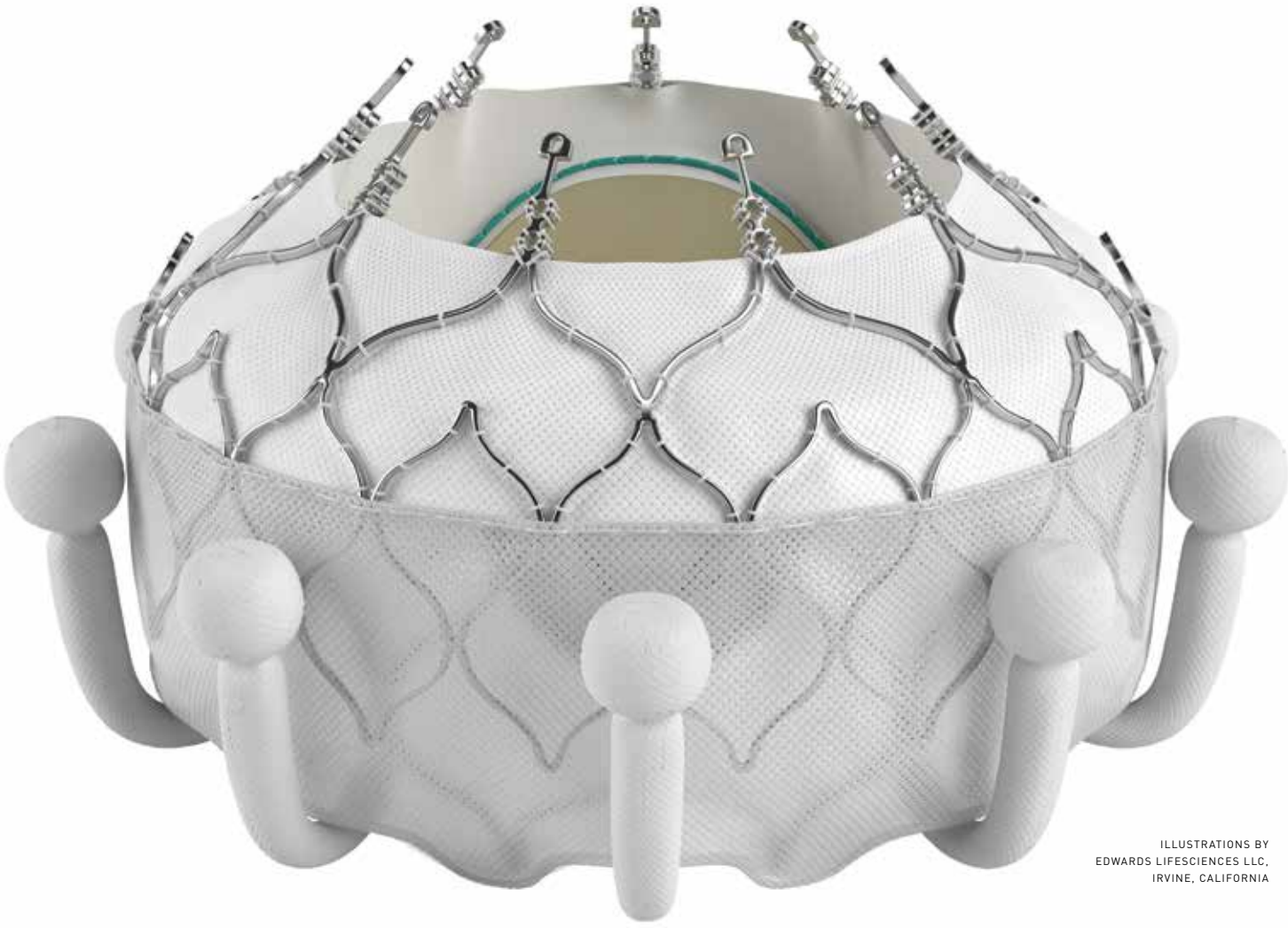
Lorraine Symington, PhD, the Harold S. Ginsberg Professor of Microbiology & Immunology, was one of more than 90 researchers elected this year to fellowship in the Royal Society, the UK's national academy of sciences. The Royal Society cited Dr. Symington for her work on the mechanisms of homologous recombination using the yeast Saccharomyces cerevisiae as an experimental system.

Lorraine Symington

Jonathan Dworkin, PhD, professor of microbiology & immunology, has been named a Fellow of the American Association for the Advancement of Science for efforts that are considered scientifically or socially distinguished. Dr. Dworkin was elected to the section on biological sciences. His research focuses on understanding how bacteria survive stressful conditions, particularly nutrient limitation, and how these adaptive responses affect their sensitivity to antibiotics.

New devices, procedures, guidelines for clinicians

Clinical *advances*



ILLUSTRATIONS BY EDWARDS LIFESCIENCES LLC, IRVINE, CALIFORNIA

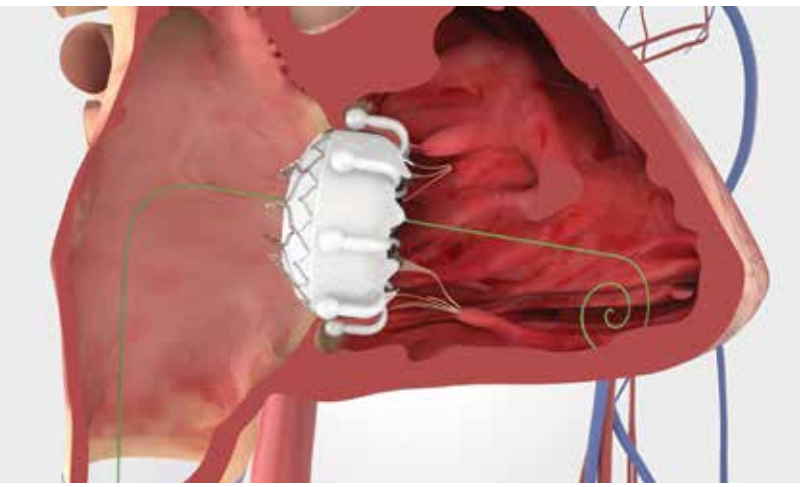
Transcatheter Tricuspid Valve Replacement

Earlier this year, the Edwards EVOQUE tricuspid valve replacement system became the first transcatheter therapy to receive FDA approval for treating tricuspid regurgitation. For the Columbia cardiologists who led the TRISCEND II trial that provided pivotal data, the approval is a gratifying end to a 10-year journey.

"We have been involved in the 'tricuspid space' since the very beginning, looking at this disease, testing different devices, and experiencing a lot of failures," says Susheel Kodali, MD, director of the Structural Heart and Valve Center, professor of medicine, and a principal investigator of the trial.

"These patients have been undertreated, and to be able to offer them something so effective is one of the most rewarding things we've ever done," says Rebecca Hahn, MD, professor of medicine, director of interventional echocardiography at the Structural Heart and Valve Center, and a principal investigator of the trial.

Tricuspid regurgitation—when the tricuspid valve is damaged, leaks, and allows blood to flow backward—can plague a patient for some time before it is recognized. "It can cause edema, increased abdominal girth from fluid, and fatigue and occurs mostly in women over age 70," Dr. Hahn



says. Other symptoms may include uneven heartbeat, chest pain, and difficulty breathing.

Before the valve replacement system was developed, most patients were treated with medical therapy, mainly diuretics, but that treatment is usually ineffective for patients with severe disease. Surgery is performed infrequently since the risk of death is high. And outcomes are poor: A 20-year study from Australia showed a 30% increase in mortality associated with even mild tricuspid regurgitation.

The device replaces a damaged valve with an artificial valve made of a self-expanding wire frame and bovine tissue. Like transcatheter aortic valve replacement, the tricuspid valve is inserted via a catheter through a vein in the patient's leg and expanded into place, pushing aside the leaflets of the diseased valve.

The EVOQUE procedure may take the condition down to mild in more than 85% of patients with severe disease, making the device very effective, says Dr. Hahn. "Patients consistently have fewer symptoms and improved quality of life."

The doctors add that the procedure is not for everyone and they are still learning which patients will benefit the most.

Columbia also was involved in a clinical trial that tested another device for tricuspid disease. Like EVOQUE, the TriClip TEER (transcatheter edge-to-edge repair) device is inserted into the heart via a catheter. The treatment adds clips to the flaps of the tricuspid valve, reducing leakage and restoring normal blood flow. The device is designed to treat a range of tricuspid valve abnormalities and was approved by the FDA in April 2024, two months after the EVOQUE approval.

"The decision between clip and replacement is made by the heart team based on a risk-benefit analysis that considers the clinical and anatomical factors of each patient," says Dr. Kodali.

"As always, we take a team-based approach with colleagues from echo, heart failure, and surgery," says Dr. Kodali. "We will continue to innovate, offer options, learn, teach, and train. We want to lead in heart valve research and provide access to therapies that other places don't have."

— Brenda Lange

New Treatment for Osteoarthritis of the Knee

A new non-surgical treatment provides relief for people with osteoarthritis in the knee who are not ready, or are not candidates, for knee replacement surgery.

Knee embolization, also known as genicular or geniculate artery embolization, is a procedure performed by interventional radiologists who guide tiny tools through blood vessels to the area of the body being treated. It fills an important gap in the list of treatments for osteoarthritis, a condition that has no cure.

"We see many people who have arthritis and who are no longer responding to conservative treatments but aren't ready or able to have surgery," says Stephen Reis, MD, associate professor of radiology. "Knee embolization can provide immediate relief when there are no other good options."

Knee embolization targets an inflammatory process that happens in the lining of the knee—the synovium—when arthritis is present. Using tiny particles, each the size of a grain of sand, interventional radiologists block the blood flow to vessels that feed the inflamed synovium. The procedure is performed in about one hour, often in an office setting, and patients go home the same day.

With the blood flow blocked or slowed down, inflammation subsides quickly. Patients often experience increased mobility and improvement in pain in one or two weeks.

"Our patients have been very happy with the results," Dr. Reis says. "I've seen people whose mobility was extremely limited before the procedure who are walking miles when I see them for their follow-up appointment several weeks later."

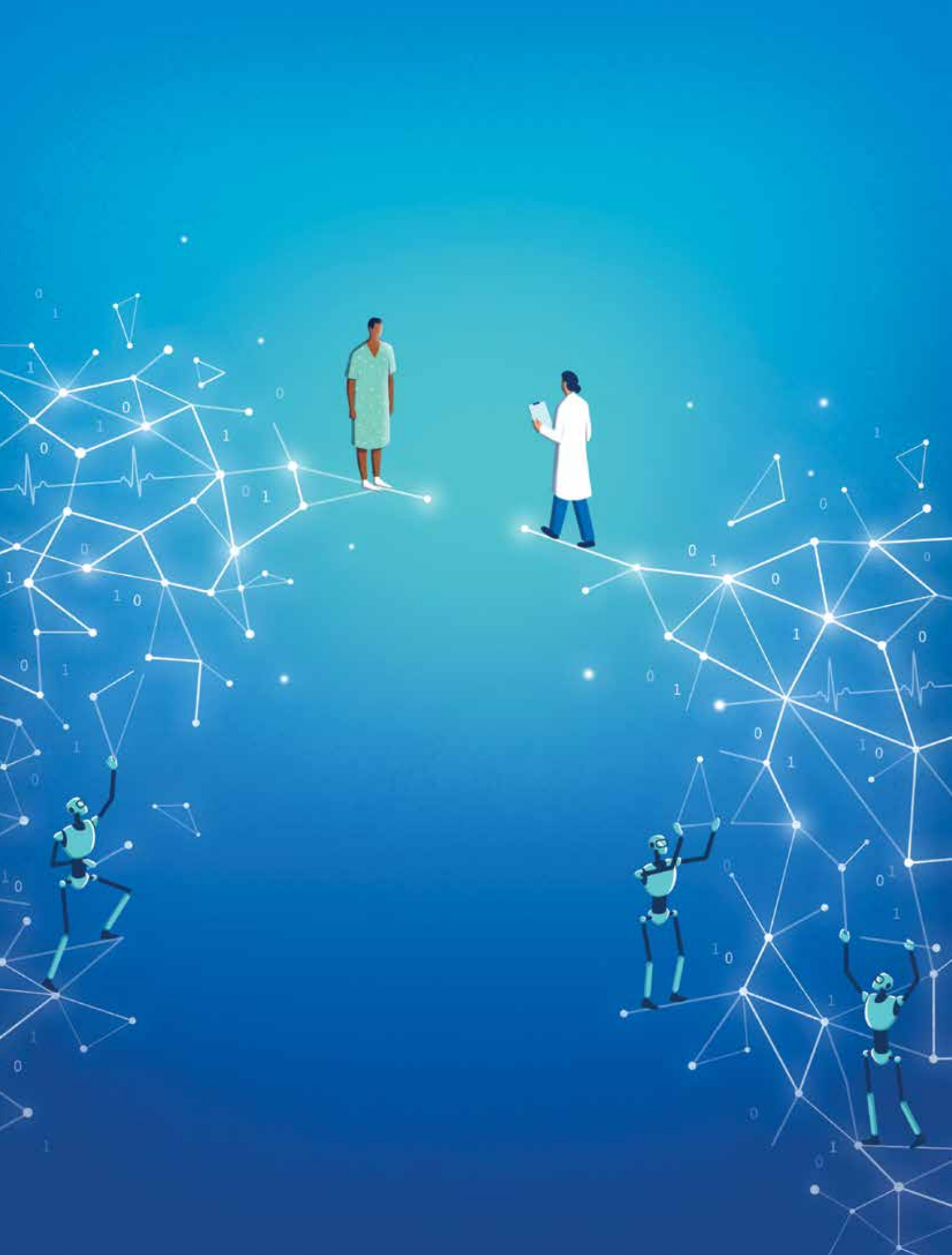
Interventional radiologists have used embolization for decades to treat everything from fibroids and enlarged prostates to cancer. Its use for knee arthritis was pioneered in Japan and has been studied in the United States for more than five years. Research shows that between 70% and 85% of patients who undergo knee embolization experience significant and lasting improvement in their overall pain.

MORE INFORMATION AND APPOINTMENTS:
columbiadoctors.org

"Knee replacement surgery involves risks and a long recovery and may not be the right choice for everyone," says Dr. Reis. "Interventional radiology gives patients a minimally invasive option to consider as they weigh their choices."

In the United States, osteoarthritis of the knee affects more than 65 million people, making it the most common form of arthritis. With an aging population and other factors, the number of people affected by knee arthritis is projected to increase by 75% by 2050.

— Sarah Durham



THIS IS YOUR FUTURE HEALTH CARE ON AI

BY SARAH C.P. WILLIAMS

COLUMBIA RESEARCHERS AND CLINICIANS ARE STUDYING HOW **ARTIFICIAL INTELLIGENCE** CAN TRANSLATE TO BETTER PATIENT CARE

Several years ago, cardiologist Pierre Elias, MD, was working overnight in a cardiac intensive care unit when he was called to the emergency room to see a man complaining of shortness of breath and chest tightness. A quick EKG displaying the heart's electrical activity as squiggles and lines showed nothing abnormal, so Dr. Elias and his colleagues sent the man home with the good news that he was not having a heart attack.

Three months later, the man returned to the emergency room with the same symptoms, but this time he could barely breathe and doctors quickly put him on a ventilator. An ultrasound revealed that the valves in his heart were severely diseased and could no longer open and shut correctly—a problem with the heart's structure rather than its electrical activity.

"If we had noticed something unusual in his EKG the first time he came in, he could have had a procedure to fix it," says Dr. Elias. "But by the time he came back, he was already in multi-organ failure."

The man died, but his story has stuck with Dr. Elias, assistant professor of cardiology and biomedical informatics and medical director for artificial intelligence at NewYork-Presbyterian. Patients like that man inspired Dr. Elias and his colleagues to turn to artificial intelligence to analyze routine EKGs and chest X-rays to predict whether patients are at a high risk of structural heart defects and need further tests.

"Even though I've looked at 15,000 electrocardiograms in the last decade, there are still pieces of information, such as structural disease, that I can't interpret from them," says Dr. Elias. "It turns out that an AI model can do it with a much higher degree of accuracy than me or any other cardiologist."

The program that Dr. Elias developed to predict structural heart disease is one of hundreds of AI-based technologies that are being built and tested at Columbia and NewYork-Presbyterian with the goal of helping clinicians provide patients with better, more personalized care.

"We are not far away at all from computers being able to analyze patients' medical records, make treatment plans, correct errors, and help clinicians in many other ways," says Jason Adelman, MD, associate dean for quality and patient safety at VP&S. "It's very promising."

Thousands of tools are in various stages of development and study around the world, and the FDA has approved nearly 900 AI-enabled medical devices as of May 2024. For people at the helm of medical technology, this imminent paradigm shift means that now is the time to prepare.

"Before anything is used at the bedside, we need to make sure that it is safely and equitably advancing care," says Peter Fleischut, MD, group senior vice president and chief information and transformation officer at NewYork-Presbyterian. "We need to go through an extensive review of each new technology."

Columbia and NYP, he says, are poised to be leaders in this field. The diversity of patients in New York City, the close integration of researchers and clinicians, and the willingness of the health system's leadership to embrace innovation provide an ideal testing bed not only for new AI technology itself, but also for how to seamlessly assess and integrate AI into clinical care.

"We're really positioned well to be the go-to place to evaluate, accelerate, and utilize these technologies," says Dr. Fleischut.

BRINGING DATA TOGETHER

While training to become a neurocritical care doctor, Soojin Park, MD, remembers wishing that she could assemble all the data on her patients into one platform. Most of Dr. Park's patients have severe brain and spinal cord injuries; the only way she can gauge their progress is through a plethora of monitors that measure

ILLUSTRATION BY DAVIDE BONAZZI || PORTRAITS BY JÖRG MEYER

PIERRE ELIAS

SOOJIN PARK

things like brain function, breathing, blood pressure, and heart rate. But as recently as the early 2000s, few of these monitors were connected to each other—or to any external systems.

"It was difficult for clinicians who were trying to monitor dozens of patients at once, because there were all these standalone devices and you could only view their data by walking over to the bedside," says Dr. Park, associate professor of neurology (in biomedical informatics).

Dr. Park also suspected that if she could mine all the data from the neuro ICU, she might be able to predict which patients were most likely to have complications, such as strokes.

"The problem with this idea is that it was putting the cart before the horse," says Dr. Park. "I knew there was valuable information in that data but I couldn't get it. It was a big engineering hurdle."

Dr. Park spent the next decade working with some of the first methods to pull data, in real time, off the bedside machines in the ICU to one interface. Columbia was one of the first medical systems to implement that remote monitoring technology, which quickly made it easier for doctors to understand if a patient's status changed, even from another room. It also paved the way for Dr. Park to apply AI methods to the vast amounts of data coming from each patient's bedside.

"There can be really subtle changes to a patient's physiology that a human can't pick up on but an AI program can detect," says Dr. Park.

Over the course of several years, Dr. Park and her colleagues developed AI tools that could predict—hours before nurses and doctors typically notice anything awry—when patients in the neurocritical ICU were likely to develop complications. Today, the program is running in the background at Columbia/NYP, analyzing real-time data on hundreds of patients.

"We're at the stage now where we know that this AI model can work, but we need to figure out how to translate it to clinical use," says Dr. Park.

Figuring that out involves comparing decisions that clinicians make for patients with advice that might be given by the AI model. That can reveal how and when AI could have changed patient outcomes—for better or worse.

Dr. Park's experience, she says, underscores just how critical the underlying devices and systems in a hospital are to allowing the integration of new technologies. It took close collaboration with IT analytics teams at Columbia and NYP for her group to be able to collect, store, and analyze neuro ICU data.

"It can be tricky and expensive for hospitals to save all this data on patients, so they need to be on board if a researcher or clinician wants to use it," she says. "NYP had the foresight to allow us to collect the data we needed and that made a big difference."

GAINING TRUST IN AI

But even when a tool is shown to work, a larger challenge can be convincing clinicians that it is worth using and that it can be trusted. For more than 15 years, Herb Chase, MD, has lectured Columbia medical students on biomedical informatics and medical AI, and he says his goal is to persuade young doctors to keep an open mind about integrating the tools into their clinical practice.

"I want them to know enough that they don't automatically reject AI tools because of things they've seen in the media," says Dr. Chase, professor of clinical medicine (in biomedical informatics). "Physicians want to know exactly how new tools work, but with AI, it may be inexplainable, which can make physicians hesitant."

Dr. Elias, for instance, tested 15 cardiologists at Columbia and NYP on their ability to diagnose structural heart disease using EKGs—both with and without the AI tool he developed to predict such diseases. Without the AI tool, the doctors were 64% accurate at diagnosing structural heart disease (it is not surprising that this number is so low, Dr. Elias says, since EKGs are not typically used


HERB CHASE


SARAH ROSSETTI

> **Ultimately, AI has the potential to equalize and personalize medicine by putting patients closer to the same footing—whoever their doctor is, whatever their race, and whatever insurance plan they have.**

to diagnose structural problems). But even with the AI model, the doctors were only slightly better, at 68% accurate.

"It turned out they didn't trust the model, so they often ignored it," says Dr. Elias. "These top-notch cardiologists would see that the AI model was suggesting structural heart disease but they couldn't see any of the signs themselves, so they'd go with their own gut and say there was no disease."

It is not a problem unique to AI, Dr. Elias says. It takes time for doctors to learn to trust any new blood test or medical scan. One of the ways to hasten this trust is for technology developers to work closely with doctors and nurses as they begin planning their tools, to ensure that the information they are providing will be presented in a way that is helpful.

It is a mindset that Sarah Rossetti, PhD, associate professor of biomedical informatics and nursing and former critical care nurse, uses in her research. For more than a decade, Dr. Rossetti, with colleague Kenrick Cato, has used AI to analyze how and when nurses log information on patients in acute care units and the ICU; their nursing surveillance behavior can signal their expert-driven insight on how patients are doing, even before their vital signs or lab values change.

"When a nurse is more concerned about a patient's status they're going to be checking on them much more frequently and documenting patient data more often," says Dr. Rossetti. But in the past, it was hard to quantify nursing surveillance or convey to other clinicians why a nurse was so worried about one patient if the vital signs were still normal. To bridge this gap, Dr. Rossetti developed CONCERN (Communicating Narrative Concerns Entered by RNs), an AI-based tool that tracks the timing and frequency of nursing notes and other nursing assessments and interventions entered by nurses on acute and critical care units. CONCERN flags patients as low, medium, or high risk for having poor outcomes based on the data.

"Right off the bat, we knew that training clinicians so they understood this model and could very easily use it was essential to making it valuable," says Dr. Rossetti. She and her colleagues worked closely with the Columbia and NYP IT teams and with inpatient nurses and doctors to determine the best way to make the information accessible and simple. The end result is a color-coded system (patients are green, yellow, or red) that appears on the existing medical record system.

"We're using nursing data to give clinicians simple, straight-forward information right on their login screen so they can quickly prioritize patients and escalate care early enough to prevent adverse outcomes," says Dr. Rossetti.

A large study of CONCERN's use at Columbia and another large health system shows that the tool identified patients' deterioration risk up to 42 hours earlier than other early warning systems and significantly decreased in-hospital mortality risk by 35.6%, sepsis risk by 7.5%, and length of stay by 11.2%.

PERSONALIZING MEDICINE

Ultimately, AI has the potential to equalize and personalize medicine. By flagging rare conditions that are tricky for doctors to diagnose and suggesting different treatments for different patients, AI puts patients closer to the same footing—whoever their doctor is, whatever their race, and whatever insurance plan they have.

DESPINA KONTOS

MICH PRICE

"It's inconceivable that a human can master the entire opus of medical diagnoses and perfectly diagnose every patient on their first try," says Dr. Chase. "But AI can come much closer to that."

Despina Kontos, PhD, professor of radiology and vice chair for AI and data science research in the Department of Radiology, says one of the reasons that Columbia is such a prime place to test AI technologies is the diversity of its patient population. An AI tool developed in a small hospital that sees mostly wealthy, white patients may not be as effective for patients of other socioeconomic or ethnic backgrounds, and AI researchers are increasingly aware of the biases that computer programs can harbor.

"You need to be sure that any tool works equally well across ethnicities and one of the things that fueled my decision to come to Columbia was the diversity and richness of the population we have here," says Dr. Kontos. "We're very well positioned to derive metrics on new AI tools and how well they really work."

Dr. Kontos has focused her research on how AI models can extract new information from mammograms. She has shown that even when someone is not diagnosed with breast cancer, certain features of the mammogram such as breast density can indicate likelihood for developing cancer in the future to suggest more frequent screenings. Technologies like the ones she has developed are being used by doctors around the country to generate breast cancer risk scores for women.

Previously, different radiologists may have given the same mammograms different breast density ratings, but an AI tool helps standardize these numbers. Now Dr. Kontos and her colleagues want to develop similar screening tools for other types of cancer, including ovarian and lung cancers.

AI also can guide treatment of cancer after it is diagnosed. Typically, when people with cancer are scheduled to receive radiation therapy to shrink their tumors, they receive a CT scan about a week before so doctors can visualize the tumor and plan exactly how much radiation must be delivered and where. But on the day of the treatment, things might look different.

"We need to compare the patient's body on the day they come in for radiation compared to the day they got their initial CT scan," explains Mich Price, PhD, associate professor of radiation oncology. "A tumor might have grown or shrunk, or maybe someone just drank a big glass of water, moving some of their anatomy around."

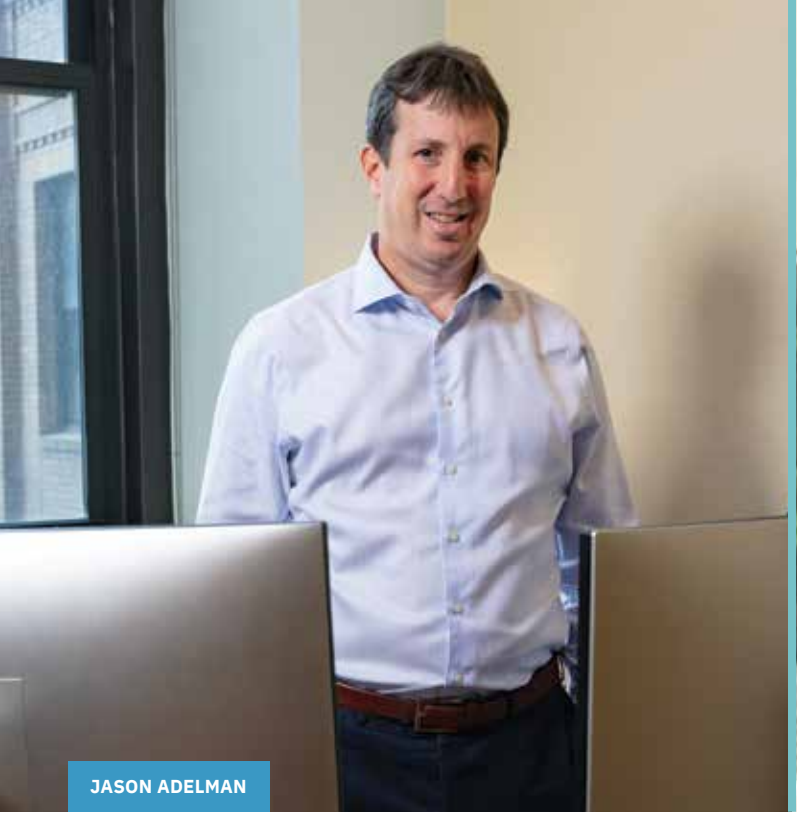
Those changes mean that doctors must quickly recalculate how to aim their radiation. It's usually a rough guess and means that small areas of a tumor can be missed, or radiation might be directed into healthy tissue.

> **"AI is not replacing us. AI is a tool that is enabling us to provide high quality care to more patients more efficiently."**

Dr. Price has led the implementation of an AI-powered "adaptive radiation" system that can analyze a patient's CT images on the day the patient arrives to receive radiation therapy and come up with a new plan, both more quickly and more accurately.

"The system can say 'OK, the tumor moved or changed by exactly this much,' and then in four or five minutes it can update the planned treatment to consider these changes. It does this without the patient having to get off the machine or receive an updated CT scan, additional work that normally takes us a about a week to complete," says Dr. Price.

The AI program, which is now in use at Columbia/NYP, keeps patients from waiting, saves time for clinicians, and makes it more likely that the desired amounts of radiation are given to the right



JASON ADELMAN

PETER FLEISCHUT

parts of a tumor. But it still requires clinicians to ultimately sign off on the plan and supervise the radiation therapy.

"AI is not replacing us," Dr. Price says. "AI is a tool that is enabling us to provide high quality care to more patients more efficiently."

HARKENING IN A NEW ERA

Nearly every area of medicine and hospital administration may soon be transformed by new AI technologies. At the new Center for Patient Safety Science, Benjamin Ranard, MD, an intensivist and deputy director of the center, is evaluating two different AI models to predict when patients might develop sepsis. Dr. Chase is using AI to study interactions between drugs, guiding which medications people should be prescribed when they are taking dozens of pills. Other Columbia researchers have used AI to diagnose dementia from data on older people's driving patterns, to predict preterm births, and to detect eye diseases. Hospital administrators are eyeing new AI tools that can write clinical notes and streamline billing and admission processes.

But many of these tools have only been tested in research settings, and their integration into large hospital systems will take time—and intensive planning.

"You can generate a new tool that works, but when you put it into the clinic, there are suddenly all these new questions: How does it affect a clinician's workflow? Does it get reimbursed? Who has liability if the tool finds something? How do you communicate the findings to a patient?" says Dr. Kontos.

There are also basic questions about whether the tool is useful in the first place. "If you have an AI model that can predict with complete accuracy when someone is about to die, that would be a very impressive tool on paper," says Dr. Adelman. "But if it's only providing this information when doctors are doing chest compressions on a dying patient, it doesn't really add anything to help patients. At Columbia, we're trying hard to make sure that any AI model we use is translating to improved care."

At Columbia and NYP, clinicians, researchers, hospital administrators, and IT experts are collaborating closely to address these challenges and create a smooth approval and implementation pathway for effective, safe AI tools to advance patient care. More than 140 AI tools are in various stages of study and use at NYP, says Dr. Fleischut, and large teams are being assembled across the system to study and prioritize new AI-based technologies. Many tools are running in the background—collecting and analyzing data but not influencing decision-making —so they can be closely monitored.

"I think it's important for big medical centers like Columbia to pave the way and show that we can be forward thinking while still being thoughtful about our patients and their privacy," says Dr. Kontos.

A common concern about AI technologies in medicine is that they might replace doctors or remove the human element from medical treatment. But most researchers who work with AI say those concerns are overblown—and they are the same hesitations that arise with every new technology.

"There was a time when physicians listened to patients' hearts by placing their ear to the patient's chest. Physicians did not want to use stethoscopes because their use would create a barrier between the patient and physician," says Dr. Chase. "But these are important tools that can expand a doctor's wisdom."

Like a stethoscope, an AI program can give doctors new information that helps them make the best decisions possible for their patients.

"Good, smart human doctors and nurses make errors all the time," says Dr. Adelman. "I imagine a world where AI can tap them on the shoulder, figuratively speaking, and say 'Are you sure about that? You might want to consider an EKG. You might want to reconsider that medication.' That kind of assistance could make our hospitals better and safer." ❖

GENE THERAPY

GETTY IMAGES

FINDS ITS GROOVE

BY ALAN DOVE

SUCCESSES IN TREATING DEAFNESS, SICKLE CELL DISEASE, AND CARDIAC AMYLOIDOSIS SHOW POTENTIAL OF RECENT ADVANCES

Since the dawn of molecular biology in the mid-20th century, scientists and physicians have dreamed of modifying human DNA to cure diseases. The field finally started to take off in the 1990s, when the first gene therapy clinical trials began, but early optimism by researchers and pharmaceutical companies soon collapsed in the face of a series of failures. Those setbacks culminated with the 1999 death of a subject in a gene therapy trial.

Although corporate interest in gene therapy plummeted, a handful of investigators, including several at Columbia, continued to work on it. In the past 20 years, researchers have slowly been figuring out why the earlier trials failed and developing new tools to overcome those problems. The serendipitous discovery of the CRISPR-Cas system in bacteria, which has since been modified into a molecular toolbox for high-precision gene editing, has invigorated the field even further.

A growing number of Columbia faculty are pushing gene therapy into its next phase. Some are running clinical trials that can cure

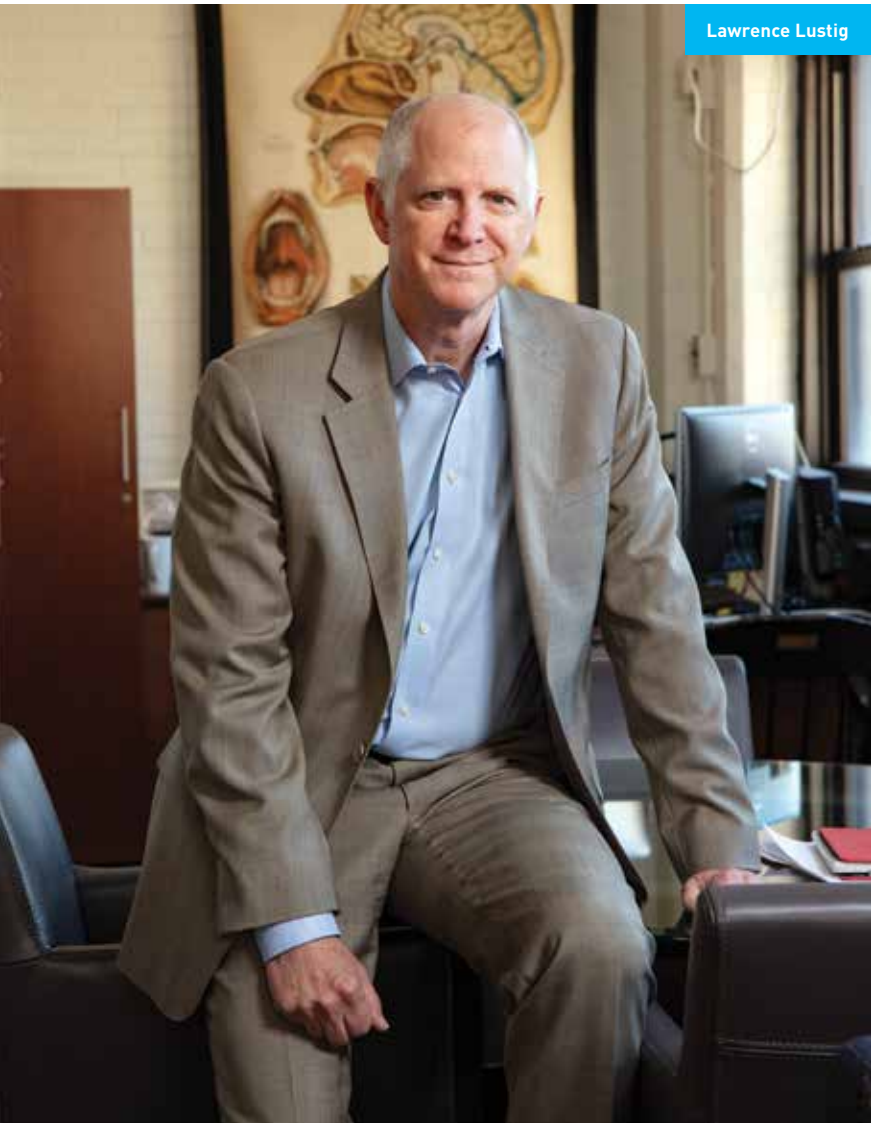
PORTRAITS BY JÖRG MEYER

or mitigate rare genetic diseases, while others are pursuing basic research to improve the safety of gene therapies and make them useful for a broader range of conditions.

THE SOUND OF SUCCESS

Lawrence Lustig, MD, the Howard W. Smith Professor and Chair of Otolaryngology/Head & Neck Surgery, has been working on gene therapy long enough to have seen both its early lows and recent highs. As an otolaryngologist, his initial gene therapy project was an attempt to regenerate hair cells in human ears.

"Sound vibrations are processed by the hair cells into an electric impulse, which is then transmitted to the brain, and most cases of hearing loss come from the loss of those hair cells," says Dr. Lustig. After scientists discovered the molecular signals that prompt hair cell growth during development, drug companies' ears perked up.



Lawrence Lustig

In the early 2010s, Novartis sponsored a clinical trial that attempted to apply those findings in adults with hearing loss. "We were one of three sites to try to use gene therapy in humans to regrow hair cells in the ear; unfortunately, it was a spectacular failure," says Dr. Lustig. Subsequent analysis suggested that adding a gene was necessary for hair cell growth, but adding a gene was not sufficient in the absence of other signals from adjacent supporting cells.

After that experience, otolaryngologists regrouped around the idea of treating rarer genetic forms of deafness, especially in children. They hoped that intervening earlier in life and targeting specific known molecular defects would bring more success. "There are over a hundred different individual genetic mutations that can lead to deafness that we've identified," says Dr. Lustig. A few years ago, his laboratory found that a protein called otoferlin is necessary for carrying auditory signals from the ear to the brain. In patients with mutations in their otoferlin genes, that leads to profound deafness even though their ear structures are intact. That raised hope that repairing the genetic mutation would restore the missing piece for the children's hearing. "It gives us a long window during childhood in which we can potentially intervene and restore normal otoferlin function—and get those kids to hear."

Several companies have now jumped into gene therapy efforts targeting otoferlin, and Dr. Lustig is running one of the clinical trials at Columbia. The trial uses a genetically modified adeno-associated virus, a popular gene therapy vector that has the advantage of reliably integrating its genome—or an engineered target gene—into human DNA. Because the otoferlin gene is too big to fit inside the virus, though, the therapy's developers have split it into two separate viral vectors that are delivered simultaneously.

Early results from the first patients in the trial, at a site in the UK, just came out this year. "Now we have data out to 24 weeks, and one previously deaf child has auditory thresholds in the normal range. It's really remarkable," says Dr. Lustig. Besides changing individual patients' lives, the results are also revitalizing the entire field. "Now that we've got a big win, it's going to drive a lot of funding into this space to help, and we hope to address more common forms of deafness."

THE BLOOD LINE

While gene therapy often focuses on rare diseases because of their genetic tractability, at least one highly prevalent condition is also a promising target: sickle cell disease. Affecting an estimated 100,000 people in the United States alone, and many more worldwide, sickle cell disease stems from hemoglobin gene mutations that are especially common in people of West African descent. In individuals with two mutated copies of the gene, the condition can be debilitating and life-shortening.

Until recently, the only long-term cure for sickle cell was to eliminate the patient's own blood-regenerating stem cells with powerful chemotherapy, then transplant new blood or bone marrow-derived stem cells of a closely matched family or unrelated donor. "That definitely has the potential of curing the patient, but at the end of the day it may have also given them graft versus host disease, which can also be a chronic condition," says Markus Mapara, MD, professor of medicine and director of the bone marrow transplantation and cell therapy program at Columbia.

That problem drove Dr. Mapara to work on gene therapy for the condition, starting about 10 years ago. Dr. Mapara and his colleagues participated in clinical trials that took patients' own blood stem cells and infected them with a genetically engineered lentivirus, which delivered a gene to express high levels of an engineered fetal hemoglobin-like b-globin. They eliminated the rest of the patients' stem cells with chemotherapy before reintroducing the modified stem cells. Fetal hemoglobin interferes with the protein polymerization that leads to sickle cell crises, in which the hemoglobin polymers deform red blood cells into sickle shapes, causing them to clog in the circulatory system with painful, life-threatening consequences.

"Those trials have been enormously successful, and eventually they led to the approval of the treatment by the FDA in December of last year," says Dr. Mapara. A competing therapy, which aims at re-expressing actual fetal hemoglobin but uses a CRISPR-based gene editing system instead of a lentiviral vector, won approval at the same time. Columbia also participated in that trial, and Dr. Mapara says he considers the two treatments equivalent. "It's very difficult at this point to make a suggestion to patients; you cannot really recommend one treatment over the other."

In both cases, the biggest drawback is the chemotherapy needed to ablate the patient's resident stem cells before transplanting the modified cells back in. That procedure carries substantial risks, ranging from infertility to possible development of cancer. Dr. Mapara and his colleagues hope to address that. "Is it possible to get those genetically engineered cells in without the need for this high-dose chemotherapy? That is something which is actively being looked at by a number of groups," he says.

Meanwhile, he is encouraged not only by the success and approval of the two new treatments, but also the long-term prospects for patients. "When you include the phase one and two trials, we have eight or nine years of follow-up for a lot of the patients, and it seems to be fairly safe and stable," says Dr. Mapara.

Markus Mapara

Gene therapy often focuses on rare diseases because of their genetic tractability, but sickle cell disease is also a promising target.

CLOSE TO THE HEART

Mathew Maurer, the Arnold and Arlene Goldstein Professor of Cardiology (in Medicine), also uses gene editing to address a problem that disproportionately affects certain racial and ethnic groups: cardiac amyloidosis. The condition occurs when defective molecules of transthyretin, a protein produced in the liver that carries vitamin A and a thyroid hormone to different parts of the body, clump together in cardiac tissue and damage the heart.

Dr. Maurer cites a long institutional tradition in studying transthyretin. "The protein was discovered at Columbia, the genetic sequence was determined at Columbia, and the first pathogenic variant was described here," he says.

Mathew Maurer

Over a hundred other genetic variants have since been described, in ethnic groups that hail from Portugal, West Africa, Ireland, and several other regions. Those variants predispose the protein to breaking apart and forming amyloid fibrils, but the disease also can arise from transthyretin with a normal genetic sequence, usually late in life.

Some drugs can stabilize transthyretin to prevent it from falling apart and aggregating, while others can inhibit its production entirely. Dr. Maurer and his colleagues have been testing a more durable approach, using a CRISPR-based gene editing therapy developed by Intellia. The treatment delivers the CRISPR-Cas editing system with a guide RNA that targets the transthyretin gene to disable its expression in the patient's liver cells. "The advantage of gene editing is that it's a single infusion, and it'll knock down and permanently stop your liver's ability to make this protein," says Dr. Maurer, international co-PI on the CRISPR trial and co-chair of the trial's steering committee. The trial is the first to reach phase 3 with an approach that fixes a patient's genes in situ.

Stopping expression of an important protein sounds risky, but it turns out that transthyretin isn't essential. "When you shut off the protein's production, you have many other proteins that can carry your thyroid hormone, and those can seemingly make up for the loss. However, patients must take a daily vitamin A supplement to make up for the loss of the protein's ability to transport vitamin A," says Dr. Maurer. Patients on an earlier transthyretin-inhibiting drug have been doing well for several years. The phase 3 clinical trial of the new gene editing therapy is ongoing at many sites throughout the world, with Dr. Maurer leading the trial at Columbia.

Gene therapy could make cardiac amyloidosis treatment much more accessible. "Right now the only drug that's approved specifically for cardiac amyloidosis is Tafamidis," says Dr. Maurer. Costing nearly a quarter million dollars a year per patient, Tafamidis is the most expensive cardiovascular drug ever launched in the United States. "If you can give CRISPR gene therapy and then stop other very expensive therapies, it could turn out to be very cost-effective."

Other cardiac gene therapies will likely be harder to develop, though. "The liver's an easy target for current gene modifying- and silencing-based therapies; the heart is much more difficult," says Dr. Maurer. Genetically modified viruses are still the most promising way to target gene therapies to cardiac muscle, but pre-existing immune responses to

those viruses often eliminate them before they have a chance to deliver their payloads.

SYSTEM UPDATE IN PROGRESS

The drawbacks of viral vectors have driven researchers to focus on newer gene editing strategies, which continue to improve. "Now that tools exist to specify with very high precision the site of a genetic modification, the early gene therapy methods—version 1.0, if you will—may become obsolete over time," says Sam Sternberg, PhD, associate professor of biochemistry & molecular biophysics.

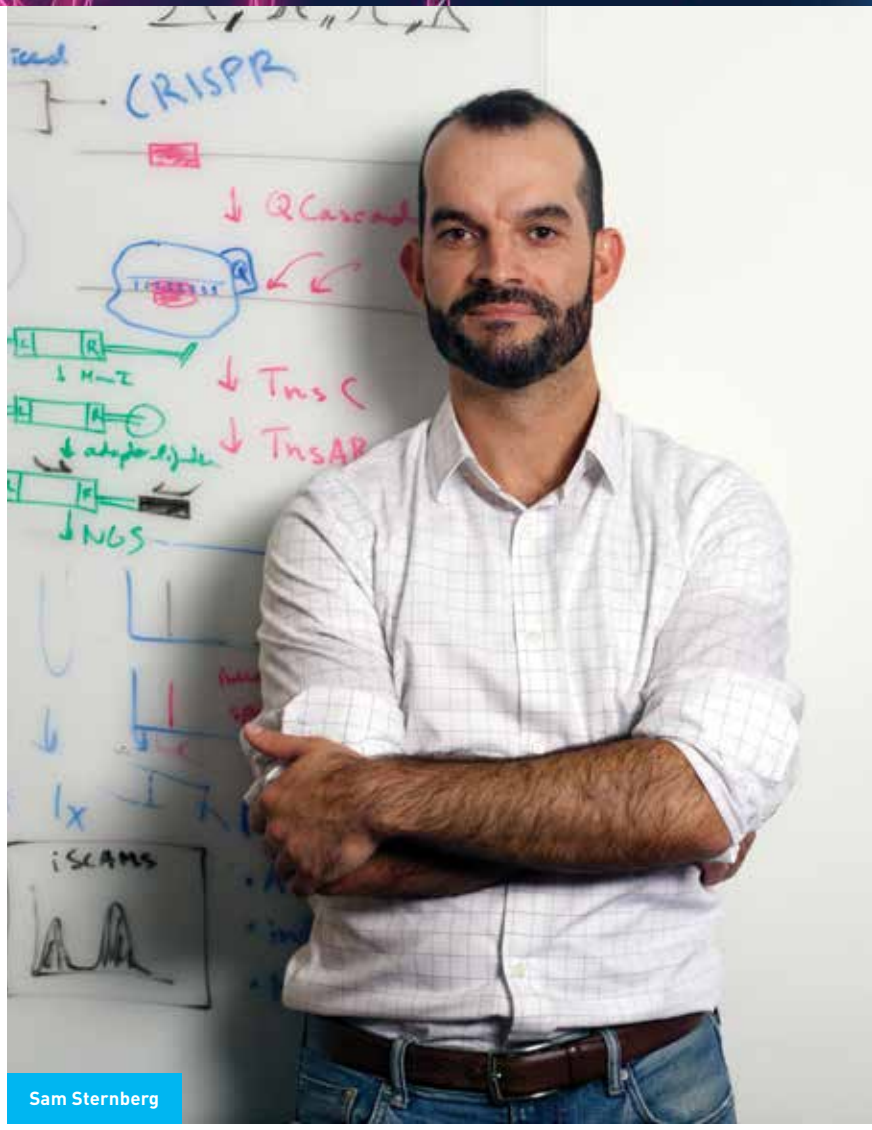
Indeed, the gene editing approach based on the bacterially derived CRISPR-Cas9 system has already undergone several rapid cycles of bug fixes and performance enhancements to make it even more powerful. Researchers have focused on reducing the system's off-target effects, which can cause unwanted mutations in regions far from the targeted gene, and finding ways to deliver the gene editing machinery to specific tissues.

Meanwhile, Dr. Sternberg and other scientists in the field have been developing entirely new techniques that overcome some of the major limitations of CRISPR-Cas9 technology. "The early phase of results has now raised the bar, to where newer technologies should be able to perform modifications with better control and accuracy, with off-target effects being profiled from the beginning," says Dr. Sternberg.

In one project, for example, Dr. Sternberg's lab uses a different bacterially derived system, which the team calls CAST (for CRISPR-associated transposase), to insert large pieces of DNA into the genomes of cultured human cells. Unlike CRISPR-Cas9, which can make only small edits to a gene, CAST can be used to add entire genes. "We colloquially refer to this approach as gene therapy 2.0 because it still delivers healthy genes into the genome, but it's now controlled by a guide RNA, which means we can specify where the genes end up," he explains.

That approach could make gene therapy much more widely useful; instead of creating a different treatment for each mutation that causes a disease, therapy developers could devise a single treatment that replaces all defective versions of a mutated gene. "If there are only a couple hundred patients in the world with a given mutation, it may not be feasible to initiate bespoke clinical trials for such a small patient cohort. But if we could land the healthy gene in a specific region of the genome that would be therapeutically beneficial for all patients with the disease, regardless of their specific mutation, it would represent a much more potent and scalable strategy," says Dr. Sternberg. He and his colleagues are currently working to do just that with the CFTR gene, which is mutated in patients with cystic fibrosis.

Other researchers around the world also have developed next-generation gene editing and guided gene insertion techniques in recent years, and Dr. Sternberg has been tracking the field's progress closely. "In the end," says Dr. Sternberg, "we care less about which particular technology is being used and more about what gets us to the finish line, which is making a therapeutic edit in an accessible and scalable way that is safe and effective for patients." ❖



Sam Sternberg

"Now that tools exist to specify with very high precision the site of a genetic modification, the early gene therapy methods may become obsolete over time."

FOR GOOD

BY SHARON TREGASKIS

A TEACHER'S LEGACY ECHOES IN THE CAREERS OF HIS STUDENTS

Performing a pediatric physical exam can be a terrifying rite of passage for a medical student. Will you inadvertently harm the infant? What about the caregiver—will they trust you? What are the tricks to putting a toddler or preschooler at ease during an exam? How do you wield a tongue blade to see a youngster's tonsils without distressing everyone in the room? And, is it OK to have fun?

Nico Miller was a student in Columbia Nursing's master's degree program in 2022 when he got the answers to some of those questions from his late dad, Steven Zane Miller'84, by way of a 1999 training video filmed for distribution to medical schools across the United States and Canada.

"You really always have two patients, which are the child and the parents," Dr. Miller explains in a voiceover. In the video, the storied medical educator and then director of pediatric emergency medicine at Columbia crouches in front of a 3-year-old, stretching his mouth wide as he invites the child to do the same. "You can use the parent to also get the child to be relaxed," Dr. Miller continues in the voiceover, as the parent holds the otoscope, opens her own mouth, then smiles encouragingly at the child. "Parents are a terrific ally, even in performing part of the physical exam."

Dr. Miller helped to craft the video at the invitation of pediatric medical educator and filmmaker Mary Ann LoFrumento, MD, assistant professor of pediatrics and a hospitalist at Morgan Stanley Children's Hospital. The 18-minute video combines a handful of Columbia medical students on the brink of their pediatric clerkships voicing their concerns and clinicians addressing common themes. At the video's conclusion, the pediatricians reflect on their own career paths. Dr. Miller—clad in a white coat, a button-down plaid shirt, and a necktie sporting colorful children's drawings—offers what amounts to a benediction. "Take the opportunity to enjoy it," he tells the students. "For me, it's a terrific pleasure. Hopefully you'll have a good time, too."

Nico Miller shared the video with his entire nursing class. "It was full of clinical pearls—things that aren't in the textbook that get passed down from provider to provider," says Mr. Miller, who is pursuing his doctorate in Columbia's doctor of nursing practice program and working as an RN in the emergency department at Morgan Stanley Children's Hospital.

Nico Miller was 7 years old when his father died in October 2004 in a plane crash in northeast Missouri. Dr. Miller was en route to a conference on compassionate care in medicine. Nico Miller's memories center on his father as family man: the budding guitarist who made up silly songs and taught his three children the lyrics to Beatles, Johnny Cash, and Bruce Springsteen classics for family sing-alongs. The man who ordered pizza and let the kids jump on his bed and coaxed them into home productions of his Shakespeare favorites and let them stay home from school on the rare occasions when their mom, Dodi Meyer, MD, also a faculty member in Columbia's Department of Pediatrics, traveled for work.

Oldest son Jesse Miller recalls Mets and Knicks games, a Bruce Springsteen concert at Shea Stadium, summer with extended family at a rented house in Cold Spring Harbor, listening to his father read aloud to them at bedtime, the pre-dawn squeaking of the floor as Dr. Miller prayed each morning. "He was the most observant of all of us," he says. "His faith informed his humanism—the ethical tenets of making sure everyone is treated with dignity, respect, seriousness comes from that idea that there's holiness, worthiness in everyone, regardless of their background or whether they're kids, or what religion they are, and what they believe."

Steve Miller grew up in a working class family as the son of two Holocaust survivors; his father was a kosher butcher. He earned

scholarships to pay for his undergraduate degree. Jesse Miller credits his own career—as an independent film producer in Brooklyn—to the opportunities his parents created. "Sometimes I feel that I'm getting to live out these artistic passions that he couldn't do professionally," he says. "I'm able to do things he wanted to do because of his choices and because of the way he and my mom raised us—hopefully he would have been proud."

Humanism Ambassador

Dr. Miller's trip in 2004 was part of his work in championing humanism in medical practice and medical education. His teaching was recognized in multiple ways. He was a six-time recipient of VP&S teaching awards, recipient of the Columbia University Presidential Teaching Award, and a national finalist in the Association of American Medical Colleges prize for outstanding teacher. In 1998 he launched the student clinician's ceremony that marks the transition for medical students from classroom teaching to clinical education in hospital and ambulatory settings, and the ceremony now bears his name.

At the time of his death, 46-year-old Dr. Miller was the Arnold P. Gold Associate Professor of Clinical Pediatrics, director of pediatric medical student education, and director of pediatric emergency medicine. "I always thought of humanism in medicine as how we treat the patient, but it's also how the staff treats each other," says Nico Miller. "The nurses, the doctors, the techs: We work together in a team. Everyone's teaching each other, working together, has a good sense of humor. I like to think that he had a hand in developing that culture."

This fall, the VP&S Department of Pediatrics will host the 15th annual Steve Miller Day, an event held each October to celebrate Dr. Miller's legacy and champion a culture of humanism in medicine. Keynote speakers over the years have included Anna Quindlen, Andrew Solomon, Abraham Verghese, Khalid Hosseini, and Daniela Lamas'08. The event includes an educational workshop, luncheon, and presentations by winners of the prior year's Steve Miller Fellowship in Medical Education, which supports original scholarly work by VP&S students devoted to enhancing medical education or humanism in medicine from the medical student perspective.

"The most important part of the day to me is the student presentations," says Dr. Meyer, now professor and vice chair of community health at Columbia's Department of Pediatrics. "I want his life to be relevant to the future, not only the past. I want to extend his legacy with students today." Dr. Meyer sits on the committee of 12 faculty—some personal friends of the family, all dedicated proponents of medical education—that reviews proposals and selects fellows.

Rita Charon, MD, PhD, the Bernard Schoenberg Professor of Social Medicine, professor of medicine, and founding chair of the

Department of Medical Humanities & Ethics, is an ex officio member of the Steve Miller Day committee. When she worked with Dr. Miller in the late 1990s, she was formulating what would become the field of narrative medicine and Dr. Miller was a newly appointed Gold Foundation emissary for humanism in medicine. "Steve Miller went from being a practitioner to a teacher to a model to an icon," says Dr. Charon. "Steve Miller Day celebrates our commitment to person-centered care—to individually seeing, hearing, taking in what a particular patient, especially a child, might need to convey. This is something that we all agree is part of what it means to be trained at Columbia."

Katherine Nash'15, now assistant professor of pediatrics at VP&S, a hospitalist at Morgan Stanley Children's Hospital, and a health services researcher in the Department of Pediatrics, was a Steve Miller Fellow in 2012. She and two classmates launched a cultural and Spanish language immersion program—now known as "Digame Bienvenidos"—to introduce new VP&S and College of Dental Medicine students to Washington Heights. Dr. Nash credits her current focus on equity in health care delivery to her experience as a Fellow. "The fellowship demonstrated an institutional commitment to equity and social justice-focused programs," says Dr. Nash, who calls it a flywheel for medical students who are curious about pursuing work related to medical education, humanism, and justice. "The program is telling young trainees that this work is possible, and that it's possible to get support for this work."

Michael Devlin'82, professor of psychiatry, first encountered Dr. Miller when they were both students at VP&S. "Steve had a big personality," Dr. Devlin recalls. "He was active in the Bard Hall players—a high-energy, everybody's friend kind of guy." In the late '90s, they reconnected as teachers. Dr. Devlin was exploring how to shift his own career in academic medicine from clinical research to education. Dr. Devlin joined Drs. Miller and Charon as volunteer preceptors for the course "Foundations of Clinical Medicine"—known as "Clinical Practice" at the time—in which small groups of preclinical students and faculty mentors meet to discuss topics including the doctor-patient relationship, medical interviewing, ethics, health promotion, narrative medicine, and evidence-based medicine/epidemiology.

From left: Jesse Miller, Maya Miller, Dodi Meyer, and Nico Miller at a Steve Miller Day

"Miller Time"

When Dr. Devlin set out to craft a program of conversation and reflection for students in their third year, he met with each of the clerkship directors for their input. "Steve, of course, was basically already doing this in the pediatrics clerkship," says Dr. Devlin, who audited the gatherings at Dr. Miller's invitation.

Those Friday afternoon sessions, known as "Miller Time," unspooled gently as Dr. Miller inquired about how things were going for the students, what movies they had seen recently, what they thought of his latest haircut, who had the best new restaurant recommendation for Dr. Miller's next date night with Dr. Meyer. The conversation put students at ease and built trust, as Dr. Miller modeled the skills his students would need to establish rapport with patients and their parents. The conversations also made Dr. Miller a stronger mentor.

"He was invested in getting to know each and every student—our essence, our career trajectory, and how he could get us where we were going," says Liat Simkhay Snyder'05, now a pediatrician at Montefiore Medical Center. As a first-generation medical student, Dr. Snyder didn't have doctors in her

Nico Miller, a nurse in the emergency department of Morgan Stanley Children's Hospital

JÖRG MEYER

own family to advise her on work-life balance, especially as she embarked simultaneously on marriage and residency. She turned to Dr. Miller. "He helped us think through details of what do you want your residency, your training, your career, your early marriage to look like? He was really good at reflecting back and helping us figure out what would work for us."

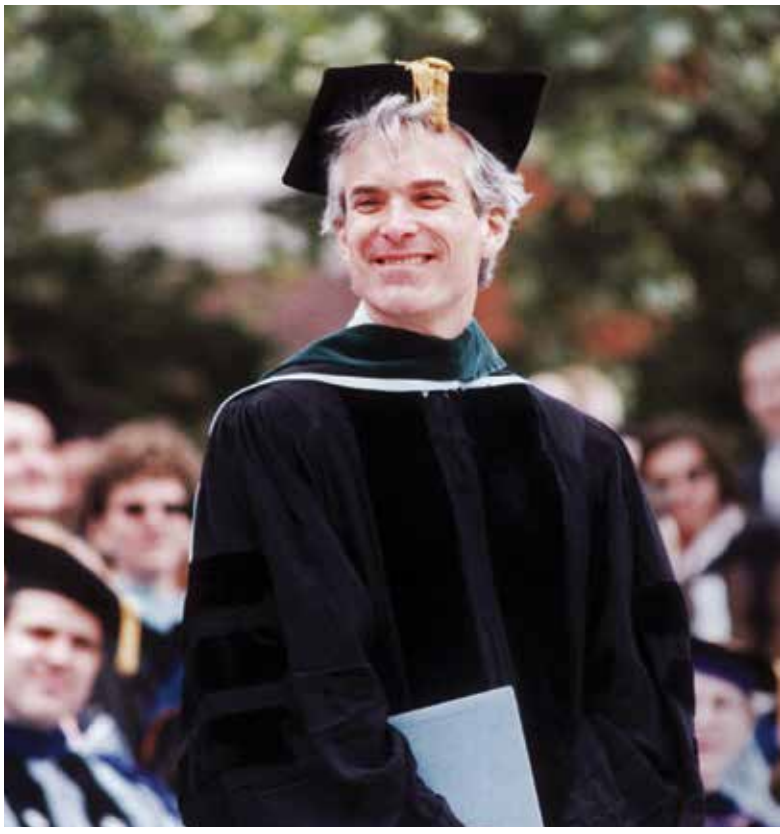
Dr. Miller also showed by example that it was possible as a pediatrician, a unit director, and a busy academic to have a rich family life. If he was having a meeting in his office on the fifth floor of the hospital and his computer alerted him to an incoming message from one of his children, he would pause to tap out a response—his two index fingers flying across the keyboard. Artwork by Nico, Maya, and Jesse adorned the door, while family photographs and more artwork covered the wall above his desk.

During "Miller Time" sessions, students could count on their preceptor ultimately steering the conversation to clinical challenges and inviting them to grapple with conflict and its resolution, whether their own internal insecurities or challenging encounters with patients or colleagues. Dr. Devlin has kept pages on which he scrawled principles gleaned from those conversations: Develop respectful disengagement technique. Anticipate communication concerns. Stay in the room, keep company. Establish trust. Recognize self-interest. The one that echoes most resoundingly in his own practice, says Dr. Devlin, is the imperative to strive for real partnership with patients. "It's kind of a radical concept in medicine," he says, "to really meet people where they are, on their terms and not ours."

"Both as a teacher and as a physician, taking down the barrier between people was his big message. He was super insightful and brilliant to realize that empathy is a teachable skill."

On Sept. 14, 2001, Dr. Devlin and Dr. Miller crossed paths as each made his way to small group sessions with students, their first after the 9/11 terror attacks. "We were going into separate rooms," Dr. Devlin recalls. "Neither of us had the slightest idea what we were going to do." Dr. Devlin opted to ask his students whether they wanted to focus on the previously scheduled standardized patient encounter or broaden the conversation to their reflections on the week's events. "It was a Steve kind of thing to do, to open it up to the group."

The students—just three weeks into medical school—debated whether to double down on academics, sensing that their medical training might be even more relevant in this new world order, or devote class time to the tectonic shift in geopolitical relations suddenly underway. One student invited the group to discuss what happened on 9/11. Another, a young woman from the Middle East, described her anxiety and fear at the American nationalism that had sprung up in recent days, and another mourned a loved one among the casualties. "It was so poignant," says Dr. Devlin. "They were medical students and wanted to help but were only three weeks into medical school. Yet just being people, being open, being willing to be there for other people and for one another, they were helping. I'm not sure that would have happened had I not bumped into Steve as I was heading into class."



Steve Miller at a Columbia University commencement

Teachable Skills

In 1999, the same year the training video was made, the journal Academic Medicine published "The Habit of Humanism: A Framework for Making Humanistic Care a Reflexive Clinical Skill," an essay co-authored by Dr. Miller. The paper distilled three principles central to Dr. Miller's practice: identify multiple perspectives, reflect on possible conflicts, and choose altruism.

The 1999 training video can be viewed at **https://vimeo.com/343825314.**

Already honored by the Ambulatory Pediatrics Association as a National Pediatric Faculty Development Scholar in recognition of his extensive curriculum development, training workshops, and faculty development efforts, Dr. Miller

PAST WINNERS OF THE STEVE MILLER FELLOWSHIP

2024

Harrison Fillmore and Hannah Weinstein: "Sustainable Futures through Environmental Justice: Incorporating a Climate Health Curriculum into MCY and D&I"

Joshua Dawson and Michelle Batlle: "Pick Up Sports and Health: A service-learning model to promote health literacy and health careers among school-aged children in upper Manhattan"

Paul Lewis: "Adolescents Caring for Community by Promoting Literacy on Insurance, Stroke, Health Education, Emergencies, and Dementia (ACComPLISHED): A Community Health Worker (CHW) Program"

2023

Alan Mograby and Anthony Sulvetta: "Effects of a Supplemental Oral Health Mini-Course on Columbia VP&S Students: A Pilot Study"

Omid Cohensedgh and Anne-Sophie van Wingerden: "OBGYN Care for Trans, Gender-Diverse, and Intersex Individuals"

2022

Jeremiah Douchee: "Just Care in the Justice System"

2021

Caroline Cherston: "Developing a Pilot VP&S Curriculum on Trauma-Informed Care"

Todd Jones: "Post Intensive-Care Syndrome"

2020

Zach Pitkowsky: "Using a Child Life Approach with Pediatric Patients and Families"

Teddy Goetz: "Professional Identify Formation"

Amanda Wang: "Understanding Food Insecurity in Northern Manhattan: A Mixed-Methods Approach"

2019

Rebekah Boyd and Angela Chang: "Interdisciplinary Refugee Partnership in Health"

Rachel MacLean: "The Companion Project"

Catherine Kernie: "Development of a Service-Learning Partnership between VP&S and Gigi's Playhouse"

2018

Vibhu Krishna: "Humanizing the Body: Life Drawing in Preclinical Education"

Taylor Jacob: "Service-Learning in the VP&S Student Run Clinics: A Pilot"

Sarah Godfrey and Gregory Karelas: "The Public Health Commute"

2017

Stanislaw Gabryszewski: "Enhancing Nutrition Education in Medical School through Humanistic Approaches"

Dua Hassan: "Fighting for Equality in Healthcare: Addressing Health Disparities and Implicit Bias through Medical Education"

Katrina Kostro: "Meditation and Relaxation Skills Workshop for Medical Students, Patients, and Caregivers: A Shared Practice for Mindfulness, Empathy, and Mutual Healing"

Dylan Marshall: "Emotional Intelligence: Fostering Relationships Essential to Making the Practice of Medicine Sustainably Meaningful, thus Preventing Medical Student Burnout"

2016

Amulya Iyer: "Exploring the Relationship between Hospitalized Patients and their Medical Students: A Qualitative Study"

Subha Perni and Lauren Pollack: "Moral Distress in Caring for Older Adults during Early Clinical Training"

Patrick van Nieuwenhuizen: "Democratizing Medical Education: An Open Access Platform for Preclinical Sciences"

2015

Jemma Benson and Christopher Clayton: "Digame Bienvenidos: Washington Heights Pre-Orientation Program"

Erica Cao: "The Benefits of Music and Service-Learning: An Intervention Program for Medical Students and At-Risk Youth"

2014

Erin Elbel: "Development & Piloting of an Educational Module for Medical Students in Hospital-Based Interdisciplinary Communication and Quality Improvement"

Jessica Calihan: "Developing a Humanistic Cross-School Training for Examining Asylum Seekers"

2013

Zeena Audi: "Lang Scholar Community Ambassador Internship"

Hannah Roberts: "Medical Students' Perceptions of Dementia Patients (before and after attending a non-clinical arts-centered session)"

2012

Jonathan D. Hansen: "The 21st Century Lecture Hall"

Lily Mundy, Katherine Nash, and Michael Steinhaus: "Washington Heights Immersion Program"

2011

Cecilia Fix: "Similarities and Differences between the Health Care System in New York and the Dominican Republic"

Haley Masterson: "Assessing the Effect of the VP&S Psychiatric Rotation on Student Perceptions of the Mentally Ill"

2010

Jon Hatoun and Yuna Larrabee: "Ethics: Truth-Telling & the Major Clinical Year (MCY) in Medical School"

Eliza Miller: "Narrative Medicine Curriculum"

sought more ways to share his principles with students. “Steve was so excited about finding another way to teach medical students,” says Dr. LoFrumento of the conversations that led to the training video on pediatric physical exams. “He was very astute in figuring out that it was the students’ voices that we needed to use.”

“Both as a teacher and as a physician, taking down the barrier between people was his big message,” says Dr. Snyder, the 2005 graduate. “He was super insightful and brilliant to realize that empathy is a teachable skill.”

Roy Gulick’86, now chief of infectious diseases at Weill Cornell, sees the legacy of Dr. Miller’s love of theater—including many shared productions by what is now the Broadway Haven Players—in Dr. Miller’s techniques for teaching empathy. Dr. Miller appeared in “Company,” “Pippin,” and “Two Gentlemen of Verona.” One year he directed “Fiddler on the Roof,” casting Dr. Gulick as Perchik, and the next year the two costarred in “Cabaret.” Another year, Dr. Gulick cast Dr. Miller in “Once Upon a Mattress.” “When you play a role or you’re directing and working through scenes,” says Dr. Gulick, “you have to get into someone’s skin, learn how they think and respond to situations.”

Forensic psychiatrist Martin Epson’07 was a first-generation medical student fresh out of Harvard Divinity School, struggling with undiagnosed, untreated depression and still reeling from his mother’s terminal illness and death when he was assigned to Dr. Miller’s clinical practice group in 2002. At the end of his first year, administrators gave Dr. Epson a choice: Repeat his first year or leave Columbia. The repeat year was just as rocky and when administrators again suggested that Dr. Epson abandon his medical studies, he appealed to Dr. Miller, who drafted a letter of support. “To this day, I don’t know what he wrote,” says Dr. Epson, who also later earned a law degree. Dr. Epson describes the letter as a pebble thrown into the pond of his career. “By the time I got to third year, I knew I wanted to be a psychiatrist. Steve wasn’t a psychiatrist, but because of his deep grounding in humanism, he was teaching us some really deep psycho-spiritual, therapeutic concepts. Attunement affects how our minds, our brains work. There’s a lot of science that supports it, but he was approaching it from humanism.”

“I spoke to him. I said, ‘We’ll carry on, we’ll miss you, and we’ll try to live out your legacy.’”

The month after Dr. Miller’s death, students organized a memorial gathering to honor Dr. Miller’s life and legacy. The soundtrack featured a playlist of Dr. Miller’s favorite Broadway tunes, including “For Good,” the duet sung by the main characters in “Wicked” as they reflect on the effect their friendship has had on each other. Dr. Snyder spoke. So, too, did Dr. Epson. “Now I’m a father, a married man,” says Dr. Epson. “In that moment, I had this incredible sense of Dr. Miller’s work not yet finished. I felt it was up to us to give him permission to leave those fledgling projects and roles in our hands. I spoke to him. I said, ‘We’ll carry on, we’ll miss you, and we’ll try to live out your legacy.’”

Twenty years after her husband’s death, Dr. Meyer reflects on his legacy. “When someone is a public persona like he was, the legacy belongs to multiple people at the same time. The legacy of him in our family and as a husband belongs to us, and his legacy as a teacher and educator belongs to his students and his department. In this case, his legacy lives in the lives of the people he taught. It’s important to me that Steve Miller Day be owned by people other than me or our children—specifically by people who never met him. This way the day and his legacy at Columbia, and in the medical profession at large, stands on its own and can lead into the future.” ❖

Steve Miller Day 2024

This year’s Steve Miller Day is Oct. 23, 2024, from 8 a.m. to 1 p.m. in Alumni Auditorium, 650 W. 168th St. The keynote will be delivered by Benjamin Schwartz’08. A Zoom option is available. Details and registration: **https://events.columbia.edu/go/SteveMillerDay**

MELITAS / ISTOCK / GETTY IMAGES PLUS

What Does it Mean to be Human?

Medical student attempts to find the answer through poetry | By Christina Hernandez Sherwood

When Jude Tochukwu Okonkwo completed his major clinical year at VP&S—after the sad hours with ovarian cancer patients, the heart-racing moments before emergency surgeries, the long nights in the psych ward—he processed the experience in the best way he knew how: by writing poetry.

One resulting poem—"Escape!"—which Mr. Okonkwo wrote to honor "all those who yearn for an escape from illness, inequality, and/or fear," won first place in the 2024 William Carlos Williams Poetry Competition, a national contest for medical student poets established in 1982 at Northeast Ohio Medical University. In 27 lines packed with sometimes brutal imagery and passing references to medicine, Mr. Okonkwo explores themes of race and identity.

"My poem was a tribute to that universal experience of everyone trying to do better," Mr. Okonkwo says. "Do better for themselves, do better for their families, and do better for their communities."

A poet since writing his first couplets for an eighth-grade assignment, Mr. Okonkwo didn't take a formal poetry class until his second semester at VP&S, when he enrolled in a seminar taught by Owen Lewis, MD, clinical professor of psychiatry in the Department of Medical Humanities & Ethics, author of three poetry collections, and winner of the International Hippocrates Prize in Poetry and Medicine. During the six-week intensive, part of the narrative medicine program, students learned the fundamentals of poetry and produced several pieces to share with the class.

Dr. Lewis, who peppers his speech with literary allusions, says the poetry course and others in the narrative medicine program use storytelling to help future doctors reflect on patients' conditions, not just treat them. "Once upon a time, the main tool doctors used to diagnose their patients was eliciting their story," he says. "They'd get an idea not only of the patient's current circumstance, but his or her entire life. They might know the extended family, the cast of characters. The fabric of a patient's life would come to be well known."

When Dr. Lewis was a medical student, it wasn't obvious to him how literature and medicine could inform each other. While he knew of historical physician-writers, such as Anton Chekhov and William Carlos Williams, Dr. Lewis says he lacked contemporary role models. That's why he now offers ongoing mentorship to medical students, like Mr. Okonkwo, who want to continue pursuing poetry. "The poet physicians I know are better physicians because of their poetry and better poets because they're physicians," says Dr. Lewis.

Escape!

i
what's the optimal frustration
for a black man
only so much oxygen
in the room
panic feels like a titration of haldol
like punching at sound-proof glass.
suicide is aggression
turned inside out
outside in
pointed safely at a black man's body

Excerpted from Jude Tochukwu Okonkwo's winning poem in the 2024 William Carlos Williams Poetry Competition

After Mr. Okonkwo received an honorable mention for his poem, "Fragments of a Shattered Buffalo Eclipse," in the 2023 Williams competition, Dr. Lewis encouraged him to enter again this year with a new work. "Recognition is very important to a young poet," Dr. Lewis says. "It's important to know you're on the right track and that your work is appreciated."

This time, Mr. Okonkwo's submission was a standout, says Cait Young, a graduate fellow at the Wick Poetry Center at Kent State University and one of the competition judges: "The depth to which Okonkwo employs power and vulnerability culminates in this rich, raw poem where themes of frustration, isolation, and identity become palpable. By giving voice to the internal struggle and societal pressures Black men face, Okonkwo compels us to confront these issues and work toward creating a world where escape isn't the only solution, but where healing and thriving are real possibilities."

Mr. Okonkwo grew up in Louisiana, the oldest of his Nigerian immigrant parents' five children. After Hurricane Katrina, the family moved north, settling in Dix Hills, New York, when Mr. Okonkwo was 7. With a nephrologist father and obstetrician-gynecologist mother, Mr. Okonkwo was exposed to medicine from an early age and accompanied his parents on medical missions. During a holiday in Nigeria, on the way to Christmas Mass, Mr. Okonkwo recalled seeing a man bent at the spine from kyphosis and asking his mother why he never noticed the condition back on Long Island. "We started having conversations about the lack of accessibility to health care that exists in certain settings," says Mr. Okonkwo.

Following in his parents' footsteps, Mr. Okonkwo became an active volunteer, offering aquatics instruction to children with disabilities, helping out at a homeless shelter, and performing at nursing homes with a musical group. "It became very obvious to me that my desire to help people in all these different settings would be empowered by a medical career," he says.

Owen Lewis, left, and Jude Tochukwu Okonkwo

JÖRG MEYER

Drawing inspiration from physician-poets, such as Dr. Lewis and Rafael Campo, MD, of Harvard Medical School, Mr. Okonkwo continues to write poetry as he considers a specialty in orthopedic surgery. His poems have been published in the Journal of the American Medical Association's Poetry and Medicine section and the VP&S literary journal Reflexions, among other outlets. He is working on a poetry collection, tentatively titled "Further Erosion."

While continuing with medical school, studying for licensing exams, or playing basketball in the neighborhood, Mr. Okonkwo says his poetry writing process relies heavily on his iPhone's Notes app. "I'll jot down whatever fragment comes to mind or whatever interesting snippet springs out of nowhere," he says. Later, when inspiration strikes, he compiles these fragments into a single document, beginning the puzzle-like exercise of fitting the pieces together to form a narrative. "It's not the most regimented process, but it's worked well for me, at least for these past few years."

Medical school has paired well with his poetry, he says, because he cultivates skills that are useful in both careers. "Being a great physician is more than an understanding of the science or the technical aspects of doing surgery or administering medication. There's an importance placed on your ability to accompany patients through their journey with illness. Attentiveness, communication, and bearing witness are traits that are important for a poet as well."

Physicians and poets, Mr. Okonkwo says, are seeking the answer to the same question: What does it mean to be human? "As a physician, you're trying to understand what it means to be human through biochemistry, pharmacology, anatomy. As a poet, you're trying to understand it through philosophy, history, aesthetics. You're wrestling with the same question, but different avenues." ❖

Where History and Medicine Intersect

By Bonita Eaton Enochs



























In her final issue before retiring, the editor revisits VP&S legends and legendary moments

Sitting in an airport waiting area for a flight to take me to New York for a job interview in early 1991, I pulled out a Columbia University information brochure. I had picked up the brochure while visiting the Morningside campus on an earlier visit to New York City. Also during that campus visit, I spotted a job opening that seemed to be a perfect fit for me.

I can still vividly recall reading the parts of the brochure that described the medical school and its beginnings. Having grown up in a state that was only 124 years old, I could not fathom that a medical school—and its university—could be older than the nation itself. The more I read, the more I fell in love with the idea of working at a place so steeped in history.

DEBORAH RUDOLPH

Libby Wilcox

I got the job, and 33 years later I am still editing this magazine and still in awe of the history of this school. But now I also have an appreciation for the many new and ongoing contributions of the faculty and alumni. Some aspects of my job have changed over the 33 years, but producing this magazine has been a constant. This is the 96th issue of the magazine that I've produced, counting the annual reports published under the *Columbia Medicine* nameplate.

If you have been a regular reader for even part of the past 33 years, you may have noticed that the magazine frequently revisits the school's rich history. As I begin retirement, I am taking this opportunity in my last issue to remind readers—particularly younger readers—of the rich legacy of our faculty and our graduates. Much of the history of medicine has been written here over the school's 257 years, and through storytelling we keep that history alive.

I've done my best to tell the story of VP&S past and present. In my first issue (Fall 1991) I worked with medical student **Brent Wise'93** to tell the story of a documentary he and other students produced about health care and the homeless. Also in that issue, I worked with **William Close'51** to publish a story about his 16 years in Africa. In my second issue (Spring 1992), I celebrated the 225-year anniversary of VP&S with a "Postcards from the Past" feature and a photo essay of pictures taken by **Elizabeth "Libby" Wilcox**, a sampling of the 150,000 photos she took to document the medical center over 35 years. She and her husband, **Herbert "Bud" Wilcox**, a 1934 graduate and longtime faculty member in the Department of Medicine, donated her photos and negatives to the medical center's Archives & Special Collections, and several of the photos have been used in issues over the years.

After those first two issues, the magazine revisited history many times. Anniversaries—the Neurological Institute centennial, the medical center's 75th anniversary, the medical school's 250th, and, more recently, the anniversary of the identification of the gene that causes Huntington's disease and the fertility center anniversary (Fall 2023), to name a few—provided a lens to celebrate the past and review current work that reinforces and enriches those legacies.

The 75th anniversary of what started as Columbia-Presbyterian Medical Center (or, as the New York Times originally called it, "Columbia Presbyterian Medical Centre") gave the magazine an opportunity to showcase the history of the medical center's four schools, the hospital, and the New York State Psychiatric Institute (a state institution led by Columbia's psychiatry chair). That issue also included stories

JÖRG MEYER

ELIZABETH WILCOX

Nick Christy in 1965, the year he became chief of medicine at Roosevelt Hospital

about medical center architecture, spotlighted noted alumni, and highlighted 75 memorable moments, individuals, and contributions that have changed health care (Fall 2003). The medical school's 250th anniversary in 2017 gave us the opportunity to feature more historical content, and trivia quizzes in two issues that year helped to pack a lot of history into a few pages.

The magazine's storytelling has been helped over the years by alumni and faculty members who have written for the magazine or allowed us to print excerpts from their books: **Roger MacKinnon'50, Andrew Frantz'55, Robert Lefkowitz'66, Mindy Aisen'80, Alan Lipkin'80, Barron Lerner'86, Stevan Weine'87, David Biro'90, Arthur Bank, Francine Cournos, Dickson Despommier, Michael Gershon,** and **David Rothman.**

The biggest contributor to historical content, by far, was **Nick Christy'51,** who wrote 34 "Faculty Remembered" articles from 1994 through 2005. These articles about the giants of the medical school faculty were popular and generated many letters to the editor (the coin of the realm for an editor). Dr. Christy and I bonded over a shared love of editorial style, punctuation, and VP&S history. Dr. Christy's "Faculty Remembered" research notes, correspondence, and drafts were donated to Archives & Special Collections.

Alumni and Faculty I Wish I Had Met
(a select few)

Virginia Apgar, both a graduate and a longtime faculty member, would top my list. Colleagues of Dr. Apgar submitted memories of her for a cover story (Fall 1994) about a stamp issued in her honor. The memories shared were so vivid that I can almost picture her driving fast down the West Side and then turning that need for speed into flying lessons. I don't know whether she was ever able to fly under the George Washington Bridge like she wanted but I can picture that too. Dr. Apgar's legacy has many facets: the Apgar Score, a method used since the 1950s to assess newborn health; her role as a national spokesperson for the March of Dimes; Ladies Home Journal Woman of the Year in Science; her musical talents

Top: The editor and longtime coworker Carla Ransom review one of eight binders that hold magazine issues published since 1981.

Above: The editor's first issue, the Fall 1991 issue

The Apgar stamp's first day cover, 1994

(and the story about her appropriation of a piece of wood from a medical center phone booth to make an instrument); her decision to enter anesthesiology after being discouraged from training in surgery; and her stamp collecting hobby. A faculty member for 21 years, she is remembered through the name of the medical school's teaching academy, the Virginia Apgar Academy of Medical Educators. Others who appeared on U.S. postage stamps: **Edward Trudeau**, an 1871 graduate, and **Charles Drew'40** MedScD.

Robert Loeb: He was one of the many undisputed luminaries of the faculty in the 1940s and 1950s, one of 14 instructional department chairs who were considered the acknowledged leaders in their fields at the time. Dr. Loeb was considered to be one of the most revered and influential internists in the United States and an authority on Addison's disease. He was the single most popular topic among letter writers over my 33 years as editor. After we published an essay about Dr. Loeb by house staff alum **Clifton Meador** (Fall 2007), we received several letters, mostly positive. A few years later, we published an essay about "The Silver Fox" written by **Lawrence Norton'58** (Winter/Spring 2010), and the letters were divided between appreciation for Dr. Loeb's teaching style and criticism of how he treated students and house staff.

ELIZABETH WILCOX

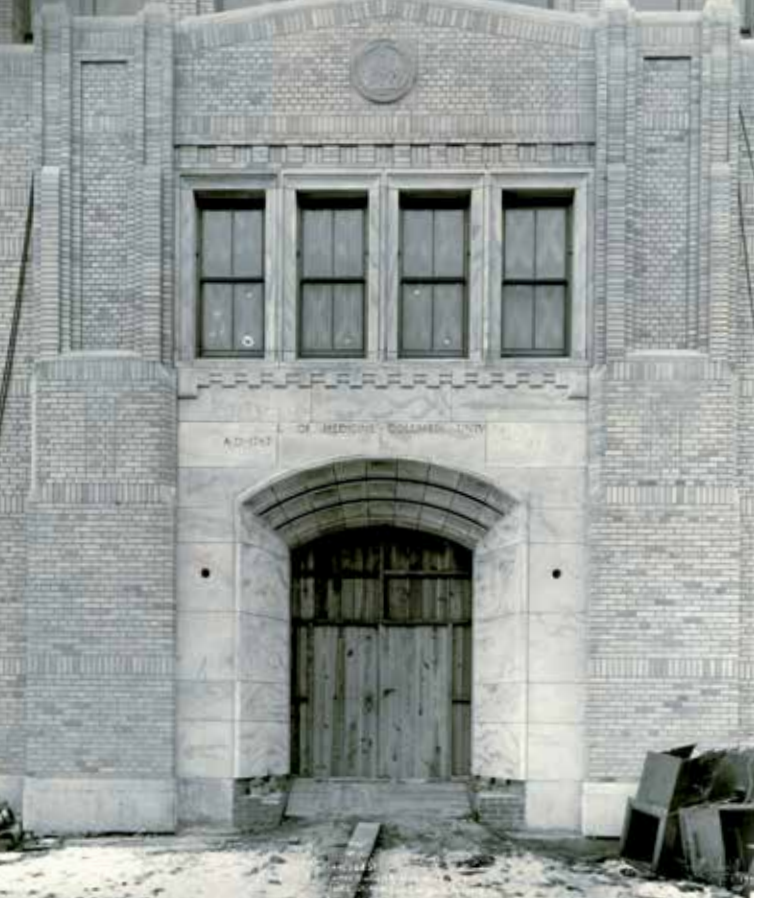
Robert Loeb

Landrum Shettles: He tried to make history by helping a couple conceive the first "test tube" baby in 1973 but was stopped by his department leadership. He would be impressed with how far IVF has come and the current success of Columbia's fertility center. We finally told the story of his attempt in a recent issue (Fall 2023) but it was a short version of the stories I have heard over the years.

Charles Drew: After receiving his MD from McGill University in Montreal, Dr. Drew found most U.S. medical centers would not accept a Black resident. He joined the faculty at Howard University and became chief surgical resident at Freedmen's Hospital. Dr. Drew trained at Howard for three years before getting a fellowship to Columbia. His training resulted in his doctor of medical science thesis on blood banking. Dr. Drew in 1940 was the first African American to be awarded a doctor of medical science degree by Columbia.

Samuel Lambert, Dean from 1904-1919: Samuel Bard's 1769 commencement speech called for a partnership between Columbia's medical school and a hospital. Dr. Lambert more than a century later tried to make that happen, seeing the need for adequate clinical instruction essential to the education of medical students. He set about to create a formal affiliation with a general hospital. The obvious choice was Roosevelt Hospital, which was across the street from P&S in midtown. Edward Harkness, a member of the Roosevelt board, supported the plan and offered to underwrite the costs of an affiliation. A story recounted in several histories blames the rejection of the plan on a personal disagreement between Dr. Lambert's father and Dr. James W. McLane, president of the Roosevelt board. In most accounts of the story, the older Dr. Lambert and Dr. McLane were neighbors. When a branch from a tree in Dr. McLane's yard threatened to break windows on Dr. Lambert's property, Dr. McLane's gardener suggested to Dr. Lambert that the branch be removed. Dr. Lambert concurred and Dr. McLane's gardener—without notifying Dr. McLane—removed the branch, leading to a broken relation-

Charles Drew, left, and a mobile blood collecting unit



The entrance to the P&S building under construction, Jan. 3, 1927

Balbina Johnson

ship between the two doctors that extended to Dr. Lambert's son. The Roosevelt board was approached in 1908 and 1910 but turned down the affiliation proposal both times. Beyond the personal acrimony between Dr. Lambert and Dr. McLane, the rejection was blamed on the group's resistance to opening hospital wards to medical students, a resistance common among hospitals of that era. Presbyterian Hospital accepted the affiliation offer Roosevelt's board had turned down (and Edward Harkness, who resigned from the Roosevelt board, joined the Presbyterian board). Dr. Lambert is credited with creating the 1911 affiliation agreement between P&S and Presbyterian. The medical center broke ground in 1925 and opened in 1928 in its current location. Mr. Harkness donated the land on which the medical center was built and provided funds for construction.

Balbina Johnson: Ms. Johnson was a bacteriologist and director of the surgical bacteriological laboratory in 1943 when a culture from the wound of an injured girl was brought for examination. The girl, 7-year-old Margaret Tracy, arrived at the emergency room for treatment of a leg injury she suffered when she was hit by a car. The injury was infected with Bacillus subtilis. Ms. Johnson discovered that the Staphylococcus aureus seen in the initial microscopic examination had disappeared overnight. She worked with surgeon **Frank L. Meleney,** a 1916 graduate, and determined that the Staph aureus had been killed by a microbe. Discovery of the microbe led to the development of a powerful new antibiotic that was named bacitracin by combining parts of the words Bacillus and Tracy, the child's surname. It remains a widely used topical antibacterial ointment on its own or in combination with other antibacterial agents.

Dorothy Andersen: Columbia's strength in cystic fibrosis can be traced back to Dr. Andersen. At a time when only some 5% of practicing physicians in the United States were women, she held both an MD degree (from Johns Hopkins) and a Doctor of Medical Science degree (from Columbia). After she was rejected for a surgical residency elsewhere because she was a woman, Dr. Andersen accepted a position as a pathologist at Babies Hospital (now Morgan Stanley Children's Hospital), where she encountered her first case of cystic fibrosis in 1935. While performing an autopsy on a 3-year-old girl diagnosed with celiac disease, Dr. Andersen found the patient's lungs in grisly condition and the pancreas riddled with fibrous cysts. Dr. Andersen took to the Columbia University library and in a broad study of research found records of similar oddities in celiac cases. She began her own research and in 1938 published an article for the American Journal of Diseases of Children, "Cystic Fibrosis of the

Dorothy Andersen at a presentation of a check from the Cystic Fibrosis Association to fund CF research

Allen O. Whipple, front and center, with the surgical staff in the 1920s

Pancreas and Its Relation to Celiac Disease: A Clinical and Pathological Study," in which she described nearly 50 cases of patients diagnosed with celiac disease who showed the hallmark signs of what is now known as cystic fibrosis. Dr. Andersen's publication attracted concerned parents who traveled from across the country to seek her counsel, and her work shifted from pathologist to pediatrician as families poured in to see her. In the years that followed, she became the leading expert in cystic fibrosis (read more in the Fall/Winter 2021 issue).

Allen O. Whipple: Dr. Whipple, a 1908 graduate, chaired the Department of Surgery from 1921 to 1946. His development of the Whipple procedure to treat pancreatic cancer is said to have begun by accident. In 1935 Dr. Whipple was giving an amphitheater demonstration to distinguished American and foreign visiting surgeons on a patient thought to have gastric carcinoma; halfway through, Dr. Whipple discovered that the lesion was actually carcinoma of the pancreas, so he had to devise and execute on the spot the elaborate operation still in use: pancreatoduodenectomy, involving stomach, jejunum, duodenum, pancreas, and common bile duct (now known as the Whipple procedure). This feat required imagination, manual dexterity of a high order, and great courage (Fall 1998 "Faculty Remembered" by Nicholas P. Christy'51).

William Stewart Halsted: Dr. Halsted, an 1877 graduate, was a fascinating figure in history for many reasons. He introduced several surgical techniques, notably radical mastectomy, which was cutting edge in 1882 when he perfected the technique. The procedure was the standard for 75 years. He also is credited with introducing the use of sterile gloves in the 1890s (because of the dermatitis his surgical nurse Caroline Hampton—later his wife—developed from the carbolic acid solution used to clean the instruments). His

MY GALLERY OF DEANS

During my 33 years as editor, I worked in the administrations of four deans and three interim deans.

1. Herb Pardes, left, was dean when I arrived at Columbia in 1991; he served as dean from 1989-1999. Donald Tapley, right, had been dean from 1973 to 1984 and was the magazine's contact in the dean's office until his death in 1999. This photo was taken in 1996.

2. Tom Morris was interim dean for clinical and educational affairs from 2000-2001 and chair of the magazine's editorial board for 21 years. This photo was taken in 2019.

3. I do not have a photo of me with Gerald Fischbach (dean, 2001-2006) but I was present when we took this photo for the magazine's Fall 2001 cover story on his appointment as dean. The magazine did cover stories on each new dean appointed after my tenure began.

4. This photo with Lee Goldman (dean, 2006-2021) was taken in 2016, the year I was inducted into Columbia's 25-Year Club.

5. What a treat to have been at Columbia when a woman was appointed dean. This photo with Katrina Armstrong, who became dean in 2022, was taken this year.

Two future Nobel Prize winners in medical school in the 1960s: Harold Varmus, far left, and Robert Lefkowitz, second from left

mother was his patient in 1882 when he performed the first known operation to remove gallstones. His addiction to cocaine—legal at the time—and morphine was his undoing in New York but he rebuilt his career in Baltimore, where he became one of the founding physicians of Johns Hopkins. The lead character in the 2014-2015 Cinemax miniseries, "The Knick," is based on his surgical prowess amid his addictions.

Benjamin Spock'29: Known by at least one generation as "Dr. Spock," he became a household name for his parenting books that combined sound pediatrics, Freud, and common sense. I worked with the author of a Spock biography to organize a 1998 panel discussion about Dr. Spock's influence and hoped to meet Dr. Spock but he died a few months before the event. I am a member of the Baby Boom generation but as the fourth child in a working class family in Nebraska I doubt my parents made much use of Dr. Spock's advice.

Robert Coles'54: After completing training in child psychiatry in Boston, Dr. Coles moved to New Orleans. There he heard about Ruby Bridges, 6, as she was escorted into school during desegregation of public schools. Dr. Coles volunteered to support Ruby and her family and wrote articles about them for the Atlantic Monthly. The articles led to a series of books about how families deal with profound change. The series won Dr. Coles a Pulitzer Prize in 1973. He also wrote a popular children's book, "The Story of Ruby Bridges." Dr. Coles also received a MacArthur Award, the Presidential Medal of Freedom, and the National Humanities Medal.

Alumni, Faculty, and Others I Worked With

I had the opportunity to work with many VP&S faculty and alumni. **Ken Forde'59** served on the editorial board, **Tom Morris'58** was chair of the editorial board for 21 years, and I worked closely with **Anke Nolting** in her alumni leadership role. **Donald Tapley**, dean from 1973 to 1984, was listed as editor of the magazine when I started in this job in 1991, and I soon realized that meant I did the work and he was available as an adviser. After a few years, he moved to the formal role of chair of the editorial board, and my role was officially listed on the masthead as Editor.

Libby Wilcox, the unofficial medical center photographer for more than three decades, became a good friend. She is the only woman I've ever known to carry and use a flask.

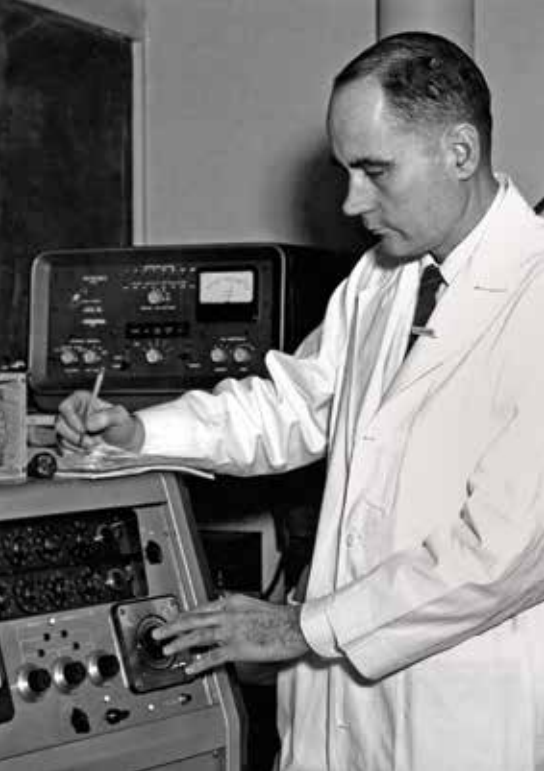
The magazine published cover stories on three Nobel Prize winners over the course of my 33-year tenure: **Eric Kandel** (he earned the Nobel Prize in 2000 and the Winter 2001 issue had the cover story), **Richard Axel** (2004 Nobel Prize, cover story Winter 2005), and **Joachim Frank** (2017 Nobel Prize, cover story Spring/Summer 2018).

VP&S alumnus **Robert Lefkowitz'66** received a Nobel Prize in chemistry in 2012 for elucidating G-protein-coupled receptors. I worked with Dr. Lefkowitz on the story announcing his win (Spring/Summer 2013) and years later worked with him to publish an excerpt from his 2021 book, "A Funny Thing Happened on the Way to Stockholm: The Adrenaline-Fueled Adventures of an Accidental Scientist" (Spring/Summer 2021). Dr. Lefkowitz is one of two members of the Class of 1966 to receive Nobel Prizes. **Harold Varmus** received a Nobel Prize in Physiology or Medicine in 1989 for studies of the genetic basis of cancer.

A monument outside the American Museum of Natural History in Manhattan lists the 22 Nobel Prize winners affiliated with Columbia's medical school.

This is not an exhaustive list of amazing Columbia medical school graduates or faculty members. Others include **Oswald Theodore Avery**, a 1904 graduate whose work on the biology of pneumococcus led to discoveries that generated advances in prevention, diagnosis, and treatment. He has been described as the most deserving scientist to not receive a Nobel Prize for creating the "historical platform of modern DNA research." The Oswald T. Avery Collection is part of Nobel Prize winner **Joshua Lederberg**'s papers at the National Library of Medicine. Dr. Lederberg, who began medical school at Columbia but eventually earned a PhD at Yale, assembled the collection because of the strong connection between his work and that of Dr. Avery. Dr. Avery figures prominently in "The Great Influenza," John M. Barry's book about the flu pandemic that began in 1918.

So many more alumni and faculty could be listed: the many women who made a difference in medicine or the 22 faculty members or graduates who received Nobel Prizes, individuals who have served as NIH

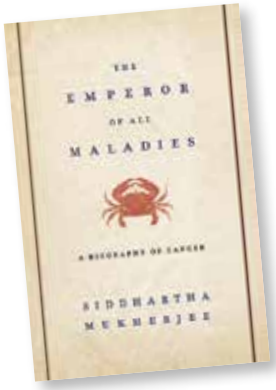


Bone marrow transplantation pioneer and Nobel laureate E. Donnall Thomas in the Bassett research lab circa 1960

director or NIH center directors, Olympic medalists, elected officials, Pulitzer Prize winners, Emmy award winners, and recipients of MacArthur "genius grants." Or, **Allen Steere'69** and **Stephen Malawista'58**, who are credited with defining and naming Lyme disease; **George Huntington**, an 1871 graduate who identified Huntington disease, and Columbia faculty member **Nancy Wexler**, who more than a century later led the international team that identified the gene that causes Huntington's; **E. Donnall Thomas**, a faculty member based at Bassett Hospital in the late 1950s and early 1960s who pioneered bone marrow transplantation and earned a Nobel Prize; astronaut **Story Musgrave'64** and other NASA researchers; doctors to U.S. presidents; **Vincent Freda** and **John Gorman**, who developed RhoGAM to prevent Rh disease (Spring/Summer 2024); and **Laszlo Bito**, whose research led to the development of a blockbuster drug, Xalatan, to treat glaucoma. VP&S graduates have served as presidents of universities, deans of medical and public health schools, and chairs of medical school departments. Many of our alumni and faculty have written best sellers and Pulitzer Prize-winning books.

VP&S in the Outside World

The renown of Columbia's medical school has prevailed for years and extends beyond the New York City area. Look no farther than books and TV shows for references to health care advances attributed to Columbia faculty and alumni. As a fan of TV medical dramas, I often hear references to advances already mentioned (Apgar Score and the Whipple procedure) and those I have not mentioned (tPa to treat certain kinds of stroke and Crohn's disease, named for **Burrill Crohn**, a 1907 graduate). I especially enjoyed watching the Fox drama, "The Resident," because **Daniela Lamas'08** was a writer for the series; we wrote about her in the Fall/Winter 2019 issue.



One book that reinforces Columbia's contributions to medical history is "The Emperor of All Maladies: A Biography of Cancer," a Pulitzer Prize winner for faculty member **Siddhartha Mukherjee**. The book acknowledges the work in cancer by alumni (**Larry Norton'72, Karen Antman'74, William Peters'78, Baruch Blumberg'51, William Halsted'1877, Harold Varmus'66, George Canellos'60, Michael Wigler'78 PhD**) and faculty (**Jacob Furth, E. Donnall Thomas, James Wolff, Cushman Haagensen, Thomas Hunt Morgan, Hermann Muller, Sol Spiegelman, Barron Lerner, Joshua Lederberg, Ed Gelmann, Corinne Abate-Shen, Michael Shen, and Riccardo Dalla-Favera**).

Looking Ahead

Columbia Medicine magazine's storytelling is intended to keep readers informed of great things happening at the medical school and remind readers of the rich legacy of the men and women who helped write medical history. If the work going on now at VP&S is any indication, medicine will continue to be shaped by work done by our faculty and alumni. Current work includes AI preparations and gene therapy research described in other parts of this issue, the clinical advances we feature in each issue, research to improve and expand immunotherapy, development of lighting technology to clear indoor air of pathogenic viruses and prevent transmission of infectious diseases, gun violence research, patient safety initiatives, amazing heart surgery procedures, an array of noninvasive treatments, exciting ways to prevent Alzheimer's, and so much more.

Most of the magazine issues are available in the Archives section of **vagelos.columbia.edu/magazine**. Online issues date back to Spring 1994.

The magazine has changed in my 33 years at the helm: The inside of the magazine has gone from black plus one color to full color. Issues have increased in frequency. The name changed to reflect a stronger connection to Columbia. We now augment the print magazine with an online edition and other digital communications (emails and enewsletters) and that has expanded our storytelling reach. I expect the magazine will continue to change to respond to the needs of future generations of readers.

Being editor of this magazine for 33 years has been a wonderful privilege, and I hope I have put to good use the opportunity to share with recipients—the magazine is mailed to individuals in every state, two U.S. territories, and more than 40 countries—stories of the greatest medical school in the greatest city, past, present, and future.

The writer thanks Tom Morris, Steve Novak, and Lauren Perlmutter for reviewing and offering input on her draft of this article.

Alumni News & notes

By Julia Hickey González, alumni writer, and Bonita Eaton Enochs, editor

1948

Gerard Turino, the John H. Keating Senior Professor Emeritus of Medicine at VP&S, celebrated his 100th birthday on May 16. New York City Mayor Eric Adams issued a proclamation announcing May 16, 2024, as "Gerard M. Turino, M.D. Day" to recognize him as "truly a catalyst for scientific discovery" who "has repeatedly gone above and beyond in his service to mankind," according to a press release by the COPD Foundation, which Dr. Turino co-founded. He is also the founder and director of the James P. Mara Center for Lung Disease at Mount Sinai West, which has supported research that led to the development of a biomarker for COPD and a potential therapy, currently awaiting further clinical trials. He helped found the American Thoracic Society Foundation's Board of Directors and was an early member of the Board of Directors of the Alpha-1 Foundation. Dr. Turino's research interests include lung matrix remodeling, the mechanisms of lung matrix injury, and the evaluation of specific protease inhibitors in treating certain lung diseases.

1954

Roy Vagelos was one of nine individuals who received honorary degrees at Dartmouth's commencement ceremony in June. He received an honorary degree of doctor of humane letters. Said his citation: "ROY VAGELOS — as a business executive, physician, scientist, and philanthropist, you have made an indelible impact that will last for generations to come."

1970

At this year's alumni reunion, Henry Kronenberg received a gold medal for outstanding achievements in medical research. Dr. Kronenberg is chief of the endocrine unit at the Massachusetts General Hospital and professor of medicine at Harvard Medical School. He leads a research group that studies the actions of parathyroid hormone and parathyroid hormone-related protein, particularly emphasizing bone development, bone biology, calcium homeostasis, and the roles of osteoblast-lineage cells in hematopoiesis.

Roman Nowygrod, professor of surgery at VP&S, received the Charles W. Bohmfalk Award for distinguished teaching in the clinical years. The award was presented at this year's VP&S graduation ceremony.

RUDY DIAZ

Roman Nowygrod'70, left, with CU Trustee Jonathan Rosand'94 and Dean Katrina Armstrong

1972

Correction: In the Spring/Summer 2024 issue of *Columbia Medicine*, Ken Tomecki was listed as a 1973 graduate. His classmate, Jules Dienstag, pointed out the error, adding "We stick together as a class and would not want any other class to take credit for our stars."

1973

See Alumni in Print to read about a book of essays by Edward Tabor. Dr. Tabor worked in medical research and administration at the NIH, FDA, and Fresenius Kabi and is now retired.

Edward Tabor'73

1974

Karen Antman has announced plans to step down as dean of Boston University's Chobanian & Avedisian School of Medicine and provost of the BU medical campus after nearly 20 years. She will return to the BU faculty as a professor of medicine when her successor is named.

At this year's alumni reunion, William Theodore received a gold medal for outstanding achievements in clinical medicine. He also gave a talk, "The Imaging Revolution in Epilepsy," at the in-person symposium. Dr. Theodore is board-certified in internal medicine, neurology, and epilepsy. He is a professor of neurology at the F. Edward Hebert School of Medicine at the Uniformed Services University of the Health Sciences and a senior investigator in the National Institute of Neurological Disorders and Stroke's Division of Intramural Research. He investigates new therapeutic approaches to uncontrolled epilepsy and uses neuroimaging techniques to study cerebral metabolism, neuropharmacology, and functional cognitive anatomy. He is vice president and president-elect of the American Epilepsy Society.

1975

At this year's alumni reunion, Steven Gambert received a gold medal for outstanding achievements in clinical medicine. After training in internal medicine and endocrinology, he devoted almost five decades to the field of geriatric medicine and advocated for improved training for medical students and residents in the care of older adults. In Westchester, New York, he started a Center on Aging with research, education, and clinical activities. He later developed a 400-bed "teaching nursing home" to educate students, residents, fellows, and practicing physicians. Dr. Gambert is a tenured professor of medicine and surgery at the University of Maryland School

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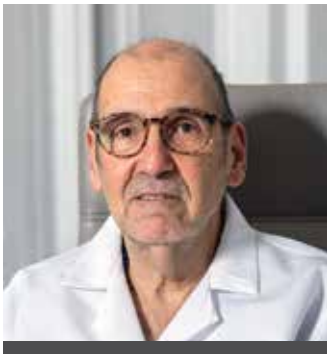
of Medicine, professor of medicine at the Johns Hopkins University School of Medicine, and director of geriatric medicine at the R Adams Cowley Shock Trauma Center.

1977

At this year's alumni reunion, Marc Grodman received a gold medal for meritorious service to VP&S and its Alumni Association. Dr. Grodman supports student clubs and mentoring programs at VP&S and particularly the student-run clinics. He is also a class chair and an active member of the VP&S Board of Advisors, which supports the dean's priorities and enhances student life.

1978

Alan Benvenisty received the Lifetime Achievement Award from the Mount Sinai Faculty Council in recognition of his contributions to the field of vascular surgery. Dr. Benvenisty is site chief of surgery at Mount Sinai Morningside and senior transplant surgery attending at the Mount Sinai Health



Alan Benvenisty'78

System. He specializes in vascular surgery and endovascular surgery and is a registered vascular technologist.

Robert Kertzner, associate clinical professor of psychiatry in the VP&S Department of Psychia-

Robert Kertzner'78

try's gender, sexuality, and health area, received the 2024 John E. Fryer Award from the American Psychiatric Association in recognition of his improving the mental health of sexual minorities. The award is named for John Fryer, a psychiatrist who played a crucial role in prompting APA to review the scientific data and to remove homosexuality from its diagnostic list of mental disorders in 1973.

1981

At this year's alumni reunion, Karin Muraszko received the Virginia Kneeland Frantz'22 Award for Distinguished Women in Medicine. She was the first woman admitted to the neurosurgery residency at the New York Neurological Institute, followed by training there in pediatric neurosurgery. She worked for two years at the National Institute of Neurological Disorders and Stroke. One of the world's leading surgeons for tethered spinal cords and pediatric brain tumors, she became the first woman in the United States to chair an academic neurosurgery department; she held that role at the University of Michigan from 2005 to 2022. She was elected in 2020 to the National Academy of Medicine.

1986

At this year's alumni reunion, Christopher Cannon received a gold medal award for outstanding achievements in medical research. Dr. Cannon is professor of medicine at Harvard and senior physician in the cardiovascular division at Brigham and Women's Hospital. He worked for 25 years as an investigator in the TIMI Study Group and is now a member of Brigham's cardiovascular innovation group, serving as director of education. He has been principal investigator of more than 20 multicenter clinical trials, including TACTICS-TIMI 18, PROVE IT, IMPROVE IT, RE-DUAL PCI, and, currently EVOLVE-MI. He works on clinical trials, registries, and quality improvement projects in the fields of acute coronary syndromes, atrial fibrillation, diabetes, lipids, and prevention.

1991

Shari Hall, who retired from clinical practice as an anesthesiologist in 2017, is senior lecturer of medical education at the Griffith University School of Medicine and Dentistry on the Sunshine Coast, Queensland, Australia. She also has become the co-owner, publisher, and managing editor of Matters Magazine, a business publication that is distributed in print throughout Queensland and also available online. In the years since retirement from clinical practice, she has released four self-produced music albums and performed in the Australia and New Zealand regional tour of "Menopause the Musical." She is married, has three daughters, and loves living in Australia's Sunshine Coast.

1999

At this year's alumni reunion, Heidi Hopkins gave a talk, "What causes febrile illness in Africa and Asia?" at the in-person symposium. She is associate professor of malaria and diagnostics at the London School of Hygiene and Tropical Medicine.

Marc Melcher has been appointed chief of the Division of Abdominal Transplantation at Stanford Medicine, where he is professor of surgery and director of the abdominal transplant fellowship. He also has a PhD in molecular biology from UC Berkeley.

Marc Melcher'99

He completed his residency at Stanford University and a fellowship at the University of California, San Francisco. He is married to classmate Tami Daugherty, a transplant hepatologist at Stanford.

2000

Jennifer Ashton has launched a company, Ajenda, that focuses on menopause and weight management/nutrition. She offers a weekly newsletter that provides information about hormones and health, menopause and metabolism, weight management, and other physical, mental, and emotional concerns. The newsletter also provides symptom solutions and expert advice on issues affecting women starting 10 years before menopause happens. She also will answer questions from readers. "Leveraging my skills as a communicator of medical information and my double board-certification in OB/GYN

and obesity medicine with a master's in nutrition, I felt a responsibility to help the millions of women struggling with these issues," Dr. Ashton says. The Ajenda website, www.joinajenda.com, offers free subscriptions to her newsletter. "As with so many topics that affect women, there is a powerful judgmental component surrounding both menopause and weight. And I've become increasingly frustrated when people who are not credentialed experts use their platforms and opinions to essentially shame women into feeling 'less than,' or like victims, or out of the loop. I trust that women are smart enough to make the right decisions for their own health, as long as they are accurately informed and properly advised. And that's why I created AJENDA."

2003

Michelle Au gave the commencement speech at Wellesley College in May. She is a 1999 Wellesley graduate. Dr. Au, a member of the Georgia House of Representatives, physician,

JOEL HASKELL / WELLESLEY COLLEGE

Michelle Au'03

author, and strong gun safety advocate, urged Wellesley's Class of 2024 to try to find common ground with people from differing viewpoints. She shared lessons she has learned from working across the aisle as a Democrat in the Georgia House of Representatives, where she is a member of the minority political party. Dr. Au wrote the first substantive gun safety legislation to be heard in a Georgia House subcommittee in more than six years, framing the issue of gun violence as a health epidemic in what she called the Pediatric Health Safe Storage Act. Dr. Au said she gave the bill that name "because I wanted to make clear that secure gun storage was not a political issue, but a public health issue, and an issue of protecting kids. Even when we disagree," she told the graduates, "there are common goals we can identify. And when we allow ourselves to eschew absolutism, and interrogate our assumptions, we can move forward, and do good work together."

At this year's alumni reunion, Brian Benson gave a talk, "Artificial Intelligence in Otolaryngology," at the in-person symposium. Dr. Benson is the founding chair of the Department of Otolaryngology/Head & Neck Surgery at Hackensack Meridian Health School of Medicine.

2007

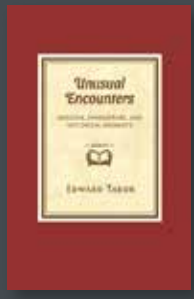
Jess E. Jones is head of health and healthcare industry for the World Economic Forum. In addition to receiving his MD degree, he received an MBA from Columbia Business School. Before joining the World Economic Forum, Dr. Jones was a business strategy consultant at McKinsey & Company and director of health care investments for an investment fund. He also sat on multiple boards of biotech companies.

2014

Anne West Honart and Jennifer Perri met with two Columbia medical students during their Duke Medical Center rotating sub-internships in cardiac surgery in July 2023. Dr. Perri was a Duke aortic surgery fellow at the time and helped ensure Megan Chung'24 had a good experience on the aortic service, while Alice Vinogradsky'24 was on the pediatric heart surgery service. Dr. Honart is an assistant professor of OB/GYN at Duke. The four convened for dinner on "Burger Night" at Dr. Perri's invitation. "I was the only one who knew all four," writes Dr. Perri, "but everyone quickly bonded over their shared medical school experience."

Anne West Honart'14, Megan Chung'24, Alice Vinogradsky'24, and Jennifer Perri'14

alumni *in print*



Unusual Encounters: Medicine, Shakespeare, and Historical Moments
Edward Tabor'73
North Station Press, 2024

Topics in Dr. Tabor's essays include scientific discoveries made during dreams; the sudden disappearance of the entire staff of the emergency room (at what was then Presbyterian Hospital) one spring evening; the outer limits to the human capacity to learn medical vocabulary; the use of DNA to transmit covert messages; medical discoveries made by students and residents; the origins of NIH medical research grants; the historic origins of a Hispanic amulet to prevent disease; an error of medical analysis called "The Bellman's Fallacy"; and the U.S. project to send an entire hospital to England to help the British in World War II long before Pearl Harbor. The book also contains essays on novel aspects of Shakespeare's plays and various historical issues.

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ALUMNI PROFILE

Angela Diaz'81

One of them: A doctor provides care without conditions to teens battling the social determinants of health

By Julia Hickey González

During her pediatric residency rotation at Mount Sinai Children's Emergency Department, Angela Diaz'81 noticed a pattern: When trainees approached the wall of patient assignments, they reached up to box five or below to box seven rather than take box six—the adolescent exam room.

"Nobody wanted to deal with the teenagers, so I would go and take number six."

What she found was refreshing: When she gained a teen's trust, each teen was like an "open book." Whether it was her level temperament, her proactive questioning, her nonjudgmental responses, or any number of disarming qualities, Dr. Diaz connected with her adolescent patients. They met her with authenticity and a willingness to receive support.

"Everybody was saying how great I was with teenagers," she recalls.

She was so glad that the hospital offered her a fellowship in adolescent medicine. In 1989, she was asked to direct the Mount Sinai Adolescent Health Center, where she refined and expanded a barrier-free and developmentally tailored model that is now recognized as a gold standard for serving vulnerable adolescent and young adult populations.

Patients arriving at the center find services for physical, behavioral, and mental health; sexual and reproductive health services; legal and social support; dentistry; optometry; nutrition; health education; and leadership programs under one roof and always provided free of charge. More than 800 youth have received gender transition services. Medication, testing, and subway or bus fare are paid by the program. The center places no restrictions on residency or nationality for use of its fully confidential resources.

"They land at Kennedy, and somehow without papers they make their way to the center," says Dr. Diaz. "We serve them the same way."

All of this is possible because Dr. Diaz took on the role of fundraiser-in-chief to create unhindered access to care. She expanded the ages for accepted patients to between 10 and 26 years old. At any moment, the center has about 38,000 eligible patients (about twice the seating of Madison Square Garden) on its roster, with about 12,000 of them actively visiting the center each year. Ninety-eight percent of the center's patients come from low-income families.

In 2021, Dr. Diaz was named dean of global health, social justice, and human rights at the Icahn School of Medicine at Mount Sinai. In addition to her medical degree from Columbia, she has a PhD in epidemiology from Columbia's Mailman School of Public Health and an MPH degree from Harvard. She is a member of the National Academy of Medicine and an NIH-funded researcher into the real-world effectiveness of the vaccine for human papillomavirus, sexual and reproductive health, and interpersonal violence in adolescent and young adult populations.

Dr. Diaz's goal, she says, is to keep kids healthy so they can thrive in school and attend college, which she sees as the great "equalizer." She wants teens who are not college-bound to be able to work in jobs that allow them to support themselves and their family with dignity.

The center maintains a policy of not judging patients who fall off track. They get every chance they need to succeed. And teenagers, because they are in a continual state of self-invention and exploration, are surprisingly pliant when they feel supported and safe.

"I work with them as if I were a sculptor, like an artist—shaping them. So I just feel like it's very creative when I connect with them. I was never bored or burned out."

One of Them

"I believe that every kid that comes here is extremely brilliant. They may not have done well. They may be failing in school. But that is more the impact of external society, and sometimes including those closest to them," says Dr. Diaz. "They are born like anybody else: full of potential, full of intelligence, full of possibilities, full of promise. And I think, you know, for some kids, their core gets destroyed by people in the environment who abuse them or do not understand them."

Dr. Diaz in the records room of the Mount Sinai Adolescent Health Center in 1984

The center's success stories are dramatic and numerous. Ninety percent of the patients graduate from high school, and more than 50% go to college. Many have gone on to excel in all levels of academic and professional life—gaining Ivy League PhDs, publishing memoirs, or becoming health and public health professionals and advocates who use their hard-earned experience with the social determinants of health to improve the health and well-being for the next generations.

Dr. Diaz is one of them.

Born in the coastal province of Barahona, Dominican Republic, Dr. Diaz describes her childhood context as "extreme poverty," with no access to health care. While her mother worked far away in the capital laundering sheets at a hotel, Angela was supervised alongside several other children by her busy grandmother, extended relatives, and neighbors.

The earliest of many childhood traumas was medical: At the age of 2, she was severely burned by boiling water from a toppled pot, which had been heating upon coals on a dirt floor. At 4, while walking with her grandmother to the grocery store for one day's measure of cooking oil, she tripped on uneven concrete and fell forward while carrying a glass jar.

The severe abdominal laceration and resulting infection nearly killed her. But at the hospital she heard the word "doctor" for the first time. During her long hospital stay, she remembers her family and nurses bringing her pear nectar (which she loved) and apple juice (which she didn't).

"Those people who were taking care of us—they were good to us. They were kind. And so, I thought, 'I want to be that.' I wanted to be like them, to be nice to kids."

She decided to become a doctor, but her interactions with the health care system would still prove sparse. She was first vaccinated, for polio, during a campaign on the street in Santo Domingo and would not receive another immunization until two decades later, after the birth of her second child.

When Angela was 8, her mother immigrated to the United States and left Angela with the family of her father, a military officer. During the country's coup, she recalls fleeing for their lives with the cover of U.S. Marines to shelter in another province.

When she immigrated to the Bronx at age 12 to reunite with her mother, Angela remembers going to the emergency room at Fordham Hospital for migraines. (The hospital closed in 1976, and the site is now a parking garage.) With no health insurance or access to primary care, Angela's younger sister went untreated for a case of strep throat. It developed into rheumatic fever and lifelong heart disease.

Angela also suffered the psychological stress of knowing she was undocumented. She overstayed her visa to remain with her mother, who spent most of her hours cutting garments at a factory in Long Island City. Angela was sent back to the Dominican Republic to wait a year and re-enter legally at age 15.

Despite all this, Angela performed well academically, especially in math and physics, and her teachers took note. A guidance counselor sent her to a Saturday morning program at Mount Sinai that introduced low-income youth to health professions, and Angela took English and math classes. In the summer, she worked feeding patients and changing bedpans. The program also introduced her to the Mount Sinai Adolescent Health Center and helped her make connections outside her family. The nurse who directed the pro-

Dr. Diaz with teens participating in one of the Mount Sinai Adolescent Health Center's education programs

gram would make time to take Angela to Central Park. "People say, 'Feeding pigeons, what's the big deal?' But that was a big deal, somehow, to me. I was doing something different," says Dr. Diaz.

It all halted in her senior year, when Angela tilted into a depression, stopped leaving the apartment, and dropped out of high school. "I think I just crashed. I don't think it was something specific at that moment, but it was an accumulation of all the stuff that had happened in the past. I had like 10 different traumas."

After months, she got out of bed and went to the Mount Sinai Adolescent Health Center—this time for mental health treatment. She improved enough to graduate. She enrolled in City College, mostly attending night classes. She spent her days in the packing department of the same factory where her mother worked and Saturdays working at a beauty salon, where she washed hair and gave manicures.

Although her path to becoming a doctor was still arduous, at least she was back on it.

A Second Chance

In 1977, Angela walked into the admissions office at Columbia's medical school to find out exactly what stood between her and the study of medicine. Realizing she had already completed the requisite math and science classes with top marks, Angela asked for a pen, completed the application in the reception area, and returned both pen and paper to the secretary.

"She looked at me as if I had three heads" and accepted the application without payment.

Angela attended her interview in borrowed clothes and remembers making a strong connection with her interviewer, who was a psychiatrist.

After a rocky start, she went on to excel in medical school and graduated with honors in some classes. But she was far from the typical student at that time. For one, she arrived as a newlywed and conceived every year in medical school. During her first year, she lost a baby after a series of medical complications and a major surgery. (The second and third pregnancies ended in miscarriages.) Her postop recovery kept her out of class for months.

Angela's classmates—realizing that she was on the verge of being kicked out—came together to keep her in medical school. "White, Black, Latino, everyone. I cannot tell you how many people were helpful." She was amazed every day when classmates would show up at her apartment on 174th Street to teach her the material she had missed. Students also challenged the administration and expressed their faith in Angela—demanding that she stay.

It worked.

"If Columbia had either not accepted me to begin with or if they put me out during that first year, imagine the hundreds of thousands of kids that would not have been helped by this work."

At graduation, Dr. Diaz was nine months pregnant with her oldest child. Thirty-one years later (including more than 25 years working as a single mother), Dr. Diaz saw Daniela, her third and youngest child, graduate in 2012 from VP&S, where she is now an assistant professor of medicine and medical director of the Access to Care NYP Sphere and the Central Clinical Triage Center, two access centers at NewYork-Presbyterian Hospital. She also cares for underserved patients at Farrell Community Health Center on 158th Street.

Having recently become a parent, Daniela Diaz expresses awe at her mother's accomplishments: "I have been raising my son for only a few months and it is already one of the hardest things I have done. I am stressed and tired and I have a flexible job schedule and we have a two-parent home. It is beyond my understanding how my mother managed to raise three small children as a single parent with a demanding career."

The Shocking Numbers

While society generally labels teens as "difficult," in the 40 years she has spent listening to them, Angela Diaz knows they may be grappling with problems far more advanced than their age: the effects of physical, sexual, and emotional abuse, racism, homelessness, the trauma of immigration, gender dysphoria, survivorship of incest, child labor, sex trafficking, or simply being an adolescent in a world that expects them to be like adults.

Perhaps because Dr. Diaz inspires high rates of disclosure, the statistics she reports are alarming: 23% of patients she sees for routine care have reported a history of childhood sexual abuse.

Of them, 66% survived incest. Approximately 50% of her female-identifying patients report sexual violence including rape.

"People are shocked by the numbers. I have dedicated my life to bringing awareness."

Dr. Diaz's program helped advocate in 2007 for the successful passage of New York State's Safe Harbor Act, among the first state laws to recognize youth who experience commercial sexual exploitation as victims, rather than perpetrators, of crime.

Because abuse victims are more likely to land in the emergency room and clinics for injuries and infections, Dr. Diaz trains health providers to better identify trafficked youth. She took part in the creation of the National Academies report, "Confronting Commercial Sexual Exploitation and Sex Trafficking of Minors in the United States," a landmark publication that raised awareness of the commercial sexual exploitation of children and led to several national initiatives. In 2019, she teamed up with a lawyer to co-author the book, "Preventing Child Trafficking: A Public Health Approach."

While Dr. Diaz has worked to shift the lens of society toward teenagers and the care they deserve—a top-down approach—she also recognizes that healing happens quietly, in the day-to-day interactions with one's doctor, family, and community. "When they're being abused, kids feel terrible about themselves. Their self-esteem is low, and they are more likely to be abused as they go through life. So I wanted to work with them to help them discover their strength and their power to help them heal," she says, "to help disrupt a pipeline into domestic violence, or abusing their own kids, or witnessing their kids being abused. I wanted to help break the cycle of intergenerational trauma."

Dr. Diaz with former President Obama in 2017

"My mom works tirelessly for the people she cares about," says Daniela Diaz. "Even as she gets older, she can still easily work from before the sun comes up to well into the night. Serving young people is truly a passion for her and she cannot understand any barriers that are put up against helping them. The term 'above and beyond' does not even begin to cut it for the way she serves her family, the adolescent health center, and adolescents at large."

A Global Vision

Dr. Diaz has decided it is time to step down as director of the Mount Sinai Adolescent Health Center to focus on her research and ambitious new duties as dean of global health, social justice, and human rights at Mount Sinai.

"I find that teenagers are the thermostat of a society," she says. "When things are not going well, you see things happen with teenagers. They become restless trying to inspire a more harmonious, just, and equitable society."

With that said, Dr. Diaz's abilities are in constant demand. Domestically, she has been a White House Fellow, a member of the Food and Drug Administration Pediatric Advisory Committee, and a member of the Board of Directors of the New York City Department of Health and Mental Hygiene, where she was also an adviser. She has held board and advisory roles at the National Academy of Medicine, the Robert Wood Johnson Foundation, and the Doris Duke Charitable Foundation.

Internationally, Dr. Diaz receives calls from anywhere there are problems with teenagers. When Mongolia transitioned from communism to a democracy and mixed market economy in the early 1990s, its health and educational systems were not prepared to adequately care for adolescents in a context of sudden economic shift. She spent significant time on the ground, learning about the factors contributing to the rise of Mongolian street youth, creating extensive recommendations for a system to serve them, and designing a national policy for children and youth. She has consulted in Nigeria, Brazil, Nicaragua, the Pacific Islands, the Virgin Islands, her native Dominican Republic, and more.

"She is an innovative thinker," Daniela Diaz says of her mother, who has the rare combination of two abilities: She is able to conceive grand, visionary solutions and also able to plan and track the smallest of details to accomplish them.

Her vision is one of equity and abundance in a society where everyone has access to health care.

"While my mother is always mild-mannered and kind, I wish luck to anyone who tries to stand in the way of her vision," Daniela Diaz says.

"I'm hopeful," says Angela Diaz, "to the point that not only do I see the glass half full, I see the water coming over the border of the glass. Everything to me is possibilities."

in memoriam

Two Hospital Presidents/CEOs: William Speck and Herb Pardes

William T. Speck

William T. Speck, MD, who died March 30, 2024, was president and CEO of Presbyterian Hospital from 1992 until the merger of Presbyterian Hospital and New York Hospital, which took effect Jan. 1, 1998. He also served on the VP&S pediatrics faculty. As CEO of Presbyterian Hospital he advocated for a freestanding children's hospital, a dream realized with the opening of NYP's Morgan Stanley Children's Hospital. He lobbied for the merger with New York Hospital, which created one of the largest health care institutions in the United States. After leaving hospital leadership positions, he spent six years as director of the Marine Biological Laboratory in Woods Hole, Massachusetts, before returning to the pediatrics faculty at Columbia to participate in residency training. The William T. Speck MD Professorship of Pediatrics was created in his honor.

Herbert Pardes

Herbert Pardes, MD, who was president and CEO of NewYork-Presbyterian from Jan. 1, 2000, until 2011, died April 30, 2024. He joined Columbia as professor and chair of psychiatry in 1984, also serving as director of the New York State Psychiatric Institute. He joined Columbia after serving six years as director of the National Institute of Mental Health. He was named dean of the medical school and vice president of Columbia's four health sciences schools in 1989. He served in those roles until being named president and CEO of NYP. He later served as executive vice chair of the hospital's board. As dean of the medical school and vice president for Columbia's health sciences schools, Dr. Pardes was a successful fund-raiser: Endowment and research resources nearly tripled, and he exceeded his goal of endowing 100 chairs and pushing the endowment toward $1 billion. He initiated a $300 million capital refurbishment program, recruited leadership in almost every department, and gained for the Health Sciences Division more autonomy within Columbia University. He was a national figure in academic medicine who advocated for education, health care reimbursement reform, and biomedical research. He also was a national figure in psychiatry, serving as president of the American Psychiatric Association.

OTHER FACULTY DEATHS

Eric Collins, MD, associate clinical professor of psychiatry, died May 28, 2024. Read more in Alumni In Memoriam (Class of 1990).

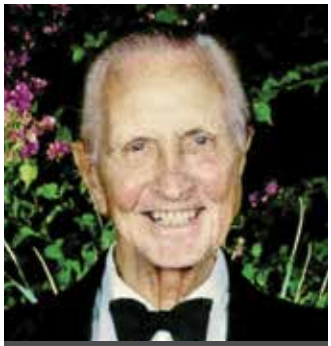
Julian D. Pamm, MBChB, former assistant professor of anesthesiology, died April 8, 2024.

Sylvia Griffiths, MD, professor emeritus of clinical pediatrics, died July 3, 2024.

ALUMNI

1946

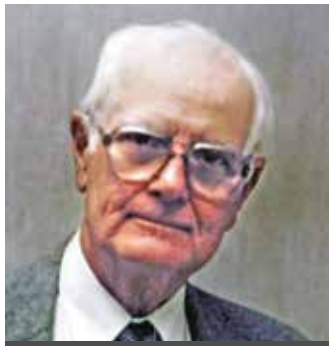
William Muir Manger, an internist and retired VP&S professor, died Feb. 28, 2024, at his home in New York. He was 103. A U.S. Navy officer from 1942 to 1949, Dr. Manger pursued further studies at the Mayo Clinic in Rochester, Minnesota, where he earned his PhD. Settling in Southampton in 1958, he became affiliated with Southampton Hospital. In addition to his medical career, Dr. Manger was involved in business and advocacy. He served as vice chairman of the Manger hotel chain until its sale in 1973. In 1977 he founded the National Hypertension Association, serving as its chairman until 1997. Dr. Manger's achievements include research on salt-induced hypertension and pheochromocytoma. He received the VP&S Alumni Association's Gold Medal Award for Excellence in Clinical Medicine in 2012. He is survived by his wife, Lynn, four children, and three grandchildren.



William Muir Manger'46

1952

David Benninghoff, a radiation oncologist, died April 23, 2024, in Lloyd Harbor, New York. He was 97. He served in the Navy during World War II before graduating from Yale University. After his medical residency at Temple University Hospital in Philadelphia, he practiced in Cleveland, Ohio, and at Kings County Hospital in Brooklyn and Huntington Hospital in Suffolk County, New York. Dr. Benninghoff published extensively on cancer treatment. In the 1980s, he co-founded North Shore Medical Group in Commack. Retiring at 92 in 2019, he enjoyed golf and was a



David Benninghoff'52

devoted New York Mets fan. He is survived by two children and three grandchildren.

1953

Arthur "Art" O. Phinney Jr., a Hartford-area cardiologist for over 30 years, died in his sleep in Farmington, Connecticut, on Dec. 9, 2023. He was 97. He grew up in Massachusetts, served in the U.S. Navy, was stationed as a radar technician in the Philippines, and was honorably discharged in 1946 before graduating from Harvard College in 1950. He completed his residency at Peter Bent Brigham Hospital in Boston and a cardiology fellowship at the Royal College of Physicians and

Arthur "Art" O. Phinney Jr.'53

Surgeons in London. Dr. Phinney, who was active at UCONN Medical Center from its start, helped design its intensive care unit. An avid swimmer into his early 90s and a skilled carpenter, he enjoyed hobbies including tennis and sailing and was a former senior warden at St. James Episcopal Church in Farmington. He was on the Board of Amref Health Africa ("The Flying Doctors"). He is survived by three children, six grandchildren, and two great-grandchildren.

Russell "Russ" E. Randall, a nephrologist, wrestling coach, and referee, died April 27, 2024, in Mechanicsville, Virginia, at age 95. He attended Princeton University, where he was a standout wrestler, and served as a major in the U.S. Air Force Medical Service, stationed at Travis Air Force Base in California and the 1605th USAF Hospital in the Azores. He was the youngest full professor of medicine at the Medical College of Virginia, directed the renal division and NIH training program in nephrology there, and discovered a disease that was named after him when he and his research fellows identified Randall-type monoclonal immunoglobulin deposition disease. He established the first ambulatory dialysis center in Richmond, Virginia. Beyond medicine, Dr. Randall was involved in wrestling, coaching champion teams, and instilling invaluable life lessons in his athletes. He was a self-taught artist with a restless spirit. Dr. Randall's body was donated to the Virginia Anatomical Society for medical study. He is survived by five children.

1958

H. Robert Crago, a proud "small town" surgeon, died March 22, 2024, in Statesboro, Georgia, at age 92. He graduated from Princeton University and began private practice in Sharon, Pennsylvania, in 1967. He served as chief of surgery at Sharon Regional Medical Center until his retirement in 2002. He enjoyed a fulfilling retirement with his family, focusing on bridge, golf, travel, and volunteer work. He is survived by his second wife, Linda, three children, and seven grandchildren.

Jerome "Jerry" Wayne Dougan died March 23, 2024. He was 92. Born in Madison, Wisconsin, he graduated from Yale University and served as a medical officer in the U.S. Air Force in France from 1960 to 1962. He later specialized in rheumatology at the University of Pittsburgh Medical Center and established one of the first private rheumatology practices in Minneapolis. He was affiliated with Abbott Northwestern Hospital for 40 years and lectured at the University of Minnesota medical school. Beyond medicine, he was a connoisseur of wine, literature, musical theater, and jazz. He was an avid supporter of cultural institutions, including the Guthrie Theater and the Minnesota Orchestra. He was an active member of St. Alban's Episcopal Church. He is survived by his wife, Debby, three sons, a sister, and six grandchildren.

Paul A. Kantrowitz, a gastroenterologist, died in Brookline, Massachusetts, on March 26, 2024, at age 90. He attended Swarthmore College and spent two years as a physician in the U.S. Army before moving to Brooklyn in the early 1960s. He founded the gastroenterology department at Mount Auburn Hospital in 1967 and practiced there and at the MIT clinic until 2015. Active in national professional organizations, he found great fulfillment in patient care, even after retirement, teaching interviewing and communication skills to Harvard medical students. Dr. Kantrowitz shared his love of food and travel with his family, exploring cities worldwide. He is survived by his wife, Judy, two children, two grandchildren, and a sister.

A. Stephen Passloff, an internist, died April 17, 2024. He was 91. Born in Manhattan, he attended Columbia University as an undergraduate before medical school. He was known for his sense of humor, kindness, and compassion. Dr. Passloff is survived by his wife, Marina, two children, and four grandchildren.

1959

Alfred "Al" Anthony Moscarella, a thoracic and cardiovascular surgeon, died Feb. 19, 2024, in Turley Hill, New Mexico. He was 89. He studied at Colgate University and served as a surgeon in the U.S. Air Force, including commanding a hospital at Otis Air Force Base in Massachusetts. After training in thoracic and cardiovascular surgery at Columbia, he founded and led Rockland Thoracic and Vascular Associates until retiring in 1988. He also completed a stint as chief of thoracic surgery at

H. Robert Crago'58

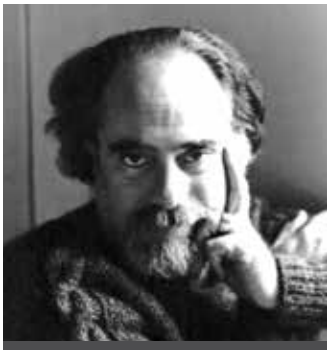
Paul A. Kantrowitz'58

Alfred "Al" Anthony Moscarella'59

Good Samaritan Hospital. Settling in Taos in the 1970s, he enjoyed skiing and became a ski instructor. In retirement, he embraced travel, tennis, and motorcycle riding. He enjoyed gardening, cooking, and connecting with friends. He is survived by his second wife, Joanne, and two children.

1961

Donald Marcuse, a psychiatrist and psychoanalyst who practiced until the age of 86, died Dec. 28, 2023, at his Manhattan home. He was 87. He attended Harvard University and completed residencies in adult and child psychiatry at Albert Einstein College of Medicine, where he later became an associate clinical professor. Serving in the U.S. Public Health Service at the NIH from 1966 to 1968, he helped to pioneer the community mental health movement. Returning to New York City, he graduated from the New York Psychoanalytic Institute and practiced privately for 54 years. He was known for his zest for life and passions for art, music, travel, and food. He is survived by his wife, Julie, five children, and 11 grandchildren.



Donald Marcuse'61

1962

H. Glenn Bell Jr., a diagnostic radiologist and resident of Carmel-by-the-Sea, California, died Jan. 25, 2024. He was 87. He attended Stanford University and served as a doctor in the U.S. Army in Augsburg, Germany, where he met his wife, Carol, who was working as a school teacher on the same base. He trained in radiology at the University of Washington before joining Kaiser Permanente in California, where he worked for nearly 30 years. Dr. Bell enjoyed dogs, global travel, Lake Tahoe, and Stanford football. He said that if he weren't a doctor, he would have been a chef. He is survived by his wife, two daughters, two grandchildren, and a sister.

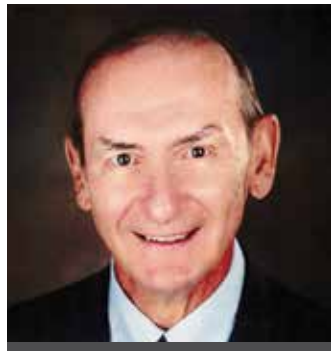
Marc E. Weksler, a prominent figure in geriatrics and immunology and former chief of the geriatrics division at Weill Cornell Medical College, died March 11, 2024, in Tenafly, New Jersey. He was 86. Born in Brooklyn, he graduated from Swarthmore College, completed his residency at Bronx Municipal Hospital, was a researcher at the NIH, and completed a fellowship in nephrology at Georgetown University Hospital. He won a U.S. Public Health Service fellowship in transplant immunology at St. Mary's Hospital in London, England. Armed with the first award made to Cornell from the new National Institute on Aging, he began studying how the immune system changes in aging, winning continuous NIH funding for more than 40 years. He was elected to the American Society for Clinical Investigation, the Association of American Physicians, and the Interurban Clinical Club and served as president of the American Federation for Aging Research. With a colleague, he set up a workplace and senior center-based treatment program for hypertension in New York City. He was an avid tennis player, a passionate collector and donor of art and books, and a dedicated patron of classical music. He learned French late in life so that he could lecture in it. He is survived by his wife, Babette Weksler'63, two children, and two grandchildren.

Marc E. Weksler'62

1963

Sandra "Sandy" Grant Burgess, a psychiatrist, died Oct. 30, 2023, at age 86. She attended Bryn Mawr College and completed her residency at Bellevue Hospital in New York City, eventually becoming unit chief of the psychiatric ward. She moved to Marin County, California, where she practiced psychiatry for more than 35 years. Dr. Burgess loved dogs and was an avid sailor, enjoying both small boats in the Northeast and larger vessels on the Bay, even sailing abroad in the South Pacific and the Mediterranean with her husband, Dr. Earl Burgess. Her other passions included cooking, gardening, skiing, and attending cultural events. Dr. Burgess is survived by her husband, daughter, three step-children, and a brother.

Dudley Alfred Ferrari, an orthopedic surgeon, died Jan. 15, 2024, in Cary, North Carolina, at age 87. During a summer job at a power company, he was nearly electrocuted in an accident. He overcame the injuries and, against the odds, returned to playing football and baseball. He served in the U.S. Air Force as chief of surgery at Laredo Air Force Base in Texas and completed his residency and fellowship at Tufts-New England Medical Center in Boston. Dr. Ferrari practiced in Manchester, Connecticut, and Worcester, Massachusetts, where he was chief of sports medicine at UMass Memorial Medical Center until his retirement in 2002. He was known for his dedication to teaching and mentorship and received the Distinguished Service Award for his contributions to athletics at Clark University. He authored "Reflections and Conclusions about the Problem Knee." Retiring to Naples, Florida, he enjoyed playing golf (recording two holes in one) and spending time with his grandchildren. He is survived by three children, including a son who followed in his footsteps as an orthopedic surgeon specializing in sports medicine, and six grandchildren.



Dudley Alfred Ferrari'63

Thomas W. Parks, an orthopedic surgeon and longtime resident of San Jose, California, died Feb. 1, 2024, at age 89. Born in New York City, he graduated from Cornell University with a degree in economics before serving in the Navy as lieutenant junior grade for three years. He completed his residency at Lenox Hill Hospital in New York before relocating to California in 1969. He established a successful private practice at

Alexian Brothers Hospital (now Regional) for 15 years before transitioning into commercial real estate and investment. An avid traveler, Dr. Parks explored various cuisines and cultures worldwide with his wife, Eileen, whom he met on a blind date. He was also passionate about sailing, a hobby he enjoyed throughout his life. Dr. Parks is survived by his wife, two daughters, and four grandchildren.

1965

Sanford (Sandy) Ratzan, an orthopedic surgeon who earned a Bronze Star for his actions in Vietnam, died Feb. 29, 2024, at age 83. He graduated from Hamilton College and served as a captain and surgeon in the U.S. Army. He is survived by his wife, Amy, two children, and six grandchildren.

1966

David Borkenhagen, a cardiologist and philosopher of cosmology, died March 6, 2024, in Wayne, New Jersey. He was 86. Born in Kenosha, Wisconsin, he graduated from Harvard College and, between 1956 and 1966, undertook interim leaves of absence from Harvard and Columbia for travel abroad, circumnavigating the Earth by air from 1963 to 1964. He completed his medical training at the University of Colorado and Peter Bent Brigham Hospital in Boston. After 1971, he was a research fellow at the NIH at the Shields Warren Cine-Angiography Laboratory of Harvard Medical School and held teaching positions at Harvard, where he made significant contributions to the study of mitral valve insufficiency. He was involved in organizations such as Physicians for Social Responsibility and the Union of Concerned Scientists. He advocated for liberal policies, such as a federal individual income tax deduction of $50,000 per capita

David Borkenhagen'66

per annum, and conducted theoretical research that challenged established theories in cosmology. His text "The New Cosmology," which he considered the magnum opus of his life's work, refuted the Big Bang theory of astronomy and astrophysics.

1967

Ronald Allison, a urologist who left a legacy of service to others, died Feb 18, 2024. He was 82. Born in New Kensington, Pennsylvania, he attended Yale University and completed medical training at various institutions, including Stanford, UC Davis, University of Vermont, and Vanderbilt. He served in the U.S. Air Force at Keesler Air Force Base in Biloxi, Mississippi, before practicing urology in Stockton for over four decades. In addition to his medical career, he pursued a legal education, graduating from Humphreys University and passing the bar in 1997. He remained active in law until his illness in 2024. Dr. Allison was deeply involved in various organizations, including Rotary, Toastmasters, and Freemasons. One of his favorite sayings was, "Health is a function of participation." He was an accomplished runner, completing numerous marathons and earning recognition for his achievements in the Western States 100. A passionate traveler, he visited nearly every continent and enjoyed performing with the Yale Alumni Chorus in various countries. He is survived by his wife, Cynthia, two sons, and five grandchildren.

Kate Killebrew, a diagnostic radiologist, died Dec. 4, 2023, as the result of a COVID-19 infection. She was 83. She entered Swarthmore College at 16 and went to Radcliffe College for a master's degree in art history before medical school. She trained in internal medicine at the University of Washington and radiology at UCSF. She served on the staff of the San Francisco VA and UCSF hospitals. In 1973, she worked as a diagnostic radiologist for the U.S. Army at Fort Carson near Colorado Springs. She also joined the faculty at the University of North Carolina at Chapel Hill and worked at a private hospital in Atlanta. After leaving Atlanta and moving to Albuquerque, she worked part time at the Northern Navajo Medical Center in Shiprock, New Mexico, for over a decade. She enjoyed genealogy (tracing her likely history back to two Irish lady pirates), British mysteries, theater, and travel. She is survived by her husband, John, two children, two grandchildren, three dogs, and two cats.

1969

Virginia LiVolsi, an NIH-funded physician-scientist with global recognition for expertise in thyroid pathology, died suddenly at her home in Bryn Mawr, Pennsylvania, March 7, 2024. She was 80. She worked for eight years at Yale University before joining the University of Pennsylvania, where she served as director of surgical pathology and later chief of anatomical pathology. Dr. LiVolsi specialized in endocrine and head and neck pathology, authoring more than 450 articles, reviews, chapters, and books in these fields. Known for her mentor-

Virginia LiVolsi'69

ship and inspired by her mother, who was an elementary school teacher in New York City, Dr. LiVolsi guided numerous young pathologists who now hold academic positions worldwide. She was a member and past president of various pathology and endocrinology organizations, serving as the USA representative to the pathology panel of the Chernobyl Tumor Bank. She was a funded NCI/NIH investigator for more than 35 years. Beyond her professional life, she was a church choir singer, needlepoint enthusiast, and dedicated cat lover.

1970

Paul F. Gustavson Jr., a family physician who served Rockingham County and the New Hampshire seacoast region for decades, died Jan. 6, 2024. Known for his devout Christian faith, he was an active member of Epping Community Church. Despite battling Parkinson's disease for more than 25 years, he remained hopeful and founded a Parkinson's support group. Dr. Gustavson was a talented musician who participated in over 50 musicals, including his favorite role as Tevye in "Fiddler on the Roof," and sang hymns at church with his rich tenor voice. He also was an avid gardener, contributing to the community garden that served a local food pantry. He is survived by his wife, Elisabeth, children, and grandchildren.

in memoriam

1971

John H. Newman, a physician-scientist who made numerous contributions to the knowledge of pulmonary vascular disease, died Feb. 20, 2024, at age 78. Dr. Newman's discoveries spanned four decades, during which he continuously received funding from the NIH. He played a significant role in discovering that mutations in the BMPR2 gene underlie most heritable pulmonary arterial hypertension and ushered in a new way of thinking about the molecular etiology of pulmonary vascular disease. He was also instrumental in finding the genes for brisket disease in cattle and for IgG4-related disease. A faculty member at Vanderbilt University School of Medicine, he directed its first-year physiology course and the pulmonary-critical care fellowship until his retirement in 2022. He served as chief of pulmonary medicine at both Vanderbilt's training affiliate, Saint Thomas Hospital, and the Nashville VA Hospital. He is survived by his wife, Rebecca, two children, and three grandchildren.

John H. Newman'71

1972

Joan Walls Barkin, a pediatrician and lifelong advocate for women's rights and STEM education, died Jan. 20, 2024, at Massachusetts General Hospital. She was 78. Her husband and medical school classmate, Neil Barkin, wrote: "From the moment a blood vessel in her brain ruptured there was no prospect of her regaining consciousness. It is ironic that this brilliant, accomplished, charming, genius of a woman should have the one organ that made her the wonderful being that she was be the cause of her demise." Joan Barkin practiced in Massachusetts and then in Potomac, Maryland, for over 35 years, earning consistent recognition as a top doctor by Washingtonian Magazine. Known for her compassionate care and comprehensive explanations, she inspired many former patients to pursue careers in medicine and science. Beyond medicine, she had a passion for gardening and was a lifelong student of history. She served on the board of Friends of Historic Great Falls Tavern. After retiring to Cape Cod in 2019, she remained active in volunteer work, which included driving seniors to health visits via the Mashpee Senior Center and supporting conservation efforts for the Mashpee National Wildlife Refuge. She is survived by her husband, two children, and four grandchildren.

Joan Walls Barkin'72

Jonathan Lynn Evans, an internal medicine, radiology, and pulmonology specialist, died Feb. 1, 2024, in Lexington, North Carolina. Born in Youngstown, Ohio, he attended Grove City College. He was known for his strong Christian faith, playful nature, and quick wit. He volunteered at Seneca Hills Bible Camp, Community Alliance Church, and Butler Hospital, supporting various causes and individuals. An avid outdoorsman, he loved dogs and enjoyed skiing and scuba diving. He was a skilled craftsman who hand carved furniture. He is survived by his wife, Joyce, children, and grandchildren.

1974

Robert Fischel, a psychiatrist and teacher, died Dec. 8, 2023. He was a husband, father, grandfather, brother, son, and uncle.

1987

Sidney Jay Adler, an obstetrician and gynecologist in Henderson, Nevada, died Feb. 24, 2024, from a rare and severe case of necrotizing fasciitis. He was 62. Born in Brooklyn, Dr. Adler attended the University of Pennsylvania and completed his residency at Johns Hopkins. His career included private practice in Boca Raton, Florida; Sterling, Colorado; and several health care organizations in Las Vegas, Nevada, including Avenir/Hera Women's Health. He was a dedicated father and favorite uncle. He will be remembered for his vibrant wit, captivating (but long) storytelling, love for NFL football, appreciation of cigars, and wealth of knowledge. He is survived by his wife, Cassandra, two children, two stepsons, mother, and siblings.

1990

Eric Collins, an associate clinical professor of psychiatry (in anesthesiology) at VP&S and former medical director of addiction services at Columbia, died May 28, 2024, in Greenwich, Connecticut. He was 62. As an undergraduate at Yale, he co-founded the a capella group Mixed Company. Dr. Collins completed his residency and fellowship training at the New York State Psychiatric Institute. Board-certified in psychiatry, addiction psychiatry, and addiction medicine, he also served during his career as physician-in-chief of Silver Hill Hospital and medical director of the New York Center for Living. He served as president of the New York Society of Addiction Medicine. In 2005, he published landmark research comparing heroin detoxification methods, including detoxification under general anesthesia. He was an avid fan of the Dallas Cowboys, New York Yankees, and New York Rangers. He is survived by his wife, Mary, and four children.

2000

Christopher B. Geary, an orthopedic surgeon who specialized in sports medicine, died unexpectedly at home in Quincy, Massachusetts, on Feb. 4, 2024. He was 54. He was affiliated with Signature Healthcare in Brockton and formerly Tufts Medical Center. Dr. Geary received his undergraduate degree from Harvard University. He was a sports enthusiast, regularly attending games for the Boston Red Sox, New England Patriots, Boston Bruins, and Boston Celtics. He played semi-professional rugby with the Mystic River Rugby Club and maintained an active lifestyle, frequently working out at Peter Welch Gym in South Boston. He is survived by his wife, Leigh, son, stepson, parents, brother, and sister.

Christopher B. Geary'00

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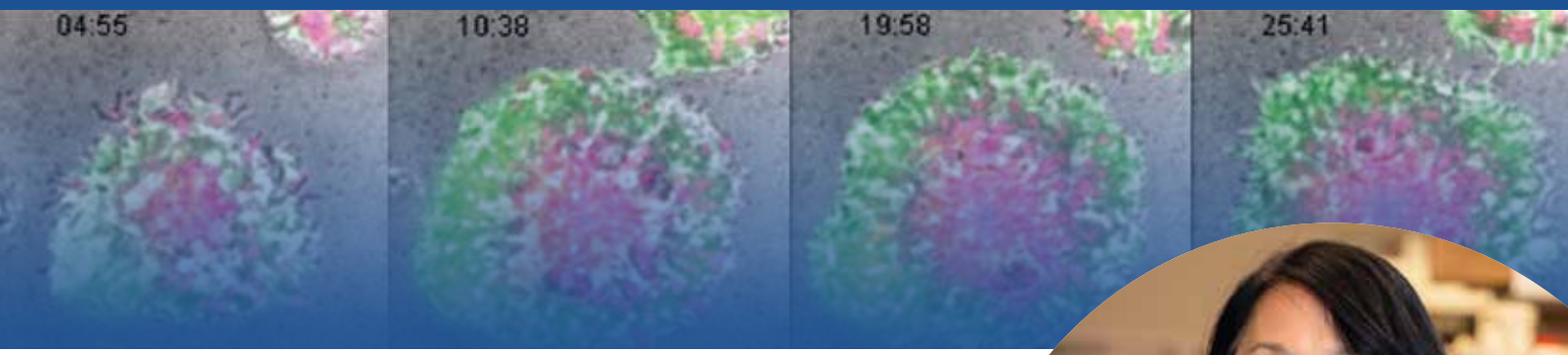
THE DEPTH OF COLUMBIA'S RESEARCH GOES BEYOND THE SURFACE.



In the lab, **Aimee Payne**, Columbia's new chair of dermatology, is transforming cells into living drugs for autoimmune diseases of the skin and building a cell therapy platform with the potential to treat other types of autoimmune disease.

Dr. Payne chose to specialize in dermatology because "almost every health issue has a link to the skin, so there's no limit to what you can study—cancer, immunology, aging, neuroscience."

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