

Columbia Medicine

Columbia University Vagelos College of Physicians & Surgeons

SPRING/SUMMER 2023

Students at the Bench

Research fellowships
grow in popularity

Columbia and the DSM

The evolution of
psychiatric diagnosis



INSIDE OUT

Miniaturized models of
patient organs help
researchers study diseases
and treatments

Dear Readers,

Every person in the United States interacts with our health care system at some point in his or her lifetime. The faculty, staff, students, and alumni of VP&S are proud to be a part of this universal experience and proud that our patients recognize our world-class quality of care. Academic medicine, though, is so much more than patient care: Along with our education mission, our research mission distinguishes us from the vast health care enterprise that is the front door to care for most patients. And research impacts patient care in direct and indirect ways that are typically not appreciated outside of lecture halls and peer-reviewed journals.

The behind-the-scenes nature of research means our leadership in discovery is a story that needs to be told. In this issue of *Columbia Medicine*, we are giving you an inside look at one of the most exciting research tools being used in today's labs: organoids. You will sense the excitement of the researchers as they talk about the use of organoids in diseases of the skin, esophagus, and brain. Organoids and the related development of the "organ on a chip" are helping researchers see ways around the limitations of traditional animal and cell culture models and paving the way for improved preclinical model systems.

In another story, you will read about the rising popularity of medical students taking a year to conduct research, an interest that has been supported by the generosity of Roy Vagelos. As you'll read in this issue, Roy and his wife, Diana, gave us a major gift earlier this year to change the paradigm of PhD education at VP&S and to nurture physician-scientists. The couple's unique combination of insight, determination, generosity, and belief in the future continues to change education and science at VP&S, and we are so grateful for their association with our school.

Other features in the issue show our impact on patient care and education: Our influence on the field of psychiatry through the "Diagnostic and Statistical Manual of Mental Disorders" and the dean's advisory program, 20 years old and still evolving to meet the needs of our students. A profile of Stuart Hamilton '74, who has risen above the racism that he endured throughout his career, will add to your awareness of the incredible contributions our graduates have made in all parts of the world.

VP&S is a special place, and I hope you join me in appreciating the commitment, compassion, and excellence that defines this medical school every day.

With best wishes,



Katrina Armstrong, MD

Dean



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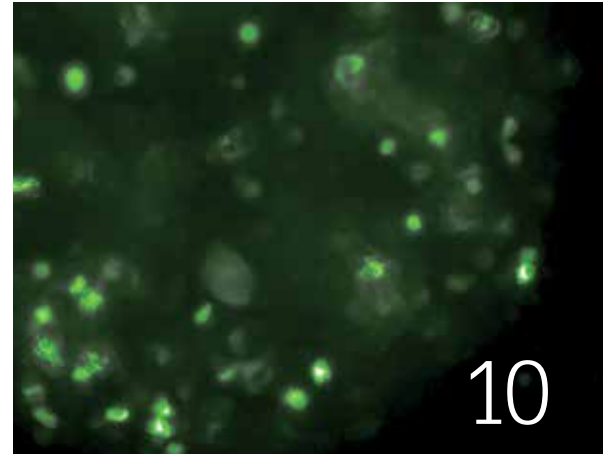


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By Alan Dove

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By Sharon Tregaskis

Each year, several medical students devote 12 months to full-time research as dean's research fellows. Almost two dozen students applied for the fellowship in 2022, signaling increased interest in learning the fundamental tools of research.



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By Christine Yu

Columbia has leading experts in many areas of psychiatry, so it is fitting that Columbia experts have exerted great influence on the publication that has provided a guide for mental health care for generations.



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By Sharon Tregaskis

The advisory dean program that started 20 years ago to create a formal structure for mentoring students launched a new initiative this year to add “near-peer” advising. As part of the program, each student is assigned to one of six “houses,” each named after a Washington Heights thoroughfare—Amsterdam, Broadway, Edgecombe, Fort Washington, Haven, and Riverside.

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Faculty and staff should contact their departmental administrators to update their addresses, which are obtained through the Columbia University personnel system.

All others with address changes should contact VP&S Communications at columbiamedicine@columbia.edu.



Gun Violence

I was thrilled to read about the project led by Charles Branas, PhD, to find “creative scientific solutions to gun violence” (Fall/Winter 2022 *Columbia Medicine*). This is an issue that clearly has suffered from a great deal of heat and all too little light in the form of genuine scientific study. It’s an issue that I have personally been interested in for many years because the shooting sports have been a huge factor in my life. From the time I learned to shoot in the Boy Scouts at age 13 to the present, the only time I haven’t fired rifles or pistols regularly was during my four years at P&S. I competed in target rifle and pistol in college (collegiate All American at Yale) and internationally at the Maccabiah Games in Israel and annually hunt deer in Minnesota. To this day I’m an avid gun collector and hold a federal firearms license. For many years I was a member of the NRA when the organization was responsible for U.S. rifle and pistol competition, but I finally left when they largely abandoned the competitive shooting sports in favor of extreme political activities.

I believe the vast majority of the shooting community fervently long, as I do, for genuine progress against gun violence, and I wish Dr. Branas and his study collaborators all success.

Irving Lerner'62

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Vagelos Institute for Biomedical Research Education

A \$175 million gift from Roy '54 and Diana Vagelos will create the Vagelos Institute for Biomedical Research Education to support PhD students pursuing the most creative, potentially disruptive ideas in biomedical science and also encourage the training of more physician-scientists. The gift is intended to address obstacles that discourage PhD students, physicians in training, residents, fellows, and early-career physician-scientists from pursuing careers in basic, translational, or clinical research.

The gift will enable Columbia to create a new academic model and research environment that are conducive to bold experimentation and a sustained commitment to solving longstanding medical problems. The initiative will include efforts to reduce the disproportionate financial burdens that deter historically marginalized groups from pursuing careers in science.

“The Vagelos Institute for Biomedical Research Education will have an enormous impact in harnessing the power of science to transform clinical care, and I believe we will see similar initiatives started at other medical schools,” says Katrina Armstrong, MD, dean of VP&S. “The reward for this effort will be unprecedented strides forward in curing disease and treating illness. It’s an opportunity—and a responsibility—we must embrace.”

The largest portion of the gift—\$125 million—will establish an endowment to change the prevailing approach for funding PhD students, giving them greater freedom to explore different interests at the start of their careers. The remaining \$50 million of the gift will support aspiring physician-scientists seeking to develop expertise in both fundamental biology and clinical medicine.

An external advisory board of scientists and experts in graduate biomedical education will guide the development of the programs and new graduate biomedical curriculum tracks. The board is tasked with ensuring that Columbia creates the optimal environment to nurture the growth of scientists who will shape the future of medicine. The initial board members are Enrique M. De La Cruz, PhD, of the Yale School of Medicine; Tracy Johnson, PhD, of UCLA; William Kaelin Jr., MD, of the Dana-Farber Cancer Institute; and Shirley M. Tilghman, PhD, of Princeton University.

“We all know that continued scientific progress is the foundation for solving our most pressing medical problems,” says Dr. Vagelos. “Diana and I each vividly recall the difference that finan-



Roy and Diana Vagelos

cial support made in creating a sense of freedom and instilling the confidence to pursue our passions early in our lives. We want to give others this same freedom by removing the obstacles facing researchers and scientists in training. The larger the number of talented researchers who are able to explore areas of discovery that capture their imaginations, the greater the impact they will have in changing medicine and improving health. It is our honor to give back.”

The latest gift reinforces Dr. and Mrs. Vagelos as trailblazers in rethinking and strengthening the future of science and medical education at Columbia and elsewhere. Their 2017 \$250 million gift, when combined with support from other VP&S alumni, faculty, and friends of the school, made it possible for Columbia to become the first medical school in the nation to offer students debt-free education. A previous gift from Dr. and Mrs. Vagelos had an impact on precision medicine, and their \$53 million gift led the capital campaign for the Roy and Diana Vagelos Education Center, which opened in 2016.

Chairs Named for Two Departments

VP&S faculty members were named to chair the Department of Biomedical Informatics and the Department of Biochemistry & Molecular Biophysics, both effective Jan. 1, 2023.

BIOMEDICAL INFORMATICS

Noémie Elhadad, PhD, Department of Biomedical Informatics vice chair for research and director of the department's graduate program, succeeded George Hripsak, MD, who chaired the department for 15 years and helped establish Columbia's informatics program as a recognized pioneer and leader in the field. Dr. Elhadad has longstanding affiliations with the Department of Computer Science and the Columbia Data Science Institute.

In addition to contributing multidisciplinary research, DBMI provides critical

information support services to NewYork-Presbyterian.

Dr. Elhadad's research, which lies at the intersection of artificial intelligence, human-centered computing, and medicine, focuses on developing novel machine-learning methods. She develops new artificial intelligence tools to support patients and clinicians with an emphasis on ensuring that emerging AI systems are fair and just. Dr. Elhadad is the leader of *eve_n*, a Columbia interdisciplinary research initiative on data-powered women's health. The initiative has generated novel disease insights through large-scale community engagement and the application of machine learning to health care data.

Dr. Elhadad has been on the DBMI faculty since 2007. She received her PhD in computer science from Columbia in 2006.

BIOCHEMISTRY & MOLECULAR BIOPHYSICS

Stavros Lomvardas, PhD, the Florence and Herbert Irving Professor of Biochemistry & Molecular Biophysics, succeeded Art Palmer, PhD, who served as interim chair of the Department of Biochemistry & Molecular Biophysics since Tom Maniatis, PhD, stepped down as chair in 2018.

Dr. Lomvardas is the first to carry the title P. Roy Vagelos Chair of the depart-



Stavros Lomvardas

COLLEEN DENG

ment. He also is a principal investigator at the Mortimer B. Zuckerman Mind Brain Behavior Institute.

Dr. Lomvardas' research focuses on the genomic mechanisms of olfactory receptor gene choice and the elucidation of the molecular principles of genome organization in health and disease.

Dr. Lomvardas received his PhD in biochemistry & molecular biophysics from Columbia then completed postdoctoral studies as a Helen Hay Whitney Fellow in the lab of Richard Axel, MD. He discovered a novel mechanism of gene regulation through interchromosomal genomic interactions. After starting his independent research career at the University of California, San Francisco, he was recruited back to Columbia as a full professor in 2014.



Noémie Elhadad

JORG MEYER

Field Day 2022

Students representing the "houses" of the VP&S Class of 2026—Amsterdam, Broadway, Edgecombe, Fort Washington, Haven, and Riverside—competed against each other last fall during a field day in Riverside Park. The first-year students were joined by some of the second-year students who are peer advisors for the new students. About 100 students participated in the team-building event. Read more about the house program and peer advisors on Page 24.



FELICIA GOODMAN



EILEEN BARROSO

Columbia's new president, Nemat "Minouche" Shafik, visiting with students while touring Columbia University Irving Medical Center

Columbia's New President: Minouche Shafik

The [Columbia University Board of Trustees](#) in January introduced Nemat "Minouche" Shafik, PhD, as the university's 20th president. She succeeds Lee Bollinger on July 1. Dr. Shafik toured the Columbia University Irving Medical Center the day after the announcement.

A leading economist, Dr. Shafik joins Columbia after serving as president of the London School of Economics and Political Science (LSE) since 2017. Her career has focused on public policy and academia. A tireless proponent of diversity and inclusion and a creative and thoughtful leader committed to cultivating and promoting service to the public good, Dr. Shafik has edited, co-authored, or authored numerous articles and books, including, most recently, "What We Owe Each Other: A New Social Contract" (2021), in which she calls for a better social contract to underpin our economic system and challenges institutions and individuals to rethink how we can better support each other to thrive.

Dr. Shafik will be Columbia's first woman president. She also served as the first female leader of LSE and previously was the first female permanent secretary of the U.K. Department for International Development.

She was born in Alexandria, Egypt, and fled the country with her family when she was 4 years old. Her father, a scientist, found work in the United States, where he had done his PhD, and Dr. Shafik attended numerous schools in Florida, Georgia, and North Carolina. She earned a BA degree in economics and politics from

the University of Massachusetts-Amherst, where she graduated summa cum laude and Phi Beta Kappa; an MS degree in economics from the LSE; and a PhD degree in economics from St Antony's College, Oxford University.

Dr. Shafik says diversity can be encouraged by opening "the door for others," which results in "better workplaces, better decisions, and more impact." She sees universities playing an important role "in social mobility and providing access and opportunity to everyone. There is much debate about this issue in terms of admissions, in terms of the costs of education, in terms of the impact and benefits of higher education. And we need to rise to that challenge because providing opportunities for everyone is a core part of what we do."

Dr. Shafik's guided tour of the medical center, led by Katrina Armstrong, MD, VP&S dean, included a reception with CUIMC deans and VP&S leadership. She also was introduced to a few of the community initiatives underway across the campus and heard from initiative leaders about the importance of building trust with the local community to improve health outcomes and conduct research to better serve the community through clinical care. Tour stops included a visit to the Comprehensive HIV Program clinic, hosted by Magda Sobieszczyk, MD, chief of infectious diseases, and a visit to the lab of David Ho, MD, director of the Aaron Diamond AIDS Research Center, to hear about Columbia's scientific contributions to COVID-19 vaccination efforts. She also met with students.

Moving on to Clinical Education

Second-year medical students in the Class of 2025 celebrated their transition from classroom-based instruction to clinical education at the Steven Z. Miller Student Clinician's Ceremony in early January.

"Years ago, we all committed to this path so that we could have the privilege of caring for others one day, and that day has finally arrived," said Gabrielle Wimer, president of the VP&S Class of 2025. "The ceremony marks our transition into a new phase of medical training and celebrates all that we've accomplished thus far together."

Members of the Class of 2025 shared their class video and read their class oath, which states their values and reaffirms their commitment to medicine and serving underserved populations.

Alyson Fox, MD, associate professor of medicine, and Nancy Chang, MD, associate professor of medicine, spoke at the event. Dr. Fox emphasized the importance of building connections with fellow physicians and patients as the students embark on their clerkships.

"You're entering medicine at a time when technology is at its peak," said Dr. Fox. "As you enter MCY, I would encourage you to take those moments to put down the technology and be as present as possible. Take the time to get to know your patients, not just their



MICHAEL DIVITO

medical history but what makes them the person they are. Empower them and let them know you're in their corner. If you start doing things like this now, it will become a part of your practice, and you will earn the trust and respect of your patients and colleagues."

News in Brief

Sankar Ghosh, PhD, the Silverstein and Hutt Family Professor of Microbiology and chair of the Department of Microbiology & Immunology, was elected to the National



Sankar Ghosh

Academy of Medicine for his pioneering studies of NF-kB, a family of central regulators of immune cells, and for establishing strategies to target NF-kB in the treatment of inflammatory

diseases and cancer. Because the immune system lies at the heart of many diseases, research in the Ghosh lab seeks a deep understanding of the pathways that establish, maintain, and fine-tune the activity of immune cells. NF-kB plays an important role in regulating inflammation and immune responses, and Dr. Ghosh's discoveries in the field have implications for the treatment of arthritis, colitis, dermatitis, asthma, and other inflammatory diseases and diseases such as cancer and muscular dystrophy.

Even though bad weather forced the cancellation of the 2022 in-person **Velocity** fund-raising bike ride, participants organized their own personal physical challenges to raise

more than \$1.1 million for cancer research and patient care at Columbia. Since 2017, cancer survivors, family, friends, nurses, doctors, and researchers have participated in **Velocity**, Columbia's Ride to End Cancer, and raised more than \$7 million to fuel innovative research and spread hope and love to those facing cancer.

Faculty at VP&S have started the **VP&S Latino Association**, a group dedicated to fostering the development, presence, and belonging of the Latino community at the medical school. Students from the Black and Latino Student Organization, the Latino Medical Student Association, and NewYork-Presbyterian's Lang Youth Medical Program joined faculty

and school leadership to celebrate the new organization. The group aims to improve the experience of Latinos at VP&S by assisting in the recruitment, retention, and promotion of Latino faculty and trainees and providing mentorship to promote well-being and facilitate social connections. The association also intends to increase representation of Latinos in leadership positions and help shape policy at VP&S; develop and facilitate partnership opportunities with Latino physicians; connect with and support other groups under-represented in medicine; engage with and advocate for the Latino community at large; and decrease disparities and improve health outcomes for the Latino community.



PHOTOS BY EILEEN BARROSO

Match Day 2023

On March 17, 135 medical students at VP&S learned where they will begin their residency training this summer. The nationwide 2023 residency match was the largest in the 70-year history of the National Resident Matching Program. The celebration at VP&S was held in the Hudson Lounge at 50 Haven Avenue and featured remarks from Katrina Armstrong, MD, dean; Monica Lypson, MD, vice dean for education; and Lisa Mellman, MD, senior associate dean for student affairs.

“It is the greatest transition to go from what you have been, which is an amazing student and learner, to being the person a patient turns to in their time of greatest need—the person who stands up and does what is needed,” said Dr. Armstrong. “You are the future of medicine.”

At VP&S, the most popular residency matches were internal medicine (29), psychiatry (15), emergency medicine (11), anesthesiology (10), obstetrics & gynecology (8), and surgery (7).



By Jeff Ballinger

VADs Save Lives, Improve Outcomes

Pediatric heart surgeons at Columbia are renowned for successfully transplanting hearts into children with complex heart conditions, particularly in cases turned down by other institutions and programs in the United States and around the world.

Over the past 10 to 15 years, an increasing number of these young patients—because of the complexity and severity of their conditions—have needed the help of a ventricular assist device (VAD) to pump blood through the rest of the body while waiting for a suitable heart.

“Even in the last 10 years, it has been an amazing time to witness the growth in these devices and to be a part of their realization for children,” says Sabrina Pia Law, MD, associate professor of pediatrics and director of the pediatric VAD program at NewYork-Presbyterian Morgan Stanley Children’s Hospital.

When Dr. Law first joined Columbia eight years ago, the program was implanting about five VADs a year. Columbia now implants about 30 to 35 devices each year, while most centers implant 10 or fewer annually.

The increase in use of VADs is mostly attributable to medical advances, not the number of children with heart issues or a decline in the number of donor hearts.

“We’re keeping more children alive than before with advances in congenital cardiac surgery,” says Dr. Law. Some of these surgical procedures fail as the child gets older, and patients turn to VAD technology, which is increasingly available to more patients.

At Columbia, nearly 50% of patients waiting for a transplant receive a VAD, compared with the national average of 20% to 25%. Many of Columbia’s patients have been rejected for treatment by other hospitals due to the complexity of their conditions, Dr. Law says. “We pride ourselves in caring for very, very complex patients.”

As it pushes the boundaries of treatments in numerous trials, Columbia’s program has become one of the global leaders with newer miniaturized devices and technological refinements that have widened the options available to children and even infants.

Columbia physicians and NewYork-Presbyterian Morgan Stanley Children’s Hospital are participating in the PumpKIN (Pumps for Kids, Infants, and Neonates) trial, a seven-center feasibility study of the investigational Infant Jarvik 2015 VAD in children with heart failure who require mechanical circulatory support.

The Jarvik 2015 was specifically designed for small children weighing between 8 and 30 kilograms and is completely implantable. The trial is evaluating the device as a bridge to transplant and to recovery.

“If successful, this will provide clinicians with an alternative to current VADs that are effective but can only be used as a bridge to transplant because they are not fully implantable, so children must stay in the hospital under close supervision,” Dr. Law says.

The Jarvik VAD would allow a patient to go home and live a more normal life, potentially speeding up the child’s physical and overall development. “As a child waits for transplant, one of the most important objectives is to get them as healthy and as strong as possible before they go into the OR for their transplant,” Dr. Law says.

More information is available by calling (212) 305-6575.



Tackling Treatment-Resistant Depression

A Columbia psychiatry program is offering new hope to people who suffer with depression that does not respond to traditional treatments.

Many patients don't realize they have treatment-resistant depression, says Adrian Jacques H. Ambrose, MD, who, with Joshua Berman, MD, PhD, directs the Treatment-Resistant Depression Program. "Here at Columbia, we consider that if you've tried two or more antidepressants and it hasn't worked for you, you might have treatment-resistant depression."

Patients with treatment-resistant depression represent a significant portion—estimated between 25% and 50%—of those with a major depressive disorder.

For many people with depression, conventional antidepressants and talk therapy

are not enough. By the time patients arrive at Columbia, they have tried multiple pharmacological and non-pharmacological therapies and feel completely hopeless. "They really don't see how they're going to get better," Dr. Berman says.

At Columbia, the clinical team is trained in interventional neurotherapeutic psychiatry, which refers to a collection of advanced psychiatric modalities, including transcranial magnetic stimulation, electro-convulsive therapy, and esketamine and ketamine, that modulate dysfunctional brain circuitry.

Having multiple treatments available under one umbrella better serves patients. "That we're able to quickly pivot to another modality gives the patient a sense of control back in their life," Dr. Ambrose says.

The results indicate the approach is working. Dr. Ambrose cited as an example one business executive who had tried over 10 antidepressants, multiple therapists, and even several hospitalizations and ECT, without seeing any improvement. "The patient was feeling hopeless, but after trying a succession of different treatments at our center, we were able to find something that provided real help within four or five months."

"In many instances, patients will tell us they've gotten their lives back," Dr. Berman says. "As a doctor, you really can't beat that feeling."

Learn more about the Treatment-Resistant Depression Program at columbiadoctors.org.

New Ways to Fight Infection in Transplant Recipients

An immunologist and his colleagues at Columbia's Cellular Immunotherapy Laboratory have developed a "living drug," an experimental cell therapy that offers new options to prevent viral infections in organ and bone marrow transplant patients.

Pawel Muranski, MD, director of the Cellular Immunotherapy Laboratory, saw the need for such cells when he worked at the NIH, where some of the original immunotherapy strategies were developed. He was part of an NIH team that developed a way to produce large numbers of virus-specific T cells trained to identify and safely eliminate a patient's viral infection without affecting the patient's vital organs.

The approach focuses on transplant patients and their suppressed immune systems.

"The idea behind our cell therapy is that we can take T cells from a healthy donor, select the ones that recognize the virus, and multiply those in the lab so we create a population of immune cells that we can give to the patient to control the infection," says Dr. Muranski, assistant professor of medicine and of pathology & cell biology and a principal investigator at Columbia's Center for Translational Immunology.

At the NIH, however, growing the cells took weeks, too long to be helpful in fighting virulent infections.

At Columbia, Dr. Muranski and his team created a faster technique that requires only a small blood sample from the donor.


As of late October, three patients had received the cell therapy without any adverse reactions, and several other patients have been enrolled in a phase 1 clinical trial that is testing the therapy's safety. Once the phase 1 safety study is completed, the therapy's effect will be rigorously tested in a phase 2 trial, when multiple doses of cells may be used to increase the odds of effectiveness.

Dr. Muranski's next target is to develop a new type of T-cell therapy to attack cancer. Currently available CAR-T cells (T cells from patients that are genetically engineered to recognize cancer) have shown great success in patients with certain blood cancers but as of now have not been successful in patients with common solid cancers.

Naturally occurring T cells known as tumor-infiltrating lymphocytes (or TILs) have shown great promise in patients with certain cancers, says Dr. Muranski. He focuses on a type of T cell called CD4+ T-helper cells that are master orchestrators of the entire immune system, and his laboratory is generating them from peripheral blood of patients.

Dr. Muranski's cell production facility, which opened in 2022, supports the development of other in-house cell therapies. "Many immunotherapies originate at academic institutions and then are developed further by industry," says Dr. Muranski. "With academic cell manufacturing, we can easily and rapidly translate new ideas for therapies into early phase clinical trials and see if they are safe and effective.

"We're not trying to replicate what industry is doing," he adds. "The idea is to innovate and produce the next generation of cell therapies."

A microscopic image showing numerous green fluorescent cells against a dark background. The cells are of various shapes and sizes, some appearing as bright green spots, others as more complex, multi-lobed structures. The overall appearance is that of a dense population of cells, possibly in a 3D culture or organoid.

Yvon Woappi has developed
3D skinoids that allow
researchers to study wound
healing with human cells.

Investigators create
3D organoids,
engineered tissues,
and organs on a
chip to generate
miniature models
of patients' organs

Building a Better

In the 16th century, influential Swiss physician and alchemist Paracelsus published a recipe for artificially creating a homunculus—a miniature human—that would bypass the normal reproductive process. Though the recipe failed, the metaphor has thrived in speculative fiction and philosophy ever since.

Indeed, biomedical researchers have relied on their own homunculi for decades, either culturing human cells in petri dishes or manipulating animals to mimic specific aspects of clinical conditions. Those two strategies have undergirded most of the progress in medical science since the mid-20th century, but they suffer from major limitations. As a result, treatments that work beautifully in cell culture and animal models often fail in the clinic.

A better approach may be just around the corner, thanks to a series of scientific breakthroughs over the past several years.

First, researchers discovered that by activating a few specific genes, they could induce fully differentiated cells to reverse their developmental clocks, becoming pluripotent stem cells capable of re-differentiating into another tissue type entirely. An easily obtained sample of human skin cells, for example, can be turned into an endless supply of liver, heart, or brain cells genetically identical to the donor.

More recently, investigators have learned how to grow these induced pluripotent stem cells into complex three-dimensional structures, such as organoids, engineered tissues, and organs on a chip. These miniature models of patients' organs are fast becoming standard research tools in laboratories at Columbia and worldwide.

Homunculus

By Alan Dove // Portraits by Jörg Meyer

Skin Deep

Many researchers use patient skin cells as a starting material for creating organoids, but for Yvon Woappi, PhD, assistant professor of physiology & cellular biophysics, skin is also the endpoint. “A lot of the diseases of the skin are thought of as cosmetic, but we think of the skin as a microcosm of the entire body, because there you virtually have all of the cell types that are found in the body,” says Dr. Woappi.

Skin is one of a few parts of the body in which stem cells persist throughout life. With millions of skin cells dying and falling off each day, the specialized, self-renewing skin stem cells give rise to a continuous supply of fresh replacements. Dr. Woappi became interested in that process while studying human papilloma virus—HPV—which can per-

sist in the skin for decades and cause either benign warts or deadly cancers.

To determine where HPV replicates, Dr. Woappi and his colleagues developed organoid culture systems in which to grow it. These “skinoid” cultures revealed that the virus can infect the skin stem cells, helping it maintain a persistent infection even as the descendants of those cells die off.

Skinoids have another useful feature: When transferred from growing in three-dimensional space in suspension to growing in two-dimensional layers in petri dishes “that mechanical switch cues skin cells to proliferate and behave as if a wound has been generated,” says Dr. Woappi. “Now we have a high-throughput system to study wound healing completely in a dish.” His lab plans to use that system to investigate how wound healing differs between individuals by comparing skinoid cultures derived from thousands of different donors in the hope of identifying ways to make the healing process more reliable.

Though the initial results from skinoids have already shown promise, Dr. Woappi’s team is trying to improve the system. The lab derived original skinoids directly from the naturally occurring stem cells in skin samples, but those partially differentiated cells bring their own baggage in the form of epigenetic changes unique to an individual’s life history. “Each sample comes with its own sort of reaction to the tissue culture environment,” says Dr. Woappi. As a result, fewer than half of the patient samples the lab gets yield usable skinoids.

To address that, the researchers are trying to generate induced pluripotent stem cells from the skin samples, winding back their development to a much earlier state before re-deriving fresh skin stem cells. That should eliminate the epigenetic variability that currently limits the system and yield more reproducible skinoids for direct comparisons between patients.

Dr. Woappi is also interested in pursuing clinical applications for skinoids. “We’re able to generate about 200-fold greater amounts of keratinocytes than were in the original sample and so we are thinking about actually using this as a strategy to expand epidermal stem cells for transplantation to burn victims in the clinic,” he says. Though he cautions that such applications are at least several years away, Dr. Woappi is optimistic about skinoids’ potential. “This is a very exciting interest of ours, to be able to use this therapeutically.”



Yvon Woappi

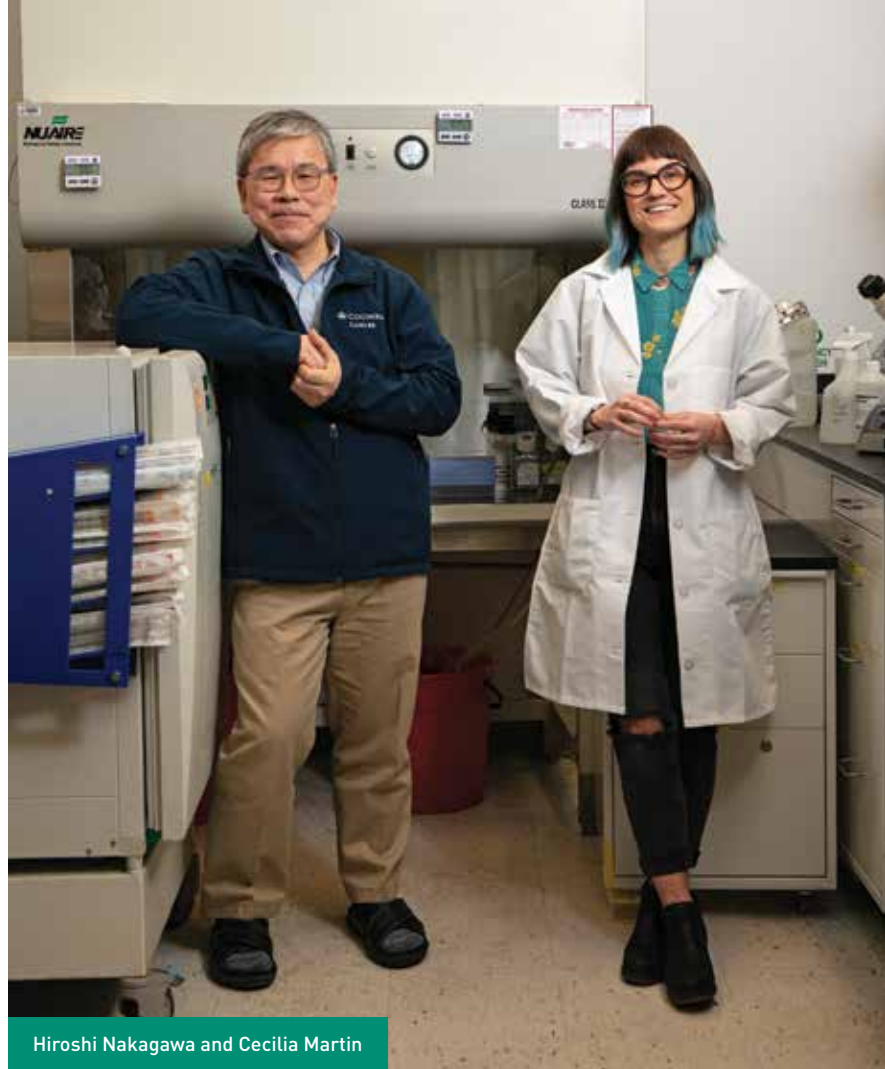
Down the Hatch

Organoids are helping researchers get around the limitations of traditional animal and cell culture models for studying other tissues, too. Hiroshi Nakagawa, MD, PhD, has been using mouse models for the past three decades to study diseases of the esophagus. “But in the last five or six years, the newly emerging organoid technologies appear to be very robust,” says Dr. Nakagawa, associate professor of medicine and a member of the Herbert Irving Comprehensive Cancer Center.

One major advantage of organoids is their rapid growth. Dr. Nakagawa explains that his team can turn a small clinical specimen into an esophageal organoid in a couple of weeks. Because the resulting organoid is derived directly from a specific patient, it provides an excellent model of that patient’s biology. “One of the greatest advantages is that we can recapitulate pathological features and drug response of a patient’s tumor in a test tube in a very quick way, and then we can test a variety of drugs for customized medicine,” says Dr. Nakagawa.

While organoid-based chemotherapy customization is not yet ready for routine clinical use, organoids are already yielding a trove of new findings about the biology of esophageal cancers, which are among the deadliest of human cancers. “We want to know how the environmental risk factors, such as alcohol and smoking, could influence these cell populations to undergo malignant transformation,” says Dr. Nakagawa. He and his colleagues have seen major changes in gene regulation in different types of esophageal cells in response to such environmental insults and have also identified some of the molecular pathways responsible for both tumor growth and drug responses in the esophagus.

In collaboration with Columbia surgeons and oncologists, Dr. Nakagawa’s lab is creating organoid systems to mimic other types of tumors, including some head and neck (oral and throat) cancers, skin cancer, and cervical cancer of the uterus. That has allowed the scientists to study many aspects of cancer development that weren’t accessible with traditional cell or animal models. “Organoids permit us to grow not only normal and cancer cells, but also the precancerous cells. In the past it was very difficult to grow those,” says Dr. Nakagawa. Following the development of tumors through the precancerous stage is revealing previously unknown changes, which should help identify new markers for early diagnosis and potential treatment targets.



Hiroshi Nakagawa and Cecilia Martin

Organoids with tumor cells in different stages of oncogenesis feature in Dr. Nakagawa’s collaboration with pathologists and bioinformatics experts at Columbia. That team hopes to develop artificial intelligence algorithms that will help pathologists score clinical samples more reliably and predict therapy outcomes.

Dr. Nakagawa’s team runs the organoid and cell culture core, which gives other researchers across

“Organoids permit us to grow not only normal and cancer cells, but also the precancerous cells.”

the university access to these powerful experimental systems. Part of that core’s mission is to train investigators to derive and maintain organoid cultures. “It’s really just like learning any other new cell line when you start to culture it,” says Cecilia Martin, senior staff associate and manager of the core. Techniques for maintaining most organoids are fairly straightforward, so “anyone with cell culture experience shouldn’t be too intimidated to try to learn organoids.”

If We Only Had a Brain

Other researchers are using the technology to simplify organs that are too hard to study intact. “The brain is this massively complex system so we focus on a region of the brain, or even simpler than that, a circuit,” says Chris Makinson, PhD, assistant professor of neurological sciences (in neurology and the Center for Translational Research in Neurodevelopmental Disease). Dr. Makinson’s team uses organoids representing specific brain circuits involved in epilepsy and similar neurological conditions, allowing researchers to probe the pathology of these diseases much more deeply than they could by looking at human brain scans.

Though they’re much less complex than whole brains, the brain organoids Dr. Makinson grows can often replicate many of the processes that drive

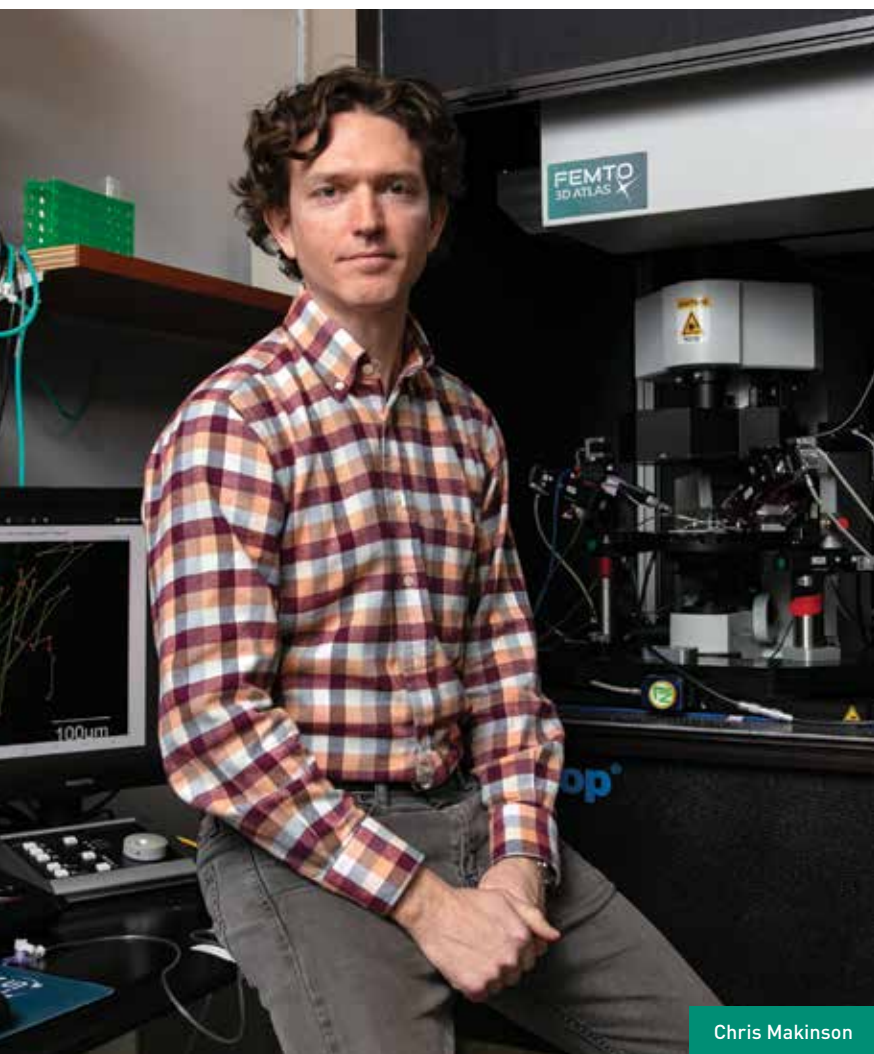
neurological diseases. “Probably all brain disorders are circuit disorders at some level, so having the tools to read out the activity of the circuit is really key if you want to understand what’s going on,” says Dr. Makinson.

Just a few years ago, researchers were thrilled to be able to generate any kind of neurons from induced pluripotent stem cells, but as the field has matured, the techniques have become more sophisticated. “By adding additional factors to the stem cells we can cause them to not just become brain, but to become cortex or thalamus or hippocampus or cerebellum or spinal cord. Then you’ve constrained how many different cell types you’re going to get in the brain organoid,” says Dr. Makinson. That yields more consistent organoid structures, which allows him to compare pathological and healthy brain circuits more reliably.

Gene editing technology has made organoid experiments even more useful. One major strategy Dr. Makinson and his colleagues have pursued starts with donor cells from patients with epilepsy caused by specific gene mutations. They then derive brain organoids from the cells as well as identical cells that have been genetically edited to fix the relevant mutation. “So you have your patient line, and then you have your patient corrected line, and you can look for differences between those two different lines,” says Dr. Makinson. The gene-edited “twin” provides a powerful control for distinguishing normal from pathological nerve interactions.

By delaying the gene editing step, Dr. Makinson’s team is trying to identify strategies to treat or prevent epilepsy. In those experiments, the investigators allow their brain organoids to mature for several months, then apply gene therapy to the differentiated cells to see if they can correct the organoid’s pathology.

The rapidly increasing power of organoid studies has allowed labs like Dr. Makinson’s to cut back significantly on their reliance on animal models. “Mice are still extremely powerful models by comparison right now, but I think that in five to 10 years, we might be at a place where we can go from understanding a mechanism to a clinical setting without the use of mice, or maybe very limited use of animals,” says Dr. Makinson. Indeed, the FDA recently changed its longstanding policy mandating animal studies for new drug applications, paving the way for even greater reliance on organoids.



Chris Makinson

The Sum of Our Parts

The FDA's policy change followed years of other government initiatives to improve preclinical model systems, an effort some Columbia faculty have helped drive. "About 10 years ago, the National Institutes of Health invited the community to start thinking if what we have learned in the area of regenerative medicine could be helpful to build in vitro laboratory models of development and disease," says Gordana Vunjak-Novakovic, PhD, University Professor and the Mikati Foundation Professor of Biomedical Engineering.

Dr. Vunjak-Novakovic and her lab embraced the challenge. With a background in chemical engineering, she has pioneered the development of the "organ on a chip" model, which combines tissue engineering with fabrication technologies borrowed from the semiconductor industry. That approach allows researchers to create complex three-dimensional structures such as miniature hearts, livers, and other organs.

"We are also interested in combinations. For example we would study the heart muscle, but then this heart muscle is in the body communicating with the immune cells, so we plug in a bone marrow module to serve as a source of these immune cells," says Dr. Vunjak-Novakovic. Drug metabolism studies might include a liver module as well. To connect the miniature organs, she fabricates channels in the chip to carry blood between them, just like a circulatory system.

Though the components could be combined into a nearly complete homunculus, the investigators instead select the parts most relevant to each project. "You'll always try to make the simplest possible model that is complex enough and accurate enough to study your question," says Dr. Vunjak-Novakovic.

While the ability to perform patient-specific clinical studies on well-defined organoid models promises to make medical research both more reliable and faster, Dr. Vunjak-Novakovic is clear-eyed about the field's looming challenges. "It's incredibly important that we are mindful about what we can do and cannot do and that we very rigorously and systematically address the challenges and limitations of these systems," she says. In particular, her lab focuses on validating results from their multi-organ chips by comparing them directly to clinical findings.

Another challenge is in processing the immense quantities of data the new systems can produce. Because it's possible to monitor everything from



Gordana Vunjak-Novakovic

individual cells' growth to changes in expression levels of every gene in the genome throughout an organoid, scientists working with these systems often generate far more data than they can analyze.

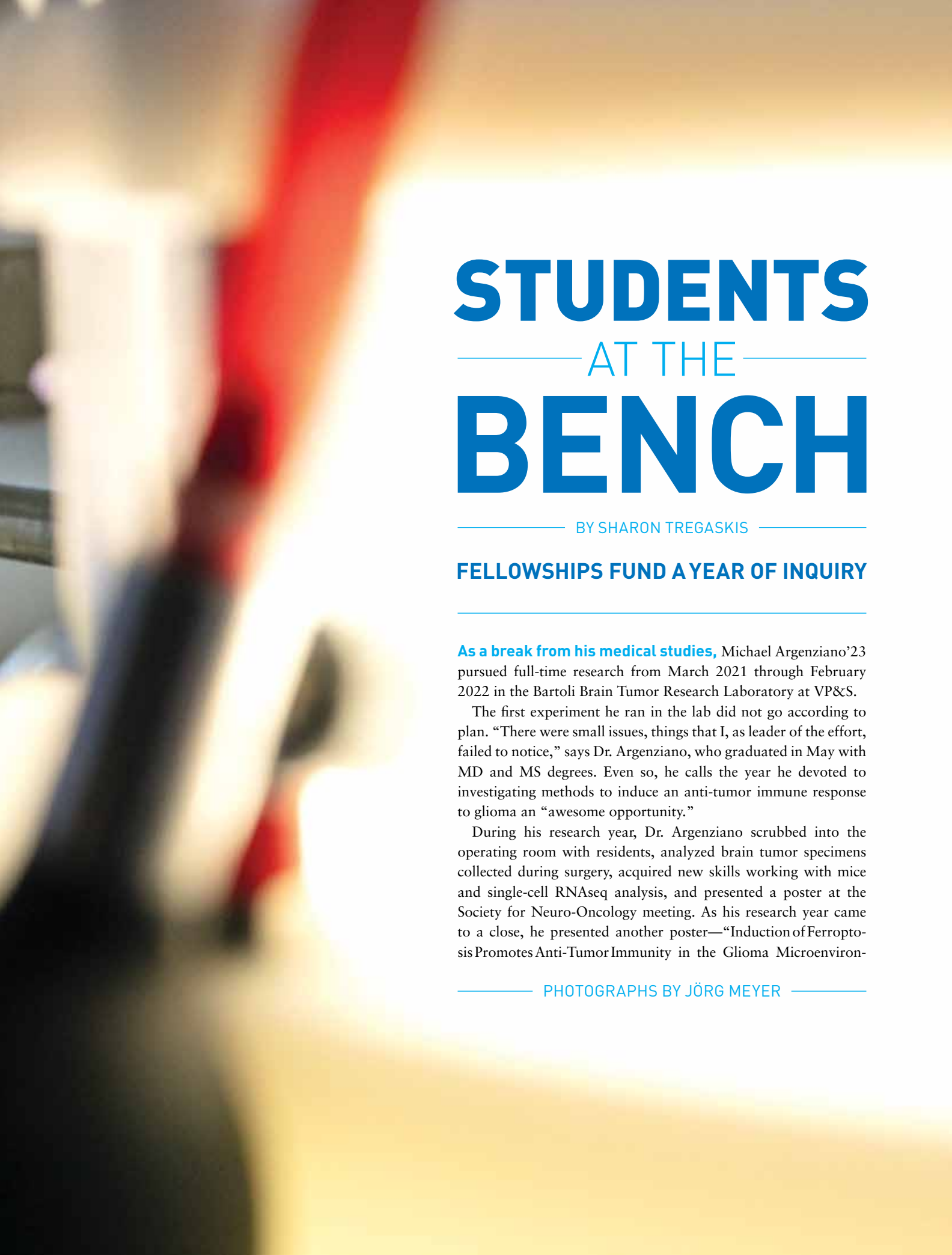
More complex multi-organoid chips can be hard for some researchers to use. "Clinicians and

"It's incredibly important that we are mindful about what we can do and cannot do."

biologists would normally not operate hardware, they just are used to working in cell culture dishes, so something we are working on now very, very actively is to redesign these artisanal devices into something that is as easy to use as a cell culture dish while maintaining this tremendous functionality," says Dr. Vunjak-Novakovic.

The crucial tool for overcoming those challenges may be as simple as increased collaboration among scientists. "I'm very optimistic, because this is the era of collaboration. We are collaborating more effectively than ever before in the history of sciences, and I think that this is the key," says Dr. Vunjak-Novakovic. ❖





STUDENTS — AT THE — BENCH

— BY SHARON TREGASKIS —

FELLOWSHIPS FUND A YEAR OF INQUIRY

As a break from his medical studies, Michael Argenziano'23 pursued full-time research from March 2021 through February 2022 in the Bartoli Brain Tumor Research Laboratory at VP&S.

The first experiment he ran in the lab did not go according to plan. “There were small issues, things that I, as leader of the effort, failed to notice,” says Dr. Argenziano, who graduated in May with MD and MS degrees. Even so, he calls the year he devoted to investigating methods to induce an anti-tumor immune response to glioma an “awesome opportunity.”

During his research year, Dr. Argenziano scrubbed into the operating room with residents, analyzed brain tumor specimens collected during surgery, acquired new skills working with mice and single-cell RNAseq analysis, and presented a poster at the Society for Neuro-Oncology meeting. As his research year came to a close, he presented another poster—“Induction of Ferroptosis Promotes Anti-Tumor Immunity in the Glioma Microenviron-

— PHOTOGRAPHS BY JÖRG MEYER —

ment”—at the 2022 VP&S Student Research Day and won first prize in the research year category. He also co-authored more than a dozen papers that have been published in peer-reviewed journals, with additional manuscripts underway.

“My first experiment was a failed experiment, but in the process of dissecting the whole thing with the postdocs and PIs, I learned so much,” he says. “It helped me going into subsequent experiments that were more successful.” The experience of wresting insights from adversity also conveyed a larger life lesson. “It goes beyond basic science research—being able to look at something that didn’t go well, figure out why, and prevent that from happening again.”

Dr. Argenziano’s mentors were Peter Canoll, MD, PhD, professor of pathology & cell biology, and Jeffrey Bruce, MD, the Edgar M. Housepian Professor of Neurological Surgery Research and director of the Bartoli Brain Tumor Research Laboratory.

Every year, several VP&S students pause their medical studies to devote 12 months to full-time research as dean’s research fellows. For some, it’s a way to distinguish themselves when applying for residencies now that U.S. Medical Licensing Examination

(USMLE) Step 1 has transitioned to a pass/fail format and the residency match has become increasingly competitive.

Even if the match and the change in USMLE scoring were not factors, Anil Lalwani, MD, associate dean for research, says research experiences cultivate leadership in VP&S-trained physicians. In the dean’s research fellowship program he oversees, an unprecedented 23 students applied for a research award in 2022. The award includes a \$25,000 stipend and \$7,000 for health insurance and other expenses.

“Our aspiration is to train future leaders of academic medicine,” says Dr. Lalwani. “As part of that, we want our students to have every opportunity to diversify their portfolio, get the skill sets they need while they’re medical students. In the area of research—clinical, basic, translational, global and population health, narrative medicine, education—we want to provide fundamental tools and experience.”

When the wave of interest from students overwhelmed the funds available in 2022, Dr. Lalwani reached out to P. Roy Vagelos’54 for support. “He stepped right up and made a generous donation to make sure that all 23 students could take the year off to conduct research.”

Dr. Lalwani’s goal is to build an endowment to guarantee that any VP&S student who wants to devote a year to a worthy project can do so. He’s also building a mentorship network and developing a robust research curriculum to help students acquire the foundation they need for institutional review board protocols, drug discovery, entrepreneurship, and more.

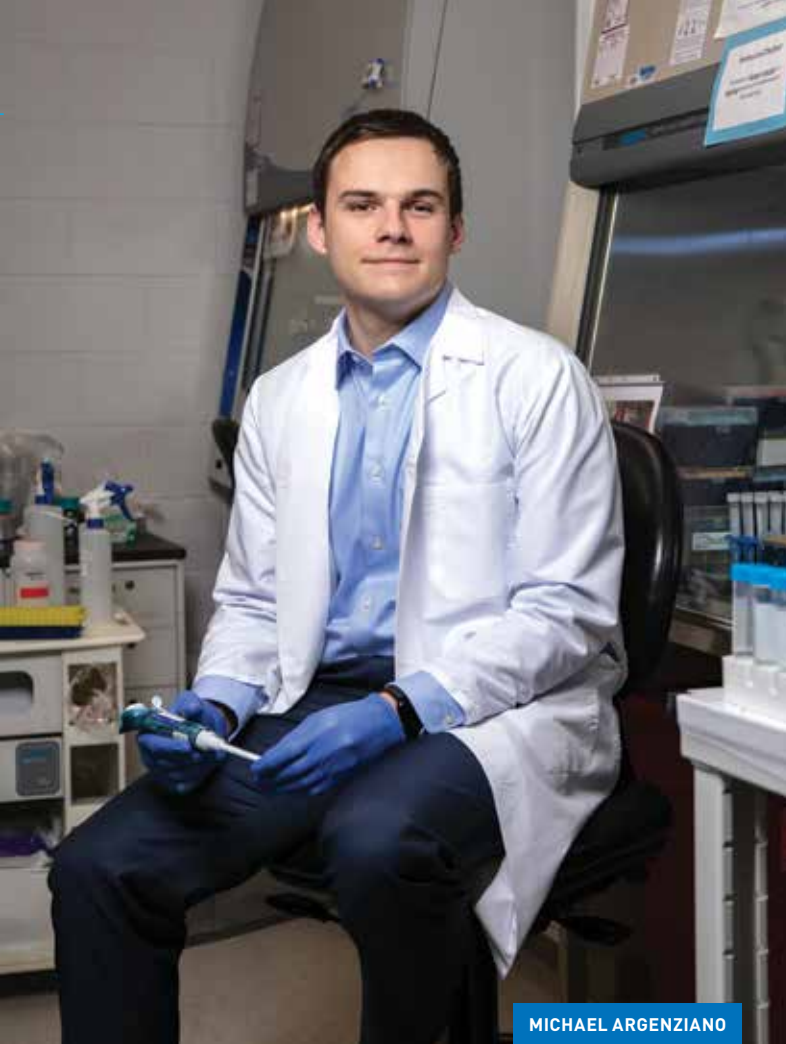
For many participants, the fellowship interjects space in their professional development to reflect and refine their trajectory. “Many of these students have been on this constant academic wheel where they study, take exams,” says Dr. Lalwani. “They haven’t had a chance to go at a different pace, be introspective, think about what they like, what they don’t like.”

Committing to introspection and exploration was a motive for Halil Beqaj’24 when he applied for a fellowship in 2022. “I decided a year would be better to reflect and truly understand how much I wanted my career to involve research,” says Mr. Beqaj, who joined the lab of David Kalfa, a Florence Irving Assistant Professor of Surgery and director of the Pediatric Heart Valve Center, in April 2022. “It was a year to slow down, spend time as the person I was three years into medical school, learn research techniques, and decide what I wanted the rest of my career to look like. It’s been the best decision of my medical career.”

As an undergraduate at Berkeley, Mr. Beqaj studied the laboratory techniques required for basic research but had few opportuni-

“It was a year to slow down, spend time as the person I was three years into medical school, learn research techniques, and decide what I wanted the rest of my career to look like.”





MICHAEL ARGENZIANO



HALIL BEQAJ

ties to apply what he had learned due to the time constraints that came with being a Division I soccer player. He had some research experience in the summer of 2020, when he worked as a clinical research fellow in the Columbia lab of Andrew Marks, MD, the Wu Professor of Molecular Cardiology and chair of the Department of Physiology & Cellular Biophysics.

As he progressed through his clinical rotations, Mr. Beqaj became increasingly curious about his capacity for basic research—enough so that he abandoned his early intentions to barrel straight through medical school, committing instead to the year of research with Dr. Kalfa. “I was a little nervous,” he admits, “but I enjoy the day-to-day of basic research, setting up the experiments. It’s hands on and as someone who wants to go into surgery, it goes together perfectly.”

In the Kalfa lab, Mr. Beqaj has learned electrospinning, lyophilization, dip molding, mechanical testing, cell culturing and seeding, confocal microscopy, and functional testing using a pulse duplicator, all tools in a quest to produce replacement heart valves that grow with a child, reducing the need for pediatric heart patients to undergo repeat surgeries. And like Dr. Argenziano, Mr. Beqaj has discovered an enthusiasm for addressing the surprises that crop up in the laboratory. “It can be frustrating,” he admits, “but the opportunity to figure things out and find solutions to problems has been satisfying, day to day.”

Both students credit their mentors with cultivating a culture of curiosity and collaboration. “The most important thing was having

people really invested in mentoring and guiding me in techniques—whether computational, basic wet lab techniques like culturing cells, how to do western blots—as well as having people invested in helping me think contextually about the work,” says Dr. Argenziano. The array of projects underway in the Bartoli Lab also provided opportunities for the budding investigator to test and dial in his focus. “You realize early on that you’re interested in a lot of interesting projects, but you can’t get involved in more than you can juggle. It was a good learning experience to have to prioritize work you care more about, triage.” With medical school behind him, Dr. Argenziano will begin a neurosurgical residency at Columbia this summer.

The learning experience applied beyond the laboratory, notes Mr. Beqaj, who was initially surprised at the amount of free time he enjoyed as a research fellow—especially by contrast with the frenetic pace of his clinical year and board exams. He read books, trained for the New York City Marathon, took weekend trips, and resumed participation in the Columbia Human Rights Initiative Asylum Clinic and CoSMO, the student-run clinic that provides free, high-quality care to uninsured and medically underserved people in Washington Heights and Northern Harlem. “I’m grateful that I was able to get back into touch with things I’m passionate about outside the medical curriculum,” says Mr. Beqaj. “The stipend made my fellowship more of a job and allowed me to not worry about finances as much so I could wholeheartedly dive in and focus on the research.” ❖



COLUMBIA AND THE DSM: THE EVOLUTION OF PSYCHIATRIC DIAGNOSIS

No resource has had a bigger influence on the field of mental health than the “Diagnostic and Statistical Manual of Mental Disorders” (DSM). Since it was first published over 70 years ago, it has evolved from what Michael First, MD, professor of clinical psychiatry at VP&S, described as a book that was used almost exclusively for administrative purposes for its diagnostic codes to become the comprehensive resource on the diagnosis of mental health disorders and the go-to guidebook for clinicians and researchers.

For Dr. First, it makes sense that his work on the DSM has become a defining part of his career. As a medical student with a computer science background, he wanted to develop algorithms that could help with medical diagnosis. “As I looked into it, I saw that psychiatry actually has these rules that are embodied in the DSM,” he says. Naturally, when he looked into residency programs, he wanted to work with the people who put together the DSM, then in its third iteration. And that led him to Columbia and Robert Spitzer, MD, a longtime psychiatry faculty member who died in 2015.

But when Dr. First came to Columbia as a resident, he didn’t necessarily know that he was joining a community

of psychiatry experts who would ultimately play a major role in the development and use of the DSM.

COLUMBIA’S ROLE IN DEVELOPMENT OF THE DSM

Efforts to classify psychiatric conditions have been going on for centuries as a way of trying to make sense of psychiatric illness. After World War II, four different classifications of mental disorders were in use in the United States. The American Psychiatric Association created the DSM to unify the different approaches and establish a single standard for psychiatric classification, “simply to help us know who was in our institutions and what kind of diagnoses they had,” says Paul Appelbaum, MD, the Elizabeth K. Dollard Professor of Psychiatry, Medicine and Law. When the first edition of the DSM was published in 1952, it included 106 diagnoses, compared with nearly 300 diagnostic categories 28 years later.

While the early editions of the DSM gave mental health professionals a tool to categorize and track patients clinically, diagnosis was still hit or miss. Psychiatrists lacked

**PUBLICATION
HAS PROVIDED
A GUIDE
FOR MENTAL
HEALTH CARE**

BY CHRISTINE YU | PHOTOGRAPHS BY JÖRG MEYER

clear or consistent criteria, with diagnosis based more on prevailing theories than empirical evidence. That meant that two psychiatrists could come up with different diagnoses for the same patient, which called into question the validity of diagnostic methods. “It was so unreliable, like flipping a coin,” says Dr. First.

During the second half of the 20th century, Columbia had become one of the meccas of psychiatric diagnosis, and the APA appointed Dr. Spitzer to lead the development of the third edition of the DSM. It was Dr. Spitzer who recognized the need for a more scientific system for diagnosis. When the DSM-III was published in 1980, it had nearly 500 pages and 265 diagnostic categories. Diagnostic labels based on psychoanalytic theories were replaced with a system based on descriptive symptoms, operationalized criteria, and agreed-upon decision rules.

The DSM-III led to a paradigm shift. It was embraced by clinicians who needed a sensible system to assess patients and make treatment decisions. It became a pivotal tool for researchers too. “All the studies that have been done in the past 40 years use the DSM system as a way to organize our knowledge about mental disorders,” says Dr. First. By improving the reliability of psychiatric diagnosis, the DSM also helped legitimize psychiatry in the eyes of the larger medical field and allowed for reimbursement from government entities and insurance companies.

THE COLUMBIA INFLUENCE

The DSM-III marked the beginning of Columbia’s long involvement with the publication. Dr. Spitzer was chosen to lead the effort

“If you wanted to have a breeding ground for people with an interest in psychiatric nosology, it would be difficult to imagine a better place than Columbia.”

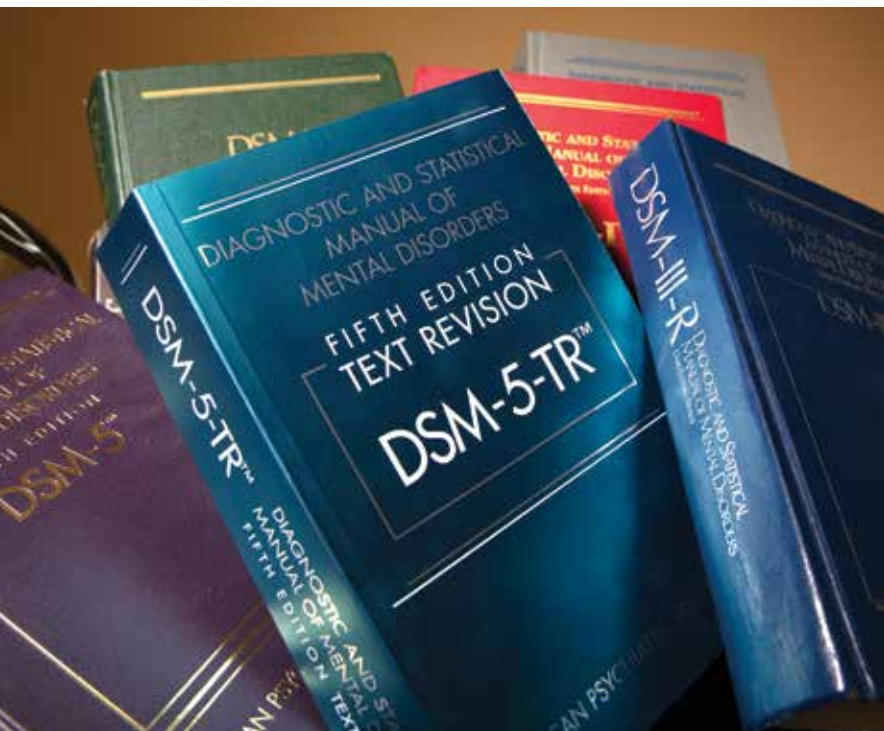
to develop DSM-III as well as the subsequent edition DSM-III-R and to serve as an adviser to the next edition, the DSM-IV. In his role, Dr. Spitzer invited Columbia professors to join the task force and work groups that were integral to shaping the content and direction of the book. He mentored the next generation of editors too, including Dr. First, who did a fellowship with Dr. Spitzer, was involved in the development of DSM-III-R and served as the editor of the DSM-IV, the DSM-IV text revision (DSM-IV-TR), and the current edition, DSM-5-TR.

“If you wanted to have a breeding ground for people with an interest in psychiatric nosology, it would be difficult to imagine a better place than Columbia. In the halls on any given day, you can bump into leading experts in so many of the areas of psychiatry that are reflected in the DSM,” says Dr. Appelbaum.

Dr. Spitzer also created the first edition of the structured clinical interview for DSM disorders, known as SCID, which has become the most widely used structured clinical interview in the world. “We don’t have lab tests like other medical fields. We just talk to people,” says Dr. First, who helped develop and co-author successive editions of the SCID. “We needed a method to improve the reliability and validity of the diagnostic process.” SCID gave clinicians a standardized interview format and is considered the gold standard for making psychiatric diagnoses in research settings. It further cemented Columbia’s association with the DSM and elevated the manual’s reliability.

But there were downsides to Columbia’s extensive influence over such a critical publication. When it was time to assemble the task force and work groups for the DSM-5, the APA didn’t invite Dr. Spitzer, Dr. First, or others affiliated with Columbia who had supervised prior editions to be part of the effort. “They wanted to cut Columbia out of the picture because they felt Columbia had dominated the publication,” says Dr. First. They also limited the number of work group members who could come from the same institution.

Dr. First says the impetus to exclude those who led the development of prior editions of the DSM was a desire to break from the past and move beyond the descriptive diagnostic system. Other areas of medicine have an underlying understanding of the pathophysiology, genetics, and other factors that give rise to a disease or disorder, but that’s



not the case in psychiatry. Those leading the DSM-5 efforts hoped that incorporating etiological research into the new edition would lead to another paradigm shift.

But, Dr. Appelbaum says, “the reality of psychiatric diagnosis is that it is syndromic, which is to say we look at the cluster of signs and symptoms in order to categorize disorders. We’re not yet at the point where we can identify conditions based on their etiology.” Even if the etiology of psychiatric disorders could be identified, he says, it’s not clear that it would lead to more effective therapeutic approaches.

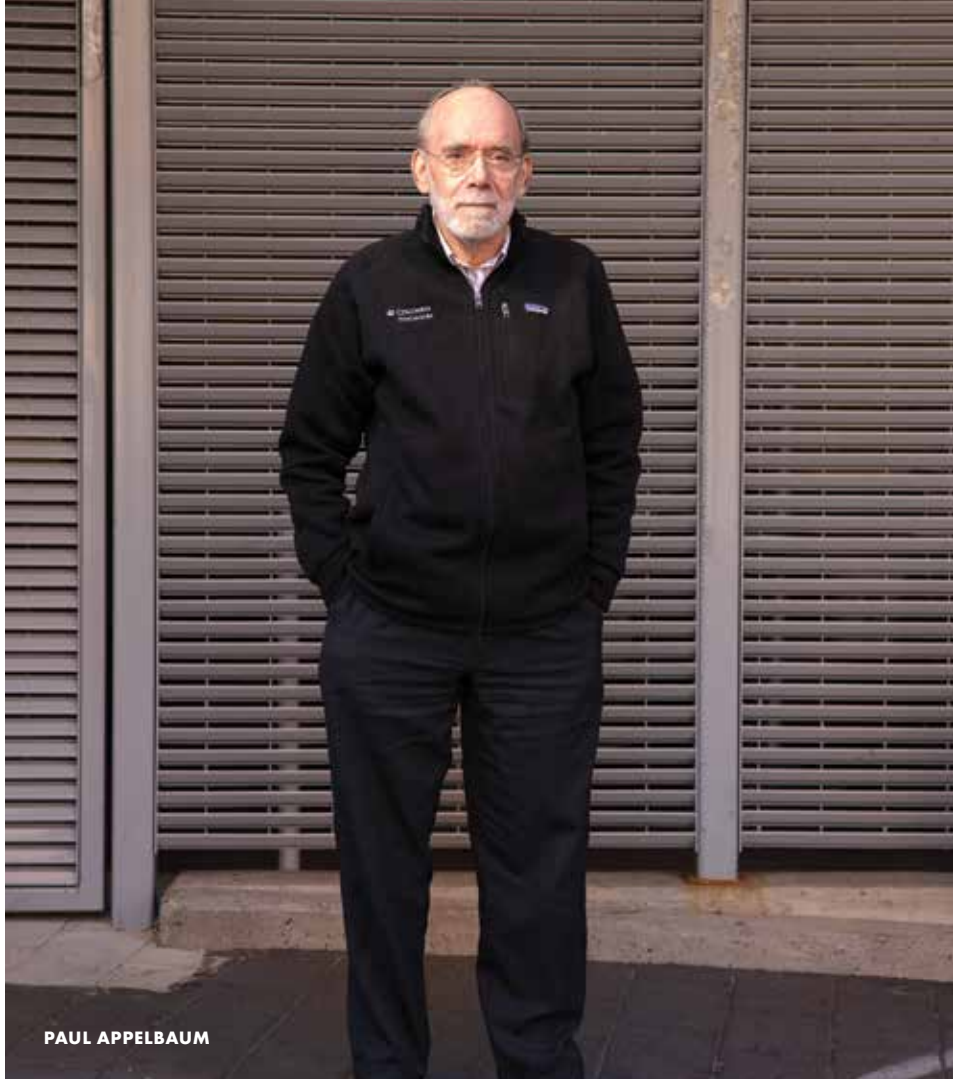
By excluding experts affiliated with Columbia, the DSM-5 task force was left with a leadership vacuum and no institutional knowledge about how to put together the publication, which led to confusion and delays. That led the APA to ultimately ask Dr. First to serve as an editorial consultant to help finish the project, which was released in 2013, 13 years after the previous edition.

Following publication of the DSM-5, Dr. Appelbaum led the work group to develop recommendations for an iterative revision model. As chair of the DSM steering committee, he oversees the implementation of the new process. The APA appointed Dr. First as editor and co-chair of the text revision of the DSM-5, which was released in March 2022. “It’s back in the hands of Columbia,” says Dr. First.

CONTINUED EVOLUTION

While diagnosis is a cornerstone in the practice of medicine, publications such as the DSM have inherent limitations. By its nature, the DSM aims to categorize mental disorders and their accompanying diagnostic criteria. It requires establishing thresholds that set boundaries for mental disorders. What’s considered within bounds and what’s considered out-of-bounds can be contentious. Some worry that these distinctions could lead to misuse and over-diagnosis of normal behavior. It’s a concern that Dr. Appelbaum says the steering committee considers seriously.

Take, for example, the addition of prolonged grief disorder as a new disorder in the DSM-5-TR. Some worry that its inclusion pathologizes normal grief. Yet for some people, grief doesn’t always resolve: It can go on for an extended period of time and be debilitating. The challenge for the work group, which included M. Katherine Shear, MD, the Marion E. Kenworthy Professor of Psychiatry at Columbia’s School of Social Work and an expert in complicated grief, was to determine where to set the cutoff point, based on research data. The work group sought to be conservative as a way to minimize the number of false positives and false nega-

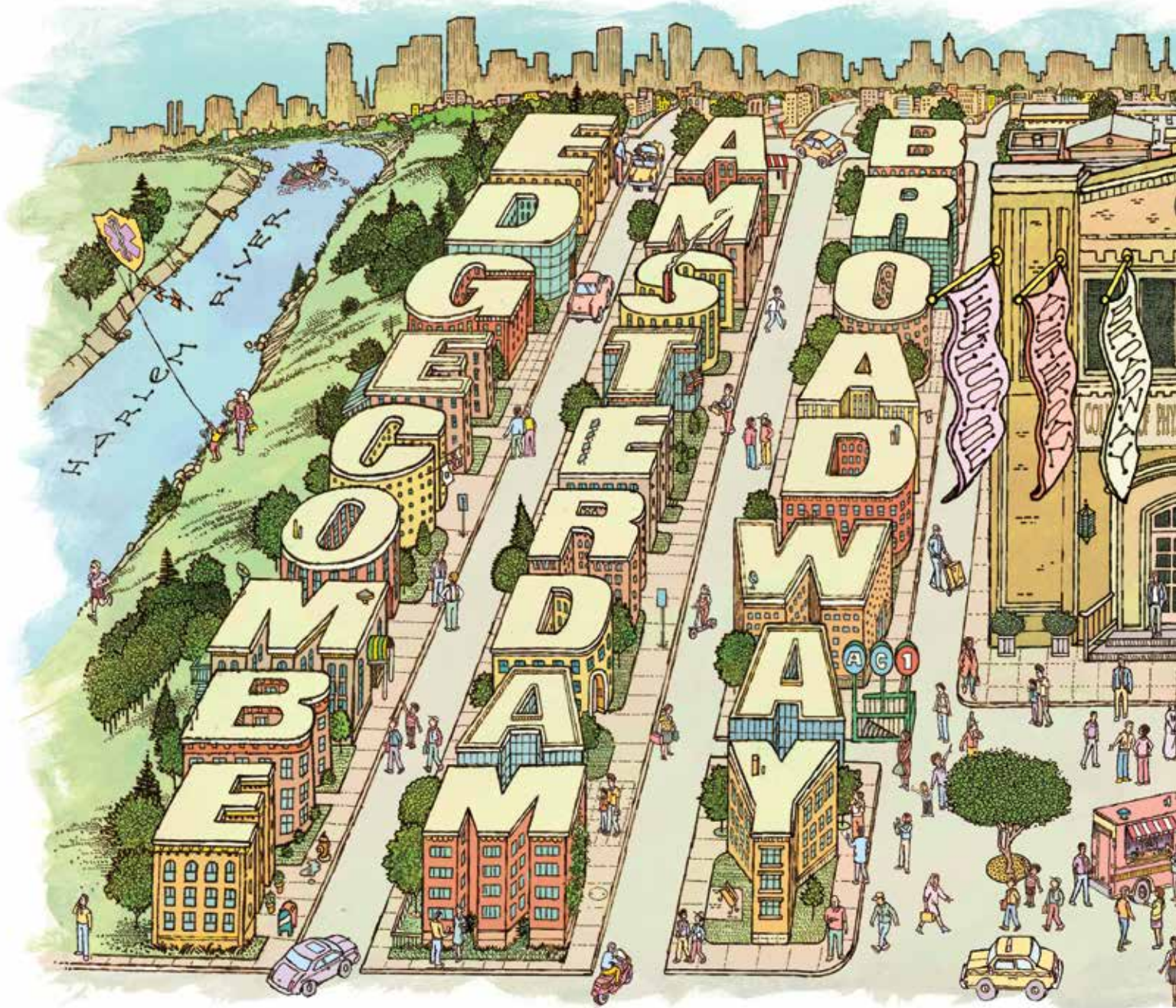


tives. The group settled on the requirement that the disorder be defined by substantial impairment in everyday life or substantial distress that persisted for at least one year after the loss.

“We have to be very careful both about the conditions included in DSM and the thresholds that define those conditions so that, as best as possible, we’re identifying people with the disorder and not labeling people who are just a little different as having the disorder,” says Dr. First. At the same time, it’s important to recognize these disorders. “There are all these people who are suffering. By identifying these things as conditions, we’re actually legitimizing their suffering and helping them to get the proper treatment.”

What started as a book of codes used to facilitate payment has become foundational to the field of mental health, influencing perceptions and understanding of mental health—by clinicians, researchers, and patients. It also has defined the field’s relationship to government agencies, insurance and pharmaceutical companies, and other medical specialties. The nature of a publication like the DSM is that it needs to be updated regularly to reflect advances in clinical practice and research as well as the changing nature of society.

“Columbia’s leadership in the DSM has been important to the growth and importance of the field of psychiatry,” says Dr. First, “and we hope to continue to be a part of the evolution of both the DSM and the profession to find better ways to help patients.” ❖

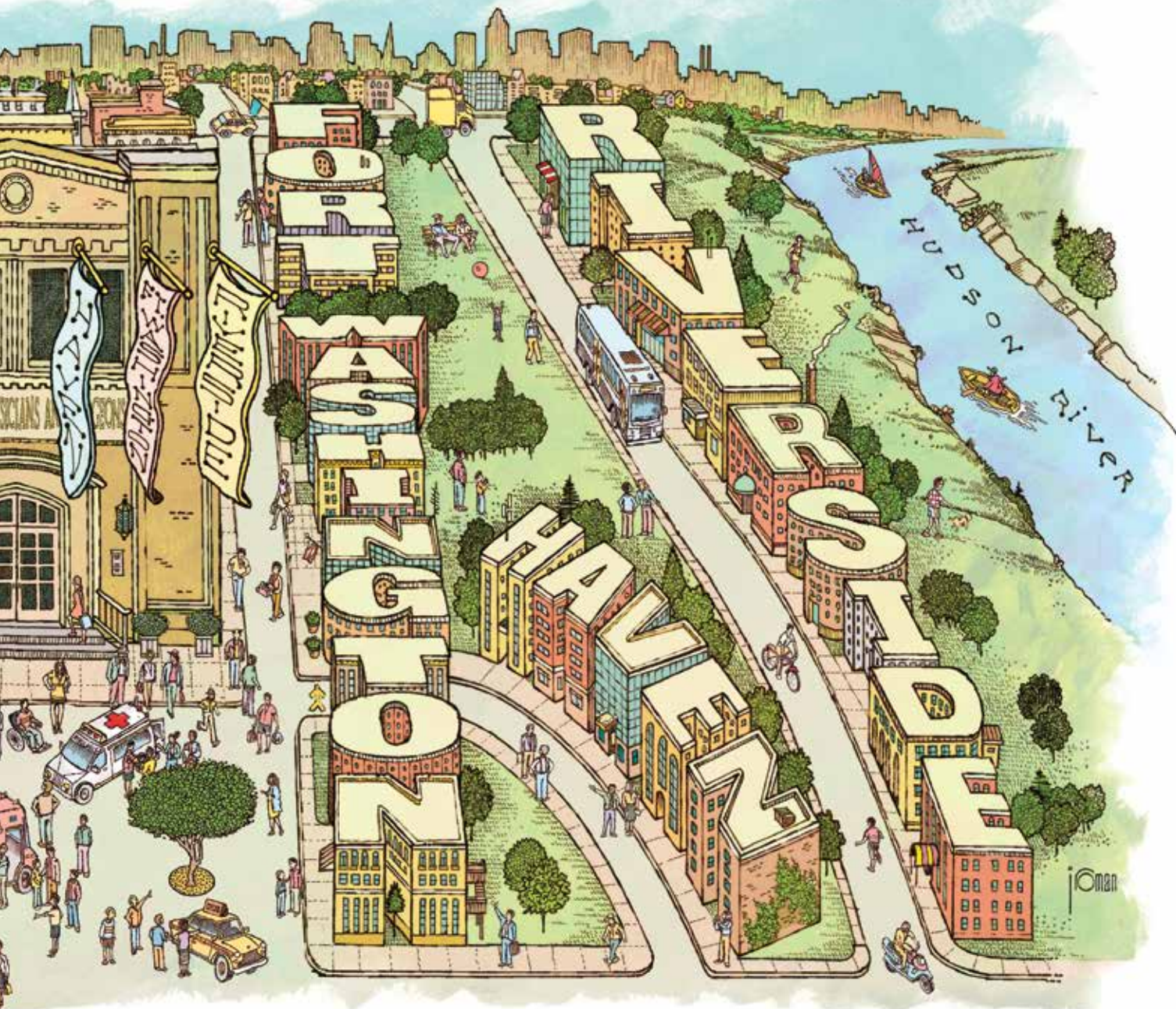


ADVISORY DEANS CULTIVATE COMMUNITY THROUGH NEW HOUSE PROGRAM // BY SHARON TREGASKIS

PILOT PROGRAM ENCOURAGES INCLUSION BY ADDING STUDENT PEERS

At the start of the 2022-23 academic year, Prashanth “PK” Kumar’25 and eight VP&S classmates attended a dinner with two dozen first-year students. The gathering, organized by the VP&S Office of Students Affairs, served as an icebreaker before the annual VP&S schoolwide boat cruise along the Hudson River. A few months later—before members of the Class of 2026 made their way to Broadway for showings of “Hadestown,” “Lion King,” “Phantom of the Opera,” and “Wicked”—the same group gathered for dinner in Harlem. Throughout the semester, the first- and second-year students gathered to play chess and UNO, share lunch, and kick back.

This year, members of the first-year class—M1s—enjoyed several events with groups of second-year stu-



**ILLUSTRATION BY
JOHN ROMAN**

**PORTRAITS BY
JÖRG MEYER**

dents known as M2 Peer Advisors, or M2PAs. “My role is to connect M1s with resources and opportunities, talk them through the transition to life as a medical student, help out however I can,” says Mr. Kumar, who is one of 54 second-year students in the inaugural group of M2PAs who work with six groups of students—or “houses”—led by advisory deans.

The new M2PA initiative—and the associated “house” system, which also launched as part of orientation for new students in August 2022—cultivates “near-peer” advising relationships to augment the advisory dean system that has been administered by the Office of Student Affairs for the past 20 years. Felicia Goodman, senior director of student affairs at VP&S, proposed building a house program and led the design and

implementation of the pilot in partnership with student leaders, faculty, and colleagues. Each incoming student is assigned to one of six “houses,” each named after a Washington Heights thoroughfare—Amsterdam, Broadway, Edgecombe, Fort Washington, Haven, and Riverside—and each led by an advisory dean with support from the assigned M2PAs. Each house is formed from two Foundations of Clinical Medicine small groups, and the faculty preceptors for the course also play an important role in the house.

The new house system establishes a web of relationships among first- and second-year students as part of the orientation process—before M1s even know what they need to know. Monthly hangouts and informal gatherings provide opportunities for first- and second-



year students to exchange information during the school year. “I’m just there, answering questions, hanging out, checking in while playing board games,” says Mr. Kumar, who has fielded queries from M1s seeking tips for exam prep or just venting about feeling overwhelmed by their coursework.

“The vision is to cultivate a community where students really feel a sense of inclusion and belonging,” says Lisa Mellman, MD, senior associate dean for student affairs. “Our goal is for each student to have an experience in medical school in which they thrive academically, professionally, and interpersonally.” Ms. Goodman credits seven leaders of the Class of 2025—Gabrielle Wimer, Konje Machini, Joshua Dawson, Charu Vyas, Prateek Sahni, Apoorva Mehta, and Kenny Egbuonu—with contributing to the launch of the pilot house program.

House functions augment other events and outings organized by the Office of Student Affairs, including a field day competition that was held last fall in Riverside Park.

Over time, the network of each house will span all four classes enrolled at VP&S, plus recent graduates, as successive incoming students are assigned to houses. The resulting vertical communities will comprise networks of social ties that connect M1s to doctors at every level of training and practice.

Before the advisory dean program launched in 2003, a first-year medical student had to rely on old-fashioned pluck, approaching whatever faculty member or upper-level student seemed likely to offer help. Peter Puchner’62, professor emeritus of clinical urology, and Linda Lewis, MD, former dean of students, envisioned a formal

structure for mentoring every student. The resulting advisory dean program launched with five specially trained faculty members as advisors, including Dr. Mellman, then a faculty member in psychiatry, and Donald O. Quest’70, the J. Lawrence Pool Professor of Neurological Surgery.

For two decades, Dr. Puchner chaired the program, overseeing the competitive process for selection of new advisory deans and a formal training program that features presentations on student services, including academic support, financial aid, housing, and student health. The newest advisory dean, Gina Badalato’07, assistant professor of urology, has been serving alongside Dr. Quest, an outgoing advisory dean, this spring to learn her new role.

Every two weeks, advisory deans host a lunch focused on navigating current or upcoming transitions and on particular specialties or types of career: how to prepare for exams, what to expect during the major clinical year, the risks and rewards of dual-degree programs. “We also deal with themes we find important,” says Dr. Quest, who has covered such topics as epidemics and gun violence.

Often, the role of an advisory dean toggles between career advising and more personal conversation, says advisory dean Salila Kurra’03, associate professor of medicine, who leads Haven House. Consider, for example, the rankings each student must provide for the residency matching process. “People are deciding what’s important to them—being close to family, training at a particular institution. We’re guiding students through that process with a sharp focus on what they’re prioritizing.”



Working with students as an advisory dean since 2016 has helped invigorate her own career, says Dr. Kurra, who previously directed the endocrinology fellowship. “Students have infectious enthusiasm for medicine. Being involved in their journeys from the beginning and helping them think through the choices that will lead to happy careers is a unique privilege.”

Early in her own first year at VP&S, a combination of imposter syndrome and the sheer volume of information she was consuming made for a tough transition, says Dr. Kurra. To make sure students have the support they need, advisory deans schedule one-on-one meetings with each of their M1s. “Even if you’re not inclined to seek help, it’s an opportunity to connect.” Almost all students uses the full 30 minutes she schedules for each check-in. “Students really want to talk about their experiences.”

The house system being piloted for the advisory dean program increases formal and informal opportunities for peer advising. When Nadine Khoury²⁵ entered VP&S, she jumped into extracurriculars with both feet, an approach that brought her into contact with a wide swath of upper-level students. In addition to serving as an M2PA with Haven House, she serves as co-president of Systems Leadership Integration Management; director of finance and a member of the quality improvement committee for CoSMO, the student-run clinic; co-president of the Musicians’ Guild and a performer in Musical Mondays; and anatomy course coordinator for the Student Success Network.

As an extrovert, Ms. Khoury had a relatively easy time connecting with peer mentors. “A lot of experi-

ences at Columbia hinge on what you choose to do in the first few months,” says Ms. Khoury. “If you don’t have a network of people available, it can be hard to find the information you need.”

Having the sympathetic ear of a peer who already knows the VP&S culture can make a world of difference, says Ms. Khoury. “There’s a certain frame of reference you have on the community, a vibe that helps you know what’s appropriate in a given time or place, what’s

“Students have infectious enthusiasm for medicine. Being involved in their journeys from the beginning and helping them think through the choices that will lead to happy careers is a unique privilege.”

the norm, even little things—the formats of our lectures, knowing the internal flashcard decks we have and how to use them. Now we have older students taking it upon themselves to disseminate videos and information sheets on how to use those resources.”

Peer mentors also ease the transition to big city living for students from out of town. Mr. Kumar has helped Broadway House M1s find renters insurance, navigate the housing market, and zero in on good restaurants. “I see people interview and apply and I want to make sure they’re happy and thriving here,” says Mr. Kumar, who is the admissions representative for his class. “I feel like I’ve been part of their journey. I’ve promised them that it’s a wonderful environment, and I want to see them succeed.” ♦

Alumni News & Notes

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

1964

See Alumni in Print to read about a book written by **Willard E. Andrews**. Raised and educated on the East Coast, Willard completed his specialty training at the Medical Center Hospitals of Vermont. Following a career in general surgery spent mostly in Alaska, he retired to the life of a ski bum in the Central Idaho Rockies, where he lives with wife, Linda. In retirement, he became a builder of fine-art models of New England fishing schooners, several of which are on display at a well-known East Coast museum.

1966

Duke University, the longtime academic home of Nobel-ist **Robert Lefkowitz**, named him the first recipient of a new chancellor's professorship created to recognize Duke School of Medicine faculty members who have achieved the highest level of excellence and impact in scientific discovery and its translation. Before becoming the Chancellor's Distinguished Professor, Bob was the James B. Duke Distinguished Professor of Medicine. He also is professor of biochemistry, pathology, and chemistry at Duke.

1976

Roger C. Mixter Jr. has retired from his Milwaukee area plastic



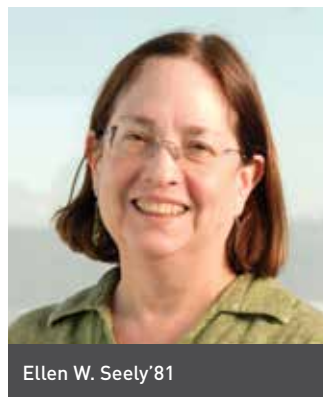
Roger C. Mixter Jr.'76

surgery practice after a 45-year career that focused on craniofacial and cosmetic surgery. A native of Milwaukee, Roger is emeritus associate professor of surgery at the University of Wisconsin and assistant professor at Marquette University. He served as an examiner for the American Board of Plastic Surgery and advisory board member and plastic surgery consultant for Pinnacle Healthcare. In his academic medical practice, he authored more than 50 medical articles and book chapters and gave more than 50 major presentations around the world in locations that include Australia, Brazil, Canada, Cuba, France, India, and Italy. His charitable work includes serving as director of F.A.C.E Foundation, mentor at the Boys and Girls Clubs to promote healthy eating to reduce childhood obesity in Milwaukee, and founding mem-

ber of the Wisconsin Gang Tattoo Removal Foundation. Roger is particularly proud of a program, Lose the Tattoos, that he held four times a year at the Boys & Girls Clubs to remove tattoos from former gang members. He repaired cleft palates for 25 years in Mexico, performed craniofacial surgery in Russia, and in 2018 trained Haiti's next generation of plastic surgeons.

1981

Ellen W. Seely received a 2022 William Silen Lifetime Achievement Award from Harvard Medical School. The award recognizes faculty achievements in the mentoring of students, residents, and/or faculty. Ellen is profes-



Ellen W. Seely'81

sor of medicine at Harvard and director of clinical research for the Endocrinology, Diabetes and Hypertension Division and vice chair for faculty development in the Department of Medicine. Her research focuses on the pregnancy complications of gestational diabetes and preeclampsia and their implications for future cardiometabolic health. She has devised web and app-delivered programs to support lifestyle behavior change in recently pregnant women with adverse pregnancy outcomes. She has had

a long-term commitment to mentoring early career faculty and developing programs to educate faculty how to become efficient and effective mentors. Ellen completed her internal medicine residency and fellowship in endocrinology and metabolism at Brigham and Women's Hospital in Boston.

1985

See Alumni in Print to read about a book written by **John Scott Baird**. John, associate professor of pediatrics at VP&S, specializes in critical care medicine, internal medicine, and pediatric critical care medicine. His current research interests include clinical aspects of critical care medicine. He focuses on understanding and improving outcomes from childhood diseases, particularly pulmonary and renal diseases, that require care in the pediatric intensive care unit.

George Hripcsak received the 2022 Morris F. Collen Award of Excellence from the American College of Medical Informatics in November. The award is named for a thought leader in the field of medical informatics and is presented to an individual whose personal commitment and dedication to medical informatics has made a lasting impression on the field.

1987

See Alumni in Print to read about "The Curious History of the Heart," a book by **Vincent M. Figueredo**. Vince has been a practicing cardiologist and physician-scientist for 30 years with roles in academic medicine, medical research, teaching, private practice, and senior hospital administration.

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1991

Mignon Loh has joined Seattle Children's Hospital to lead cancer care and research. Before joining Seattle Children's, Mignon was chief of pediatric oncology at the University of California, San Francisco Benioff Children's Hospitals. In addition to leading the Cancer and Blood Disorders Center at Seattle Children's, she directs the Ben Towne Center for Childhood Cancer Research at Seattle Children's Research Institute and is chief of the division of pediatric hematology, oncology, bone marrow transplant and cellular therapy at the University of Washington School of Medicine. She also is one of the two deputy directors at the Fred Hutch Cancer Center.



Tara Friedman '97

chief medical officer. Before joining Chapters Health, Tara was vice president and national medical officer for Aspire Health, a subsidiary of Anthem. She began her career at Aspire as the senior medical director and received multiple promotions during her tenure there. After completing an internal medicine residency at Mount Sinai Medical Center in New York, she completed a fellowship in hospice and palliative medicine at the Hospital of the University of Pennsylvania in Philadelphia. She is an active member of the American Academy of Hospice and Palliative Medicine. She has served on its board for 10 years, including four years on the executive committee. She is currently president of the board.

Kevin Yao has been chief of neurosurgery at Englewood Health in New Jersey since 2021. In 2022, Englewood Health became the first hospital in New Jersey and one of only 20 hospitals in the country to introduce new advanced technology for robot-assisted spine surgery. The robotic imaging and navigation platform uses GPS-like precision to enhance patient safety, improve accuracy and efficiency, and enable minimally invasive surgery. Kevin's expertise includes complex brain and spine surgery to remove tumors; spinal surgery for herniated discs and stenosis; endoscopic pituitary surgery; and



Kevin Yao '97

radiosurgery. He completed a neurosurgery residency at Mount Sinai Medical Center and a neurosurgical oncology fellowship at the University of Texas MD Anderson Cancer Center in Houston.

2004

Megan L. Ranney has been appointed dean of the Yale School of Public Health, effective July 1. She currently is deputy dean of the Brown University School of Public Health and has been on the Brown public health faculty since 2008. She is also professor of behavioral and social science, the Warren Alpert Endowed Professor of Emergency Medicine at Brown University's Alpert Medical School, and founding director of the Brown-Lifespan Center for Digital Health. She has built a career on creating and implementing community-driven approaches to solve longstanding and emerging public health problems, working



Megan L. Ranney '04

with diverse groups to address firearm injury and COVID-19 and to promote population-level health. Her funded research, which focuses primarily on developing, testing, and disseminating technology-augmented interventions to prevent violence and related behavioral health problems, has been supported by the NIH, the National Science Foundation, the American Public Health Association, and other organizations. She co-founded the American Foundation for Firearm Injury Reduction in Medicine at the Aspen Institute and GetUsPPE.org, a startup nonprofit that delivered donated personal protective equipment to those who needed it most at the outset of the COVID-19 pandemic. She is a member of the Aspen Global Leadership Network and serves on the board of trustees for the National Opioid Abatement Trust and on the board of directors for the Non-violence Institute in Providence, Rhode Island. After completing her residency and chief residency in emergency medicine at Brown, she obtained her MPH degree and completed an injury prevention research fellowship at Brown.

2007

Gina Badalato, assistant professor of urology at VP&S, has been appointed a VP&S Advisory Dean, succeeding **Don Quest '70**. She has worked with Don throughout the spring term and will assume the role in full after June 30. She completed her residency training in urology at Columbia in 2013 and completed a fellowship in voiding dysfunction and kidney stones, which is the current focus of her practice. Since joining the faculty at VP&S in 2014, Gina has served as the clerkship director for all medical student rotations in urology. She is vice chair of education and faculty affairs in the Department

1996

Eugene Kim, a pediatric surgeon who has an interest in neuroblastoma research, has been named director of the Division of Pediatric General Surgery and vice chair of the Department of Pediatric Surgery at Cedars-Sinai Guerin



Eugene Kim '96

Children's in Los Angeles. Cedars-Sinai Guerin Children's was established in 2021 to provide pediatric primary and specialty care across a regional network of health care providers and hospitals.

1997

Tara Friedman has joined Chapters Health System in Florida as



Gina Badalato '07

of Urology, involving her in all aspects of educational programming for students, residents, and faculty. In 2022, she was recognized nationally with the American Urological Association Residents and Fellows Teaching Award.

2008

Daniela Lamas was keynote speaker at the 2022 Steve Miller Day hosted by the VP&S Department of Pediatrics. The annual event honors Dr. Miller, a 1984 graduate and VP&S faculty member who was known



BRANDON HERMAN

Daniela Lamas '08, center, with Dodi Meyer (widow of Steve Miller '84), left, and Marina Catalozzi, vice chair for education in the Department of Pediatrics and emcee for the event.

for delivering high quality care with empathy, compassion, and humanism. Daniela spoke about the relationship among medicine, humanism, and technology and her work as a faculty member at the Harvard Medical School, critical care doctor at Brigham and Women's Hospital, and writer.



Kelly Fradin '10

2010

See Alumni in Print to read about a book written by **Kelly Fradin**. A pediatrician in New York City, she focuses on school health and treating children with chronic medical conditions. As director of pediatrics at the Atria Institute, she runs a primary and preventive care practice in NYC with a broader mission to promote health innovations and help underserved communities. She consults for and speaks to corporations, schools, and organizations interested in children's health and well-being. She also provides practical advice and support via Instagram, @advicegivemyfriends. Kelly is also the author of "Parenting in a Pandemic: How to Help Your Family Through COVID-19."

Ramapo for Children, a 100-year-old organization dedicated to creating inclusive communities that provide opportunities for success for children and young people



Daniel H. Stephens '10

with a range of social, emotional, developmental, and neurological differences, named **Daniel H. Stephens** executive director of its Rhinebeck, New York, campus, as of Oct. 11, 2022. Previous roles include serving as interim national director of the Wellness & Equity Alliance, deputy commissioner for children and families at the NYC Department of Health and Mental Hygiene during COVID, leader of the Health and Wellness Division at Children's Aid, and director of adolescent medicine at the Union Community Health Center in the Bronx. He started his career as a pediatrician at Harlem Hospital Center.

2016 PhD

Kara Marshall has been named a McNair Scholar at Baylor College of Medicine. She is an assistant professor of neuroscience at Baylor College of Medicine (BCM) and a faculty member at the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital. The McNair Scholars program identifies and recruits the best and brightest scientists in neuroscience, with a focus on neuromodulation. Kara joined BCM in 2022 to establish a lab that focuses on understanding how the brain and nervous system detect mechanical forces in the body. She and her team aim to uncover how the urinary and gastrointestinal tract communicates fullness to the brain,

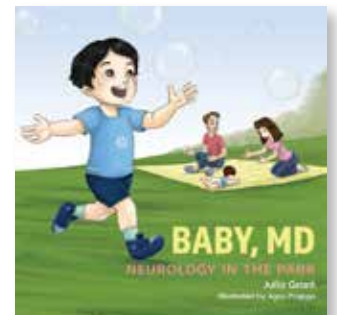


Kara Marshall '16 PhD

what causes internal organ pain, and how these internal cues affect behavior and physiology. After college, Kara started a PhD program at BCM, where she earned an MS degree in neuroscience, but later followed her mentor to Columbia, where she earned her PhD in cellular, molecular, and biomedical science. She completed her postdoctoral work with Ardem Patapoutian at the Howard Hughes Medical Institute and Scripps Research. She has received several awards, including being named a Kavli Fellow in 2021 and earning the Dean's Award for Excellence in Research at Columbia.

House Staff

Julia Shirvan, who graduated from the combined internal medicine and neurology residency program in 2017, has had a board book, "Baby, MD: Neurology in the Park," published by



Mascot Books. The book, Julia writes, tells a story about Joe, who like so many children enjoys going to the playground and park with his family. Julia uses popular activities, such as chasing bubbles and playing catch, to demonstrate brain functions. "I simplify medical topics for older readers and highlight fundamental topics, such as numbers, laterality, and friendship, for the youngest readers." Julia is a medical director at Biogen in the neurodegeneration development unit working on clinical trials in Parkinson's disease.



Photograph of Megumi Yamaguchi Shinoda from her 1929 medical school application

● ALUMNI IN HISTORY

Megumi Shinoda: First Asian American Female Graduate

By Jingwen Zhang'23

Megumi Shinoda (1908-2007) in 1933 was the first Asian American woman to graduate from what is now the Vagelos College of Physicians and Surgeons and one of the two first Asian American women in the United States to receive an MD degree.

Dr. Shinoda was born in Cleveland while her father, Minosuke Yamaguchi, was finishing medical school at what is now Case Western Reserve University. Her family relocated to New York City, creating what a local journalist called a “Japanese colony” in Inwood, similar to other ethnic enclaves that formed throughout the city.

She attended Barnard College and graduated with Phi Beta Kappa honors before applying to VP&S in 1929. She was initially notified that she “complied with the requirements for admission to our first-year class,” but “the quota for women has been chosen,” landing her on the waitlist. A month later, she was admitted from the waitlist and began her medical education that fall. She completed her sub-internship at the Jersey City Hospital and received Alpha Omega Alpha honors. At the time of her graduation, she noted in a letter to a professor, “I wish I could tell you just how much P&S has come to mean to me. I have enjoyed my four years there tremendously.”

She applied for a residency at the Los Angeles County General Hospital and became the first Japanese American intern there. She married Joseph Shinoda and their first child was born in 1936. Upon finishing her training, Dr. Shinoda ran an OB/GYN-focused general practice in Los Angeles’ Little Tokyo and “probably delivered half of the Japanese American babies in Los Angeles,” noted her obituary in the Los Angeles Times.

Her medical career was interrupted by World War II and the resulting anti-Japanese sentiment, which culminated in the unprecedented and widespread internment of Americans of Japanese descent. She returned to New York and did not have to go to the camps, though

several of her relatives were less fortunate. Her father, as an East Coast-based “sponsor,” was able to help some family members leave the camps and attend school elsewhere in the country. In 1943, Dr. Shinoda asked her professors at VP&S for assistance and recommendations in securing positions in Colorado and Utah. “[I] would undoubtedly be still in general practice were it not for the war and the unfortunate fact of my Japanese ancestry,” she wrote, “which along with all other people of my race uprooted me from a pleasant existence on the west coast.” She also wrote about possibly pivoting to psychiatry, as she was a mother of two and wanted to spend more time with her children than she would if she continued primarily practicing OB/GYN.

After the war, Dr. Shinoda was able to move back to Los Angeles, where she resumed her general medical practice in 1946. The practice soon thrived once more, and she also ran a popular health advice column in a newspaper for the Japanese American community. For her contributions to the community, she was given a spot on the “walk of fame” on First Street in Little Tokyo, where her medical bag was inscribed in the cement.

Eventually, Dr. Shinoda revisited the idea of practicing psychiatry and ran a successful psychiatric practice in Hollywood until she retired at age 88.

This was excerpted from a post written by Jingwen Zhang'23 that appeared in Primary Sources, the blog of Archives & Special Collections in the Augustus C. Long Health Sciences Library. Dr. Zhang used the resources of Archives & Special Collections and these other sources: My Inwood website, Dr. Shinoda's obituary, encyclopedia.com, the National Archives, the transcript of an interview with Dr. Shinoda's niece, the Topaz Stories website, and the Pacific Citizen newspaper.

● ALUMNI PROFILE

Stuart Hamilton '74

A pediatrician delivering compassionate care regardless of economic status

By Julia Hickey González

When pediatrician Stuart Hamilton returned to his apartment in Washington Heights after a trip to Chester, South Carolina, a hate letter was waiting in his mailbox.

“You won’t like it here,” it said. The writer warned Dr. Hamilton and his wife against buying a home in the Chester neighborhood they had toured just weeks before. It was 1976, the year he finished his residency at Babies Hospital in New York City. He had joined the U.S. Public Health Service and was now assigned as the only pediatrician in a rural county in South Carolina that—he later discovered—still had separate waiting rooms for white and Black patients.

“Oh, brother. This is going to be a little tougher than I thought,” he remembers thinking. But he reminded himself: “Deny yourself and pick up your cross. You are here for one purpose. And that purpose is service to people who don’t get it.”

The letter writer was correct that Dr. Hamilton would not find living in Chester easy. At one point, someone chased him with a car. Someone killed his dog. The other doctors refused to cross-cover his night or weekend calls, so for two years he had no true days off.

But Dr. Hamilton was also correct about his life’s purpose. Today, 47% of people at or below the poverty level in two counties of the midlands of South Carolina

are served by Cooperative Health, the system of compassionate non-profit primary care centers that he went on to create. According to the Health Resources & Services Administration, Cooperative Health continues to rank in the top 50 of the nation’s 1,200 community health center systems for volume of patient visits. Patients are able to make payments on a sliding scale, and no one is turned away for inability to pay. Today, Cooperative Health operates 20 clinical sites

with 80 full-time physicians and nurse practitioners and additional services, including dentistry, podiatry, pharmacy, and family counseling. The network recently opened a dedicated women’s health center.

While Dr. Hamilton’s influence grew over the years, the racism he experienced never entirely disappeared. For example, a patient’s parents made calls to verify that Dr. Hamilton graduated from Trinity College and Columbia University’s Vagelos College of Physicians and Surgeons. They did not appreciate that his Columbia training, especially the grueling rigor of residency, prepared him to provide them with the best of care.

“I always remembered from training, an attending physician said that one of the things that separates the good doctors from the not good doctors is the quality of the patient note at 3 a.m. If you can do a good workup at 3 a.m. that looks just like your workup at 3 in the afternoon, then you have arrived,” he said.

In 2007, South Carolina Gov. Mark Sanford awarded Dr. Hamilton the Order of the Palmetto, recognizing lifetime achievement and service. That same year, the City of Columbia presented him with keys to the city. These recognitions are especially significant because of, or perhaps despite, the aggressions Dr. Hamilton experienced while pressing for transformation of the primary care landscape in communities that had been languishing, awaiting local access to primary care.

Pediatrics in practice

As a pediatrician, alleviating fear must become a specialty. First there are babies to be immunized. Dr. Hamilton and a nurse positioned the babies facing away from him so he could inject them, run out of the room, and re-enter again unexpectedly to soothe their tears.

“Next time the child came in, they weren’t afraid of me at all. It worked every single time except when the nurse was off. That was a disaster,” he says.

Then there were the brave children facing extensive treatments, such as a 9-year-old boy undergoing chemotherapy for leukemia during Dr. Hamilton’s residency. Dr. Hamilton noticed that “Green Acres” and its familiar jingle came on TV during their time together. He arranged to arrive and search for IV sites while the program was on, which calmed the boy down.



Stuart Hamilton at VP&S in 1973



“It was like visiting your neighbors,” he remembers, adding that pediatric practice appealed to him for its collegial atmosphere. “You rotate through adult medicine, and it’s very cerebral. You stand around and hypothesize about what the patient may have, what that means, and what you will do about it. I enjoyed that. In pediatrics, you do the same thing—except the staff were much warmer, more congenial, and more laid back.”

This warmth also aids in dealing with concerned parents.

“A parent might say of their child, ‘He gets headaches.’ But their real concern is, ‘I think my child has a brain tumor,’ and you have to prove he doesn’t.”

So, Dr. Hamilton took to thinking out loud to include parents in his process of deduction. He verbally eliminated as many causes as possible while completing the exam before presenting a treatment plan. Only if the medicine didn’t work would they begin the testing. “And nine times out of 10, it works, and you do not have to do the big hunt,” he says. “Once they get it, parents are on board.”

Unfortunately, not all his patients were so amenable. Adults could be difficult. One night, when Dr. Hamilton was serving two weeks of emergency room duty with his Army Reserve unit at a Southern base, the staff was aggressively confronted by a drunk, broad-shouldered sergeant who had been cut up in a bar fight. While blood poured from his deep facial lacerations, he cursed and yelled that he didn’t want anybody Black to touch him.

Because the entire staff that night was Black, all eyes were on Dr. Hamilton for direction.

“The reptilian part of my brain screamed, ‘This is the embodiment of evil.’ The cortex whispered, ‘You have to calm the staff, approach the patient empathetically, and start the care. There’s a way to diffuse this without pouring gasoline on it.’

“For 15 minutes, I told him every off-color joke I could. By the third joke, he was visibly relaxed and waiting for the fourth. Twenty minutes into it, he was totally calm.” Dr. Hamilton used a thread the diameter of an eyelash to deliver 65 carefully placed stitches. Eventually, the sergeant fell asleep.

Serving the underserved

“I grew up with a strange sense of diplomatic immunity,” says Dr. Hamilton, who always managed to evade schoolyard bullies while growing up in Lakeview, Long Island. Maintaining composure in the face of challenge—no matter how unfair—is a skill Dr. Hamilton learned early on. He was 13 years old when his father, a police officer in Brooklyn, died of an aneurysm. Instead of panicking, the boy prayed and received an assurance that he would be okay.

“If at the center of your little being, you know you will be OK, what does that allow you to do? To put yourself at risk. It takes the fear away,” he says.

He also exhibited, quite early, a sense of social empathy. He noticed that other first graders in his class had holes in their shoes that were bigger than the holes in his shoes. They wore the same clothes every day, and their bicycles needed repair.

“They were wounded. They weren’t as happy. Some were angry. There were fights. I just felt badly because every kid should have a measure of stability,” he says.

He realized he was blessed because he and his two siblings had their material needs met, and his parents’ relationship was “steady as the tides.” Later he would find his own love, meeting his wife, Barbara, when the two were undergraduates in Connecticut. He was at a concert when his blind date left unannounced and didn’t return. Barbara, who was taking tickets, approached him to chat. They talked until sunrise.

“By then, you could see your unborn children in her eyes. The rest is history,” he says. They married three days before his first pharmacology exam, and she attended NYU Law School. Barbara gave birth to their first child five months into their eye-opening assignment at Chester.

After Chester, the family moved 50 miles to Columbia, South Carolina, where Dr. Hamilton had a much warmer welcome as a chief pediatrics resident at Richland Memorial Hospital. But ever eager to assist those at the margins, he went on to serve as medical director for the South Carolina Department of Juvenile Justice’s youth prison. He and one psychiatrist cared for nearly 400 boys and girls from all over the state. He advocated for basic safety measures for prison occupants, such as relocating a child with hemophilia from the yard where he was repeatedly beaten or diagnosing a boy’s congenital heart disease that could result in sudden death from exertion on the playground.

At the same time, he had a job performing recruitment physicals for an Army enlistment processing center. It was a busy time. “First thing in the morning, recruits would fib to me about how healthy they were. Later, I would go to the youth prison, and they would fib to me about how sick they were,” he says. The imprisoned youth loved coming to the infirmary because it was air conditioned, and they were treated well.

From no-profit to not-for-profit

In 1981, Dr. Hamilton moved on from the prison to open the private practice, Eau Claire Pediatrics, named for the low-income neighborhood of Columbia that it served. For more than 10 years, Eau Claire Pediatrics provided a health safety net to residents of local and neighboring communities, regardless of economic status. Dr. Hamilton also created a mobile health outreach unit in a 35-foot RV to provide well-child exams and immunizations up to 150 miles away. But despite all the much-needed work that Dr. Hamilton and his team performed, he couldn’t make ends meet. He could pay the staff and the junior doctor, but he couldn’t pay himself. And at this rate, he would never retire.

“I wasn’t getting paid two-thirds of the time, period. The money just wasn’t there.”

He joined the Army Reserves for comradeship and a retirement plan. When the Army activated his service during the Gulf War, he found unexpected peace of mind at the Georgia base’s pediatric clinic.

“It doesn’t matter whether you are seeing a corporal’s child or a major’s child or a sergeant’s child. Economics have no bearing. You can order whatever is appropriate and do whatever you have to do without worrying about money. I considered staying in the Army just because you don’t have to worry about patient economics.”

Ultimately, he and Barbara decided to stick it out in South Carolina, where the community still needed him. But something extraordinary happened soon after Dr. Hamilton returned to his private practice in Eau Claire.

One afternoon, two men arrived at the office and asked, “Have you considered becoming a non-profit community health center?” They outlined the many steps required to launch a federally qualified health center and to compete for grant support.

He ran with the suggestion.

As it turns out, a local hospital was hemorrhaging money by treating uninsured emergency room patients from one rural town with a sizeable migrant population and a high poverty rate. It also happened to be the regional headquarters of the Ku Klux Klan and



The KwaZulu-Natal community primary clinic under construction in 2007 in the township of Esikhawini, South Africa

the epicenter of South Carolina’s methamphetamine production. The hospital supported Dr. Hamilton’s cooperative by constructing and donating a customized medical office facility to provide treatment for low-income patients in a new not-for-profit setting.

Dr. Hamilton was delighted.

“We were more than happy to get rid of the for-profit model, dump it, and pick up the not-for-profit model,” he says. The non-profit community health center launched in 1993, and with the help of grant funding, community fundraisers (including help from Yvonne Thornton’73), and local donations of paper products, the practice bloomed.

In time, the Eau Claire Cooperative took over two additional private practices and four hospital practices operating in the red,

transitioning them into thriving federally qualified health centers. Dr. Hamilton also became medical director of Select Health of South Carolina, the state’s first and largest Medicaid-managed care provider for low-income individuals.

“I learned it all the hard way,” says Dr. Hamilton, who describes himself as “not a business person. I have one buttock bigger than the other because of all the chunks that have been taken out of it.”

Compassion projects

Dr. Hamilton taught himself oil painting while a medical student. After decades of creating African American history paintings of protest marches, Civil War troops, and African themes, he enjoys painting landscapes on his porch.

“It idealizes the world,” he says. “Especially now.”

Dr. Hamilton is retired as an Army lieutenant colonel. He maintains ties with Cooperative Health as a consultant, mentoring youth, serving global communities on mission trips, and advising his children about his four grandchildren’s health.

Notably, in 2019, he helped fly a blind 9-year-old he met in American Samoa to South Carolina, where surgeons removed her two dense, milky cataracts and restored perfect vision in both eyes.

But of all the clinics he has opened and maintained, his most potent achievement, he believes, is the 8,000-square-foot KwaZulu-Natal community primary clinic that opened in 2007 in the township of Esikhawini, South Africa.

“I thought the clinic there was the mountaintop of things we had done, simply because there was so little there. There were no medical facilities in the area. The nearest hospital was quite distant on a road that would shake most cars to pieces. We asked the people what it was that they needed. Their answer was simple. They said, ‘We have nothing.’”

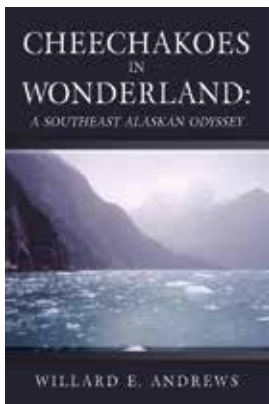
A local woman stepped forward to offer six acres of land to house the clinic. Then she looked at Dr. Hamilton and said, “What are YOU going to do?”

“Oh no, she is throwing down the gauntlet,” he recalls. “It is the widow’s mite story in real life. When that happens, you have to say what you are going to do. I told her I would help get the money. And then I gulped.”

Dr. Hamilton spearheaded the process by raising the initial \$50,000 that the local government said was needed to kick-start the project, mostly with money from family and friends. The initial collection was used to leverage a much larger commitment from a Japanese company operating a nearby titanium mine.

He obtained assurances from the South African government that the local province would staff, equip, and provide operating funds. Dr. Hamilton gave them the operational blueprint. The government followed through, and today, the clinic serves a population area of around 9,000.

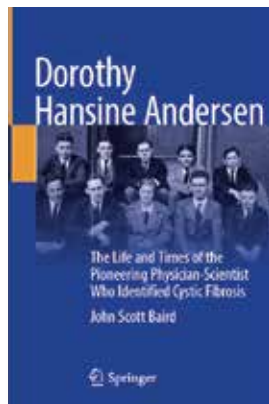
“All they needed was a kick-start. It was a set-it-and-forget-it,” Dr. Hamilton says of the clinic—a modest summary of just one in a long list of contributions to public health that will be difficult to forget.



Cheechakoes in Wonderland: A Southeast Alaskan Odyssey

Willard E. Andrews '64
Dorrance Publishing Co.,
Pittsburgh, 2022

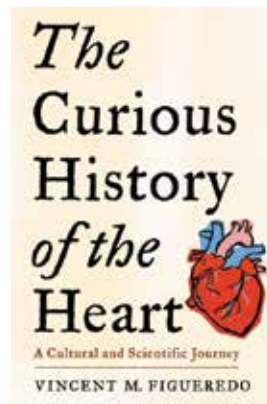
Dr. Andrews writes about a young couple consigned by Uncle Sam to move from the New Jersey suburbs to live and work for two years in Southeast Alaska. Following the experience, they return by choice to live, work, recreate in the out of doors, and raise a family. The story reflects back on what life was like a generation or more ago on America's Last Frontier, a unique place outside the realm of most people's experience. Dr. Andrews wrote the book to interest, educate, entertain, and, perhaps, inspire others to take the plunge and live the dream played out in his own life and on the pages of his book.



Dorothy Hansine Andersen: The Life and Times of the Pioneering Physician-Scientist Who Identified Cystic Fibrosis

Scott Baird '85
Springer, 2022

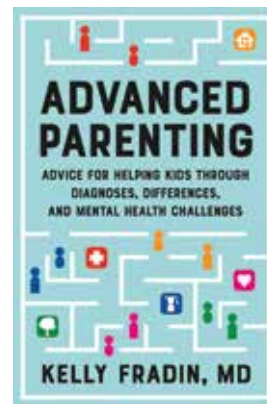
Dr. Baird's book chronicles the life and accomplishments of Dorothy Andersen, MD, the pioneering American pathologist and pediatrician who defined cystic fibrosis and treated patients with the disease. The book details Dr. Andersen's early life, when she was orphaned as an adolescent, through her college career and her challenging start in medicine. The author examines Dr. Andersen's role in defining cystic fibrosis and her career in pathology and pediatrics, including attempts by others to minimize her work through gender bias and the Matilda effect, in which the work of women scientists is attributed to male colleagues.



The Curious History of the Heart: A Cultural and Scientific Journey

Vincent M. Figueredo '87
Columbia University Press, 2023

Dr. Figueredo, a cardiologist and expert on the history of the human heart, traces the history of our understanding of the heart back to the dawn of civilization. The book explores the role and significance of the heart in art, culture, religion, philosophy, and science across time and place. As a cardiologist, he explains how the heart works and what cutting-edge science is teaching us about the organ. As a historian, he explores the many meanings of the heart in our emotional and daily lives. The book includes information about the emerging field of neurocardiology, which has found evidence of a "heart-brain connection" in mental and physical health, lending support to ancient views that the heart held intelligence, memory, emotion, and the soul.



Advanced Parenting: Advice for Helping Kids Through Diagnoses, Differences, and Mental Health Challenges

Kelly Fradin '10
Balance, 2023

Dr. Fradin's newest book addresses the many common challenges parents face during their children's formative years. She offers evidence-based guidance for managing the emotional stress that comes from having a child who deviates from the norm, offering advice for coping with uncertainty and navigating the business of care. With her unique perspective as a mother, childhood cancer survivor, and pediatrician, Dr. Fradin knows that families need to be seen, supported, and better prepared for what happens when their children are sick. "I found that most parenting resources are for healthy kids with typical problems, so I sought to create a resource for parents during the tough times when things go wrong," she says. She offers help for every phase of the journey.

Send books (published within the past two years) to:
columbiamedicine@columbia.edu





Bennett Stein

FACULTY

Bennett Stein, MD, the Byron Stookey Professor Emeritus of Neurological Surgery and former chair of the Department of Neurological Surgery, died Oct. 7, 2022. He studied with Malcolm Carpenter at Columbia before becoming chair of neurological surgery at Tufts University. He returned to VP&S in 1980 as chair of neurological surgery, a position he held until retiring in 1997.



Michael R. Rosen

OTHER FACULTY DEATHS

Lucien J. Cote, MD, professor emeritus of neurology, died Dec. 21, 2022.

Philip Lamar Graham III, MD, former associate professor of pediatrics, died July 17, 2022.

Margaret Caroline Heagarty, MD, professor emerita of pediatrics and director of pediatrics at Harlem Hospital Center for 22 years, died Dec. 23, 2022.

Wylie C. Hembree III, MD, retired faculty member in the Department of Obstetrics & Gynecology, died Dec. 16, 2022.

Albrecht Kellerer, PhD, professor of biophysics from 1968 to 1978 at the Columbia University Radiological Research Laboratory (now called the Center for Radiological Research), died July 31, 2022.

Artemis Nash, MD, former faculty member in the Department of Pathology & Cell Biology, died Dec. 6, 2022.

Michael R. Rosen, MD, the Gustavus A. Pfeiffer Professor of Pharmacology and professor of pediatrics, died Jan. 6, 2023.

Ralph L. Sacco, MD, adjunct professor of neurology, died Jan. 17, 2023.

Mark Sorensen, MD, associate clinical professor of psychiatry, died Jan. 16, 2023.

Barbara H. Stanley, PhD, professor of medical psychology (in psychiatry), died Jan. 25, 2023.

Ronald L. Van Heertum, MD, retired professor of radiology, died Dec. 7, 2022.

ALUMNI 1957

Robert "Bob" Bruce Wallace, a cardiac surgeon, died Aug. 23, 2022, at his home in Alexandria, Virginia, at age 91. Dr. Wallace trained at St. Vincent's Hospital in New York, Baylor College of Medicine in Houston, and the Mayo Clinic in Rochester, Minnesota. He joined the staff of the Mayo Clinic in 1964, where he rose to be chair of the Department of Surgery, professor of surgery at the Mayo Medical School, governor on the board of the Mayo Clinic, and trustee on the board of the Mayo Foundation. In 1980, he joined Georgetown University as a professor and chief of surgery. He also served as president of the American Association of Thoracic Surgeons. After retirement, Dr. Wallace helped found the LeDucq Foundation for cardiovascular research and advised the Culmore Clinic, a non-profit clinic serving low-income adults. He mentored inner-city students and enjoyed golf. Dr. Wallace is survived by his wife of 67 years, Betty, three children, six grandchildren, and two brothers.

1959

David Widrow, an internist residing in Olympia, Washington, died Nov. 15, 2022. He was 90.

1961

Sara "Sallie" Elizabeth Daley Schuh, who devoted her life to



Sara Elizabeth Daley Schuh '61

caring for abused and neglected children, died Nov. 25, 2022, in Charleston, South Carolina, at age 87. Dr. Schuh was instrumental in founding the Dee Norton Low Country Children's Center, bringing legal and medical care to abused children. She trained generations of doctors to care for children as a professor of pediatrics at the Medical University of South Carolina from 1969 to 2017, retiring at age 82. She earned an MPH from Columbia Mailman School of Public Health in 1968. She is survived by her husband, Dr. Fredric DeGraw Schuh, five children, and 10 grandchildren.

1962

Courtney W. Brown, an orthopedist specializing in the spine, died Nov. 15, 2022, after a brief illness with COVID-19. He was 87. Dr. Brown trained at St. Luke's Hospital in New York City. He served in the U.S. Air Force during the Vietnam War at Orlando Air Force Base and U-Tapao Air Force Base in Thailand. He settled in Colorado because he didn't want to need a sweater while golfing in the summer. Dr. Brown spent some 40 years at the Lakewood Orthopedic Clinic and later the Panorama Orthopedic and Spine Center before retirement. He continued to see patients at Craig Hospital. He was a member of the American

A Remembrance: Margaret Heagarty, MD, 1934-2022 // By Michael Katz, MD

Margaret Heagarty, professor of pediatrics and director of the pediatric service at Harlem Hospital for 22 years, improved health care for children in Harlem and raised the standards of that service to merit its academic stature. She was exceptionally successful in offering sophisticated care at the peak of the HIV epidemic and particularly distinguished herself in maintaining a high quality of teaching along with outstanding care. She maintained her marvelous sense of humor near the end of her life, and no one who knew her could ever forget her!

Maggie—as we all called her—lived modestly in a middle class Italian neighborhood in the Bronx but was internationally known and active. She was a member of the National Academy of Medicine since its early days when it was still the Institute of Medicine. Her Harlem pediatric service was a favorite elective for pediatrics residents, a few of whom joined her after they completed their residencies.

Her program had distinguished visitors, including two visits from Diana, the Princess of Wales, and the Crown Princess of Thailand. One evening before Diana was expected, Maggie was approached in the hospital parking lot by two very polite Englishmen representing Scotland Yard. They wanted to ascertain whether Maggie, an Irish woman, would have any difficulties hosting Her Royal Highness; she did not and they were reassured but stayed discreetly behind while accompanying her the following day.

Diana's visit was especially memorable. She embraced several of the children in a maternal manner and engaged each of us in conversations, clearly very interested in the children's futures.

Maggie was invited to dinner in the White House of President Bush (the father). Although she was quiet and modest in her demeanor, her neighbors got together to make sure that she had proper attire before sending her off to that formal occasion.



A devout Roman Catholic, she always offered her blessings to those on our faculty who were getting married. She was ill when I was about to marry, so Robin and I went to visit her in the Bronx to receive that ritual.

When we converted the former convent in Washington Heights into a unit that offered care to the infants of HIV-infected mothers, Maggie made sure that the unit was properly inaugurated by Cardinal O'Connor himself. I have no doubt that if there were an Afterlife, she would receive an appropriate welcome there.

Michael Katz, MD, is the Carpentier Professor Emeritus of Pediatrics at VP&S and professor emeritus of public health at Columbia. He chaired the VP&S Department of Pediatrics from 1976 to 1992. He also is senior vice president emeritus at the March of Dimes Foundation, adjunct professor of pediatrics at Stanford University, and president of the Oxford Maternal and Perinatal Health Institute at the University of Oxford in the United Kingdom.

Academy of Orthopedic Surgeons, the Association of Bone and Joint Surgeons, and the Scoliosis Research Society. He founded the Blue River Trauma Society, which combined helicopter skiing with medical seminars. Dr. Brown is survived by his wife, Ingrid, three children, and two grandchildren.

1963

David Harry Bruce Jr., an internist, died Nov. 19, 2022. He was 85. He trained in Burlington, Vermont, joined the U.S. Public Health Service, and served as the service unit director on the Flat-



head Reservation and Crow and Northern Cheyenne Reservation in Montana. Dr. Bruce later completed his internal medicine

training at Charity Hospital in New Orleans and pulmonary training at McGill University. In 1976, he joined the Albany Veterans Administration in New York state, where he was chief of pulmonary medicine. He established the first sleep lab in Troy, New York, and worked at his private practice, Pulmonary & Critical Care Services, until he retired at age 83. Dr. Bruce was a gifted storyteller who enjoyed camping, gardening, woodworking, and piano playing. He is survived by his wife, Mary Ann Bruce, five children, and four granddaughters.

Stephen A. Feig, a pediatrician in Los Angeles known as “Dr. Turkey” to his patients, died Nov. 30, 2022, at the age of 84. He completed his pediatric residency at Mount Sinai Children's Hospital in New York City and his fellowship in pediatric hematology/oncology at Boston Children's Hospital. Dr. Feig was professor of pediatric hematology and oncology at UCLA for more than 40 years before his retirement in 2016, and he served as division chief for many years. His habit of joking with patients by calling them “turkeys” led to his nickname and an extensive collection

of turkey memorabilia. He was an avid tennis player, sports fan, and world traveler. He loved fishing, art, opera, and solving crossword puzzles. He is survived by his wife, Judy, three children, and five grandchildren.

Jacob David “Jack” Lindy, a psychiatrist who helped to found and lead the International Society for Traumatic Stress Studies, died Nov. 7, 2022. He was 85. Dr. Lindy served as a captain in the U.S. Army stationed in Germany. In 1967, he moved his young family to Cincinnati, where he began the practice of psychiatry and his work with veterans returning from the war in Vietnam. In 1979, Dr. Lindy married his friend and colleague, Joanne. Together, they began pioneering work on diagnosing and treating post-traumatic stress disorder through early intervention at the scenes of disasters and in follow-up studies. He later helped to build the Cincinnati Psychoanalytic Institute and the Cin-



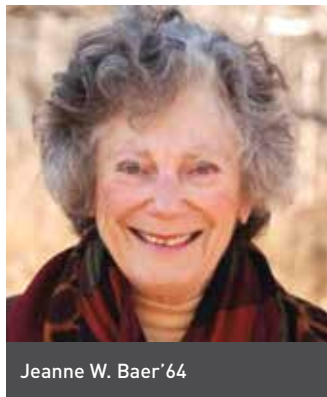
Jacob David Lindy '63

cinnati Center for Psychoanalysis. He served as residency training director at the University of Cincinnati's psychiatry department. Dr. Lindy played the piano, learned to compose chamber music, and wrote dozens of plays, books, and essays. He is survived by his wife, Joanne, five children, 10 grandchildren, and one great-grandchild.



Gerald Lawrence Mackler '63

Gerald Lawrence Mackler, a hematologist and oncologist, died Jan. 5, 2023, at age 85. He trained at the University of Pennsylvania and the National Cancer Institute in Washington, D.C., before moving to Athens, Pennsylvania, where he practiced medicine for many years. He also taught at SUNY Binghamton. Dr. Mackler loved literature and classical music. He played piano in a trio. He is survived by his wife, Birgitta, four children, and seven grandchildren.



Jeanne W. Baer '64

1964
Jeanne W. Baer, a radiologist and longtime Closter, New Jersey, resident, died Sept. 26, 2022. Dr. Baer is survived by three children. She was known as “Mama Baer” to her five grandchildren.

1965
Stephen Miles Berger, a pioneer of invasive cardiology, died Dec. 7,



Stephen Miles Berger '65

2022. He was 83. He trained at Albert Einstein Medical Center and the Mayo Clinic before completing a tour in 1969 as a U.S. Army physician in South Korea, where he met his wife, Sukie, in Pusan. They returned to Philadelphia to complete Dr. Berger's residency and fellowship at the University of Pennsylvania before settling in Columbus, Ohio. He founded Cardiology Inc., where he and his eventual 10 partners ran Ohio's most extensive cardiology practice for 40 years. Dr. Berger played the piano and guitar, was a member of the International Brotherhood of Magicians, and spoke French. He received a lifesaving transplant in 2009. He is survived by his wife, Yong Suk “Sukie,” three daughters, and six grandchildren.

Michael “Mike” Dee Iseman, who helped build the pulmonary medicine program at National



Michael Dee Iseman '65

Jewish Health in Denver, Colorado, died Nov. 20, 2022, after a brief battle with cancer. He was 83. After medical school, Dr. Iseman served two years in the U.S. Navy, stationed out of Pearl Harbor in Hawaii. He later served in the National Guard in Colorado. He served on the University of Colorado medical school faculty, led the tuberculosis program at National Jewish Hospital, and was inducted into the Hall of Fame for the American Thoracic Society. An accomplished athlete, Dr. Iseman was a member of the Nebraska High School Sports Hall of Fame. He played rugby at Columbia. In his 40s, he was persuaded to try crew and went on to win a masters world championship. Dr. Iseman is survived by his wife, Joan, two sons (including Matt Iseman '98), and a granddaughter.

1966
J. Dennis Baker, professor emeritus of surgery at UCLA and researcher in vascular physiologic testing and imaging, died Jan. 26, 2021, due to heart failure. He was also a doctor at the Veterans Administration for more than 46 years as a surgeon, chief of vascular, and administrator. Though born in Michigan, Dr. Baker was raised in Cuba. After medical school, he served in the U.S. Public Health Service in Panama before



J. Dennis Baker '66

training at Bellevue Hospital in New York, Tufts-New England Medical Center, and Henry Ford Hospital. He joined UCLA in 1975 and was a member of several vascular societies, receiving a Lifetime Achievement Award from the Society for Clinical Vascular Surgery in 2010. Dr. Baker spoke several languages, loved water sports, and raised Samoyed dogs. He is survived by his wife, Kay, two sons, and four grandchildren.

1970

David C. Charlesworth, a cardiac surgeon at Catholic Medical Center in New Hampshire from 1986 to 2010 and co-founder of Cardiothoracic Surgical Associates there, died Nov. 14, 2022. He was 77. Dr. Charlesworth served in the U.S. Army Medical Corps in Germany from 1972 to 1975 before completing surgical training at Dartmouth-Hitchcock Medical Center. He joined the Hillsborough County Medical Society and New Hampshire Medical Society when he moved to New Hampshire from Utah in 1986 and was appointed president of the New Hampshire Medical Society in 2000. He helped found the Northern New England Cardiovascular Disease Research Group. He loved skiing, running, and golf. Dr. Charlesworth is survived by his wife, Jane, three children, and



David C. Charlesworth '70

seven grandchildren, who knew him as “Poppy.”

Olin L. West, a psychiatrist and neurologist, died Oct. 31, 2022. He was 83. His early work involved team development in hospital and community settings, specializing in group therapies and programs such as the day hospital in the basement of the Cathedral Church of St. John the Divine. In the 1970s, he was elected Fellow of the American Psychiatric Association for his work developing housing options for indigent, mentally ill people in New York City. Dr. West, who was known as the “big O,” is remembered as a courageous man who once saved



Olin L. West '70

his son when a horse the son was riding became spooked. He also rescued a large family dog from drowning in an icy pond. A long-time tenor banjo player who loved New Orleans Dixieland, Dr. West gained professional experience in the 1970s playing in Greenwich Village jazz bars. He was greatly admired as an athlete in his youth and loved tennis, fishing, and animals. Dr. West is survived by his wife, Katherine, two sons, and one grandchild.

1973

James B. Calderbank, an internist and anesthesiologist in Asheville, North Carolina, died Sept. 24, 2021. He was 74. He had a pri-



James B. Calderbank '73

vate practice in internal medicine for nine years and worked in emergency room trauma care before completing a second residency in anesthesia and working 22 years in that specialty. Dr. Calderbank retired in 2016 from Mission/St. Joseph's Hospital in Asheville. He enjoyed tinkering with toys, was an avid birder, loved riding motorcycles, and was an experienced radio-controlled model pilot. He is survived by his wife, Sandra, two children, and four grandchildren.

Gunar Gundis Mezaraups, former chief of radiology at both Seton and St. David's hospitals in Austin, Texas, died Nov. 13, 2022, following a battle with pancreatic cancer. He was 75. Dr. Mezaraups was born in a displaced persons camp in Germany and immigrated with his parents to the United States in 1951 after the Soviet invasion



Gunar Gundis Mezaraups '73

of their Latvian homeland. His beginnings as a refugee gave him a gracious perspective and belief that people should accept the cards they are dealt and not become anxious or stressed about things beyond their control. He trained at UCLA, became an assistant professor, and then moved to Austin and joined its Radiological Association. He loved traveling, art, skiing, history, and crossword puzzles. He is survived by his wife, Lauren, and two children.

1974

Charles “Chuck” G. Wagner, an emergency room physician, died Oct. 8, 2022. A decorated helicopter pilot, he served in the U.S. Army in Korea in 1965 and in Vietnam from 1966 to 1967. Dr. Wagner trained at St. Luke's Hospital in New York City and worked in Illinois before joining Milford Memorial Hospital in Milton, Delaware. In 1980, he established the Milton Family Practice. It grew to serve 12,000 patients and was rebranded as Pointe Primary Care. Dr. Wagner later became a qualified hot air balloon pilot. He designed and ordered a balloon to represent Delaware, named it “Della,” started the state's first hot air balloon team, and organized hot air balloon festivals in Milton with funds benefiting local children's health and theater programs. He held several patents for energy conservation, monitoring technology, and hardware. He is survived by his wife, Patt, two children, four grandchildren, a stepson, and two step-grandchildren.

1975

Paul Anthony “Tony” di Sant’Agnese, a surgical pathologist and teacher, researcher, and department head who practiced at the University of



Paul Anthony di Sant'Agnese '75

Rochester/Strong Memorial Hospital for four decades, died Oct. 28, 2022. He was 73. A leader in the field of prostate research, he was the first author on neuroendocrine differentiation in carcinoma of the prostate and the first person to identify the neuroendocrine prostate cell under a microscope. This discovery of a mutation of common prostate cancer cells allowed for the possibility of prostate cancer cells deviating and displaying different markers, calling for alternative treatment protocols. Dr. di Sant'Agnese retired in 2014 and moved to Naples, Florida, and Lake Norman, North Carolina. He enjoyed the beach and swimming in the lake with his family's golden retriever, Wrigley. He is survived by his wife, Anita, three children, and a sister.

1976

Mary Ellen (Leder) Skalina, a retired neonatologist at Cooper University, Lankenau, and Chester County hospitals in Pennsylvania, died July 29, 2022. She was 70. She trained at Children's National Hospital in Washington, D.C., and at Rainbow Babies and Children's Hospital in Cleveland. Nicknamed "Mel" for her initials, Dr. Skalina is remembered for her composure and elegance in even the most trying of circumstances and was known to appear in the delivery room in



Mary Ellen Skalina '76

scrubs, pearls, and high heels. She published oft-cited early research on neonatal hypertension, respiratory distress syndrome, and other issues regarding newborns in the American Journal of Perinatology, the Journal of Pediatrics, and other publications. She served on the board of directors for A Better Chance Strath Haven and as a volunteer at Congregation Ohav Shalom. Dr. Skalina enjoyed cooking and the Pennsylvania Ballet. She took up ballroom dancing with her husband to keep active after she was diagnosed with Parkinson's in 2000. She is survived by her husband and fellow physician, Dr. Stefan Skalina, three children, and four grandchildren.

1978

Robert Charles Lauer, a cardiologist known as "Dr. Bob," died Aug. 17, 2022, after a four-year battle with prostate cancer. He



Robert Charles Lauer '78

was 75. He received his PhD degree from Columbia in 1974 in microbiology and immunology. Dr. Lauer later completed medical training at New York-Presbyterian. In 1983, he joined a cardiology practice in New Jersey. He was a Fellow of the American College of Cardiology. From 2010 to 2012 he developed a cardiology clinic for thousands of low-income people in Artesia, New Mexico. He returned to New Jersey and spent the next four years as an employee of Deborah Heart and Lung Hospital in an office in Manahawkin. Dr. Lauer was an avid sportsman and accomplished pianist. He is survived by his wife, Phyllis, two sons, and a granddaughter.

Susan L. Rattner, an internist and academic administrator, died Dec. 22, 2022, after three years of battling AL amyloidosis. She was 70. She was a member of the first class to include women at Union College, was elected to Alpha Omega Alpha at VP&S, and completed a residency in internal medicine at Presbyterian. Dr. Rattner became assistant dean for student affairs at Hahnemann in Philadelphia and earned an MS degree in clinical epidemiology from the University of Pennsylvania during a sabbatical year. She later became vice dean for academic affairs/undergraduate medical education at Jefferson



Susan L. Rattner '78

Medical College and was elected to the American College of Physicians. She edited the book, "Professionalism in Medicine: The Case-based Guide for Medical Students." She retired from the university in 2016 but continued caring for patients in women's health at the Philadelphia Veterans Administration and the Community Volunteers in Medicine clinic in West Chester, Pennsylvania. She was a longtime faculty adviser for the Foundation for the Advancement of International Medical Education and Research, enjoying contact with physicians around the globe. Dr. Rattner is survived by her husband, Kenneth Mendel, MD, two children, and three grandchildren.



Srilakshmi Kottai Gnanasekaran '00

2000

Srilakshmi "Sangeeth" Kottai Gnanasekaran, a pediatrician specializing in health care policy for children with chronic disease, died Sept. 11, 2022. She was born in Cairo, Egypt. Dr. Gnanasekaran received a bachelor's degree in economics from Columbia College in 1993. She also studied public health at Columbia and completed her pediatric residency at Columbia in 2003. Dr. Gnanasekaran loved to travel, cook, and dine out with friends and family. She also really loved chocolate. She is survived by her husband, Christopher William, and a son.

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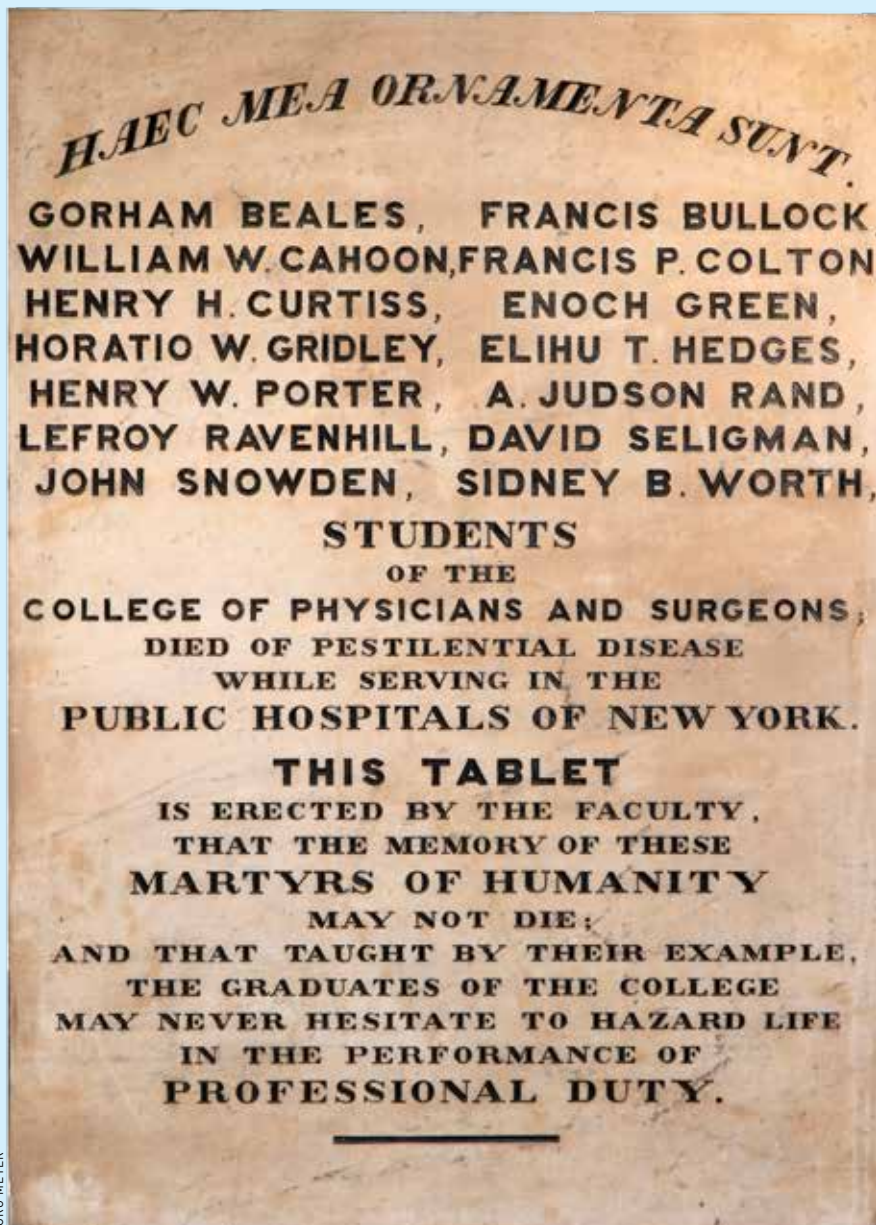
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Remembering “Martyrs of Humanity”

A marble tablet erected in 1856 is a rare survivor of a long-gone medical school building and a memorial to 14 New York doctors and medical students who “died of pestilential disease while serving in the public hospitals of New York.” The tablet was originally placed in what was then a new medical college building at the corner of East 23rd Street and Fourth Avenue (now Park Avenue South). The tablet moved as the medical school moved to homes on West 59th Street and Washington Heights. A poignant reminder of the hazards of a physician’s life, the tablet is the only surviving structural object from any previous Columbia medical school building. The tablet is located in VP&S Room 1-141, a first-floor lounge for medical students.

Read more about VP&S history in the Archives & Special Collections blog, Primary Sources, at <https://www.library-archives.cumc.columbia.edu/blog>.