

Robert Wood Johnson MEDICINE

The Intersection of Art and Medicine



Illuminating Mood Disorders in
The Phantom of the Opera at Grand Rounds



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LETTER FROM THE DEAN

Dear Friends,

Our spring/summer issue comes to you at an exciting time for Robert Wood Johnson Medical School. The 134 members of the Class of 2017 matched with top residencies nationwide, 48 percent with primary care programs. These students received their diplomas at convocation where we were honored to have Barry Ostrowsky, president and CEO, RWJBarnabas Health, as our speaker. We are extremely proud of our newest alumni. Congratulations to you all!

Our cover story, “The Intersection of Art and Medicine,” describes a momentous afternoon at the medical school, combining teaching and art. Actress Julia Udine, fresh from her starring role in *The Phantom of the Opera*, performed excerpts from the show. Each was analyzed by Anthony Tobia, MD, associate professor of psychiatry, to illustrate his didactic method: teaching through the lens of popular culture.

“Green Beret’s Journey” tells of Kevin Fitzpatrick ’19, who was inspired by military doctors in Afghanistan to pursue a career in medicine. Kevin is joined at Rutgers by his wife, Amber, a physician assistant student at the School of Public Health and fellow Army veteran.

“Building the Global Health Institute at Rutgers” introduces Richard G. Marlink, MD, a new faculty member at the medical school and the inaugural Henry Rutgers Professor of Global Health. Dr. Marlink, a pioneer and world leader in AIDS prevention and care, joined the faculty of Rutgers to develop an institute that will unite the university’s multiple efforts in global health while driving its evolution as a leading global health center.

“Arthritis at 14: Angela’s Journey” describes the onset of juvenile idiopathic arthritis in a teenage girl. Her family’s search for a top specialist led to L. Nandini Moorthy, MD, assistant professor of pediatrics and chief, division of pediatric rheumatology, whose knowledgeable and empathetic care has restored Angela’s quality of life.

“Overseeing an Evolution” is not only a profile of Robert M. Eisenstein, MD, associate professor and chair, Department of Emergency Medicine. It also describes the phenomenal growth of the emergency department under his leadership: a much-expanded faculty, a new residency and fellowship, academic growth, and the addition of multiple specialties—these are the tip of the iceberg, as the department undergoes a major expansion.

The American Association for the Advancement of Science recently named three faculty members as fellows: Terri Goss Kinzy, PhD, professor of biochemistry and molecular biology and pediatrics and vice president for research, Office of Research and Economic Development, Rutgers University; Peter Lobel, PhD, professor of biochemistry and molecular biology; and Monica Roth, PhD, professor of pharmacology. “International Scientific Acclaim Hits Home” describes their research and the clinical significance of their work.

The remarkable career of Kenneth R. Kaufman, MD, professor of psychiatry, neurology, and anesthesiology, is the subject of “A Triple Threat in the Psychiatric Aspects of Epilepsy.” Dr. Kaufman is not only a renowned researcher, teacher, and clinician, he is also a widely published scholar and longtime advocate for people with epilepsy.

I hope you will enjoy this issue of *Robert Wood Johnson Medicine* and the insights it provides not only into the work we do today, but also into our future.

Sincerely,



Sherine E. Gabriel, MD, MSc
Dean





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Green Beret's Journey Returns Him to Rutgers for Medical School

Many medical school students trace their calling to physicians who cared for them or their families. Kevin Fitzpatrick, a second-year student at Robert Wood Johnson Medical School, was inspired by different kinds of heroes.

After graduating from the Rutgers University School of Engineering in 2004, Kevin put his degree in electrical and computer engineering to use at Motorola, improving emergency communications systems for the New York Fire Department.

The importance of those communications systems was stressed on August 14, 2003, when a blackout shut down electric power in the Northeast and parts of the Midwest. Kevin worked on a project to enhance coordination among first responders during emergencies. “If something like that happened again, they would be ready for it,” he says.

Remembering the firefighters’ courageous work on September 11, 2001, and with the terrorist attack still reverberating, Kevin began thinking about another group of heroes. At 26, he enlisted in the U.S. Army in 2007.

“When I joined the Army, I wasn’t yet thinking about becoming a physician,” he says, recalling the journey that ultimately took him to Robert Wood Johnson Medical School. “I was thinking of surviving the Army training and becoming a Green Beret.”

It took almost three years from the day he enlisted until he donned the iconic green headgear. After basic training and then airborne school, “where you jump out of airplanes,” it was on to Special Forces selection, a series of demanding physical and mental trials on just a few hours of sleep a night.

“There are a lot of opportunities to fail,” he says. But he endured and flourished. Among the specialized skills he acquired in training for guerrilla warfare was surviving alone in the wild. Kevin’s next goal—becoming a Green Beret medic—took another year.

BY JACQUELINE CUTLER ✪ PORTRAITS BY JOHN EMERSON



“What really stands out to me at Robert Wood Johnson Medical School is the focus on patient-centered care and the commitment to helping improve the health of the local community,” says Kevin Fitzpatrick. ★

During the medical training, Kevin worked in an ambulance and in an emergency room in Tampa, Florida. There, he was exposed to seeing the EMS crew in action and following through with physicians in the emergency room.

“The second six months of the training deals a lot more with being a primary care provider,” he explains. “You’re learning more about diagnosis, doing different kinds of lab work and X-rays, and simple dental procedures.”

Kevin helped deliver a baby and worked in a clinic in Fort Defiance, Arizona, part of the territory of the Navajo Nation. From there, he was deployed to Germany in 2010. Just after settling in, he got the call: “We are going to Afghanistan.”

It’s an announcement that would spark anxiety in most people. Instead, Kevin felt excitement. “After you spend close to three years of training,” he says, “you want to actually start using that training.”

Out in the field, under the relentless Afghanistan sun, Kevin encountered yet another set of heroes: military doctors. Needing to recertify as a medic, he worked in a hospital in Bagram and marveled at “the level of care the physicians were providing to people,” he says.

It was in this new role that the die was cast for medical school. Kevin applied and was accepted to Robert Wood Johnson Medical School, where he sees the same high level of care every day.

“What really stands out to me at Robert Wood Johnson Medical School is the focus on patient-centered care and the commitment to helping improve the health of the local community,” Kevin says. “Last year, I was fortunate to be selected as a student volunteer at the Promise Clinic in New Brunswick, an entirely student-run clinic that aims to provide free primary care to the uninsured. Most of the clients are from Elijah’s Promise Soup Kitchen in New Brunswick. I work in the clinic one night about every other month and will be honoring this commitment until I graduate.”

Kevin, 36, grew up in Edison and shares that returning to his home state has been great and medical school more wonderful than expected. He was surprised by “how supportive the faculty has been,” he says. “As a Rutgers undergrad, it is such a big school, I didn’t have much interaction with the faculty. This is different at Robert Wood Johnson—they are an incredibly supportive faculty.”



According to Kevin Fitzpatrick, as rigorous as it can be, Robert Wood Johnson Medical School achieves a lovely balance, offering the advantages of a major medical center and university, as well as the sort of individual touches that are usually hallmarks of smaller institutions. ☆

Of course, it’s been strenuous, but Kevin is better prepared than most students. After all, he had already been through boot camp.

“You have a lot of lectures that are large groups, but you also break up into small-group activities,” he says. “One of the main things about Rutgers is that there is a big focus on patient-centered medicine, so you have a class that is committed to that, a small class of 12 students. You get to know the teacher on a personal level and have a mentorship relationship.”

Kevin is working on a project with another Robert Wood Johnson Medical School second-year-student who is a U.S. Navy veteran, Rick Lang.

Eager to build on team events at the school, “Rick and I completed a lot of research, which ultimately led us to TeamSTEPPS,” Kevin says of Team Strategies and Tools to Enhance Performance and Patient Safety, a program from the



Out in the field, Kevin Fitzpatrick (pictured above) marveled at the level of care that military physicians were providing to people in Afghanistan. ★



Kevin met his wife, Amber, an Army veteran, in Afghanistan. Amber is currently a physician assistant student at the Rutgers School of Public Health. Although they are not in the same classes or even schools, the Fitzpatricks help each other study. ★

Department of Defense and the U.S. Agency for Healthcare Research and Quality. “We still have a lot of work to do to incorporate this into the curriculum, but we have had outstanding faculty advisers along the way and support for the project keeps growing.”

Kevin is no stranger to teaming up with fellow veterans. He met his wife, Amber, an Army veteran, in Afghanistan. A current physician assistant student at the Rutgers School of Public Health, she had already been discharged and was working on intelligence for a private contractor when they met. The two bonded and, while in the desert, talked about studying medicine.

When Kevin was later deployed back to Germany, Amber visited. They married five years ago. As they discussed graduate school, there was one deal breaker: they would not be separated.

Although not in the same classes or even schools, the Fitzpatricks help each other study. “It is fun if you want to come home and talk about school, you have someone who knows what you are talking about,” Amber says. “There have been times when I don’t understand something and Kevin does, and he will explain it to me. If he has a question, he will ask me. It has been really nice.”

During his limited time not devoted to studying or being with Amber and their dogs, Kevin rebuilds old motorcycles. Last summer, he finished restoring his father’s 1980 Honda CB400T. It was his first time on a bike in six years. When stationed in Afghanistan, he shipped his bike over and stored it in a warehouse. It was destroyed, along with the belongings of more than 100 military families, when the building was set on fire.

Kevin is even-keeled discussing the hardships he faced in Afghanistan, as he is chatting about his family’s future. Kevin is unsure where he will start a residency because it is still too far from his 2019 graduation date to plan seriously. After his training in an emergency room, in an ambulance, and in Afghanistan, Kevin, not surprisingly, is drawn to emergency medicine.

The variety of patients in emergency rooms is a lure. “You will have some typical primary care and traumas to deal with, a huge variety,” he says.

Amber is also interested in emergency medicine, but she is keeping an open mind as she goes through her clinical rotations. Originally from Texas, she would not mind settling someplace warmer. Both like the idea of being near family, and much of his is in New Jersey.

“But as far as the location of residency, if being near family doesn’t happen, it doesn’t happen,” Kevin says. “After I am done with residency, we can always move again. Moving is something we are not afraid of after being in the military. If we need to move after a few years to be near family, we can always move again. As long as we’re together, we’ll be fine.” ■

The Intersection of Art and Medicine

ILLUMINATING MOOD DISORDERS IN
The Phantom of the Opera AT GRAND ROUNDS

You might not think of medical school as a prime venue for musical theater.

But for Anthony Tobia, MD, associate professor of psychiatry, known for his innovative methods of using film, literature, and music to illuminate issues in psychiatry, it makes perfect sense.

One of his teaching staples is Andrew Lloyd Webber's *The Phantom of the Opera*, the musical version of the story of a beautiful soprano, Christine Daaé, who becomes the obsession of a mysterious, disfigured genius. Dr. Tobia has been using the musical in seminars and didactics since 2009. So a few years ago, when a medical student in one of his roundtable seminars said her sister, Julia Udine, was starring as Christine in the North American tour, he was dumbfounded. "I knew we would collaborate one day," says the popular professor, who also



serves as director of the psychiatry core clerkship for third-year students at Robert Wood Johnson Medical School and oversees undergraduate medical education programs in the Department of Psychiatry.

He would have to wait, because shortly after that conversation, Udine won the role on Broadway, a stint that lasted from December 2014 until June 2016.

In fall 2016, Dr. Tobia and Udine finally came together to give the Rutgers community a glimpse into the psychiatric underpinnings of *Phantom* for a special grand rounds. The October 27 event, streamed to two dozen universities nationwide, was hosted by the Stuart D. Cook MD Master Educators' Guild and the Department of Psychiatry. Held at Robert Wood Johnson University Hospital, it was attended by more than 450 faculty, residents, medical students, and members of the public.

BY CARLA CANTOR • PHOTOS BY STEVE HOCKSTEIN





*“P*hantom of the Opera is not only the most inspiring musical I’ve ever seen, it is also a perfect clinical study for teaching about mood disorders,” says Anthony Tobia, MD, associate professor of psychiatry, with Broadway actress Julia Udine (seated, left) and pianist Shawen M. Ilaria, MD, chief resident, psysbiatry.

Is *The Phantom of the Opera* simply a supernatural love story—or a case study of someone experiencing major depression with psychotic features?

During the grand rounds showcase, Dr. Tobia set out to convince the audience of the latter. The theater-like production took place onstage in the hospital's Arline and Henry Schwartzman Courtyard. Through breathtaking operatic numbers, it featured Udine, in character as Christine, offering the patient's perspective, while Dr. Tobia informed the audience at every step "what is really going on with Christine." Shawen M. Ilaria, MD, chief psychiatry resident and an accomplished musician, accompanied Udine on the piano.

As Udine sang, Dr. Tobia provided lyrical examples of how the show's trajectory follows Elisabeth Kübler-Ross's five stages of grief—denial, anger, bargaining, depression, and acceptance—which Christine deals with as a character.

"*Phantom* is not only the most inspiring musical I've ever seen, it is also a perfect clinical study for teaching about mood disorders," Dr. Tobia says. "In Christine, we find a character who is dealing with complicated bereavement—she is still mourning her father, who died when she was 13—along with significant stress in her life. It allows us to talk about what is known in the DSM [*Diagnostic and Statistical Manual of Mental Disorders*] as persistent complex bereavement disorder and its potential evolution, which includes full-blown clinical depression, psychosis, and suicidality."

Dr. Tobia admits his views may be unorthodox. "The first time I saw *Phantom* in 1995, as soon as Christine steps through the mirror in the dressing room (act 1, scene 3), I was mesmerized. I viewed everything that followed in the musical as a product of Christine's imagination."

He also contends that even though *Phantom* ends with lovers united, it is likely that the

Christine character, sometime after the play's conclusion, commits suicide. "There are clues in the show," he says—such as the tone in which the viscount tells the story at the outset—"that suggest that they don't spend their lives together."

All this speculation (Andrew Lloyd Webber has not weighed in), Dr. Tobia points out, is in the name of teaching, which is always the goal. "Every didactic I teach has stated objectives that I have to reach," he says. "We take care to keep the narrative



In fall 2016, Anthony Tobia, MD, associate professor of psychiatry (above, right) and Broadway actress Julia Udine (left) came together to give the Rutgers community a glimpse into the psychiatric underpinnings of *The Phantom of the Opera* for a special grand rounds.

evidence-based and not promote the stigma of mental illness."

Udine, 23, first learned of Dr. Tobia's use of *Phantom* through

her sister, Michelle Udine, MD '14, now a resident in pediatrics at the University of Alabama at Birmingham School of Medicine. Four years later, working with him on this project, she's found herself delving into Christine in a deeper way.

Much of what Dr. Tobia has to say about what's happening in Christine's mind, she says, rings true. "As an actor, you try to connect with the role you are playing, find the subtext, so you can make sense of what's happening on the page," says Udine. "If



Viewing Art through a Psychodynamic Lens

Phantom is just one example of Dr. Anthony Tobia's method of teaching at Robert Wood Johnson Medical School, where he has been in charge of developing curricula to teach psychiatry to the medical students and residents-in-training since 2002.

His most popular course is a one-credit elective affectionately known as FIDLER MD, or "Film Depictions to Learn Mental Disease." During class, medical students—about 400 sign up for the course each year—watch movies to dissect their psychiatric underpinnings and discuss them via Twitter as the film is being shown.

This year, the students' choices for movie selections include *Ex Machina*, *Elf*, *Gattaca*, and *The Terminator*, which was part of the inaugural Maternal Health Day at Robert Wood Johnson Medical School. "We focused not on Arnold Schwarzenegger but on the character of Sarah Connor, who struggles with peripartum depression," Dr. Tobia says.

Dr. Tobia also directs a yearlong course offered as a movie club that uses the horror genre to teach mental illness concepts. In another creation he calls PSY-FELD, he asks students to watch *Seinfeld* reruns the night before morning rounds and mines them to kick off discussions that clarify psychiatric diagnoses.

The interest in PSY-FELD has been so great that Dr. Tobia now broadcasts his teaching sessions over Periscope, a live video streaming app. "Anyone with a mobile phone can now participate," he says. He promotes the topics and schedule on his Twitter page, @ATobiaMD.

Dr. Tobia's penchant for viewing art through a psychodynamic lens was sparked as an undergraduate at Lehigh University, reading novels with psychiatric subtexts such as Henry James's *The Turn of the Screw* and Mary Shelley's *Frankenstein*. It solidified as a psychiatry resident at the West Virginia University School of Medicine, where he came under the tutelage of Don Fidler, MD, a professor who not only was a psychiatrist but had a joint appointment at the university's school of art and drama.

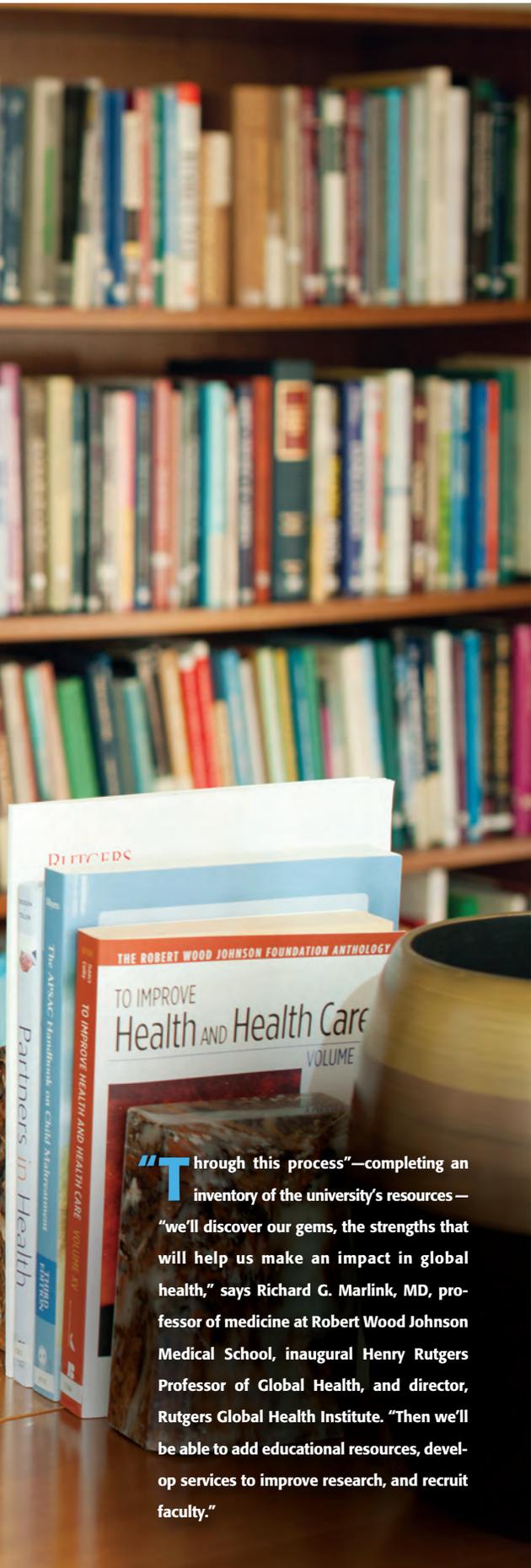
"Not only did Don teach me aspects of psychiatry, but also that life imitates art," says Dr. Tobia, who named his signature course for his friend and mentor. "It's a lesson that resonates with students, as I consistently get feedback on how informative and engaging our methods are." **M**

I were to play Christine again, I would use some of his teachings to prepare myself."

Dr. Tobia's students and residents say the lessons gleaned when viewing psychiatry through a pop culture lens stay with them in a way a straight lecture never would. Dr. Ilaria, who grew up in Orlando and attended medical school in Florida, chose Robert Wood Johnson Medical School to study with Tobia. She has not been disappointed. "We walk away from his lectures with new insights into TV, movies, and music," says Dr. Ilaria, whose paper on meaning in Billy Joel's songs and lyrics was recently accepted by the National Conference of the Popular Culture Association / American Culture Association in San Diego. "It helps you remember the material more, engage with it, and connect it to your own life."

Christine Annibali, MD '16, a psychiatry resident, has taken courses with Dr. Tobia over the last three years. "I saw Julia perform on Broadway," she says. "What I've learned in Dr. Tobia's classes has allowed me to be more observant of pop culture and my patient population and become a better clinician." She is now working with Dr. Tobia on a project using the movie *Young Frankenstein*. "It's a more humorous way than *Phantom* to view psychopathology," Dr. Annibali says. **M**





Richard G. Marlink, MD:

Building the Rutgers **Global Health** INSTITUTE

Hold a globe in your hand and place your finger

anywhere on its surface. You have touched a place where people are affected by global health issues.

“Global health issues aren’t bounded by borders,” says Richard G. Marlink, MD, professor of medicine at Robert Wood Johnson Medical School, inaugural Henry Rutgers Professor of Global Health, and director, Rutgers Global Health Institute. “The challenges in global health are community public health threats that may impact us all.” These issues stem from a wide range of causes, often human-related, including climate change, infectious diseases, or an exported Western Hemisphere lifestyle that has increased the incidence of diabetes, cancer, and heart disease.

BY KATE O’NEILL • PORTRAITS BY JOHN EMERSON

Through this process—completing an inventory of the university’s resources—“we’ll discover our gems, the strengths that will help us make an impact in global health,” says Richard G. Marlink, MD, professor of medicine at Robert Wood Johnson Medical School, inaugural Henry Rutgers Professor of Global Health, and director, Rutgers Global Health Institute. “Then we’ll be able to add educational resources, develop services to improve research, and recruit faculty.”

In 2016, Rutgers, The State University of New Jersey, recruited Dr. Marlink to lead the new Rutgers Global Health Institute, a university wide effort, based at Rutgers Biomedical and Health Sciences (RBHS). In addition to holding a Henry Rutgers professorship, Dr. Marlink is faculty at Robert Wood Johnson Medical School and a member of the Rutgers Cancer Institute of New Jersey.

Prior to joining the Rutgers faculty, Dr. Marlink served on the faculty of Harvard University, where he was the Beal Professor of the Practice of Public Health at the Harvard T. H. Chan School of Public Health and executive director of the Harvard AIDS Initiative (HAI).

In 1996, Dr. Marlink helped create the Botswana-HAI Partnership (BHP), where he continues as a senior research director. He has also served as the scientific director, vice president for program implementation, and senior adviser for medical and scientific affairs at the Elizabeth Glaser Pediatric AIDS Foundation. He was principal investigator for the foundation's Project HEART, established in 2004. Seven years later, the project had placed more than one million people living with HIV into care clinics; in addition, more than 565,000 were receiving lifesaving antiretroviral treatment in five African countries.

Deep Roots in HIV/AIDS Care

Dr. Marlink's career began in oncology/hematology. In the early days before AIDS was understood, many oncologists took care of patients with the newly identified syndrome that would eventually be identified as being caused by the human immunodeficiency virus, HIV-1.

He completed his internship, at St. Vincent's Hospital in lower Manhattan from 1980 to 1981, caring for very sick, immunocompromised patients with unusual infections, such as cryptosporidium or miliary disseminated tuberculosis. Although these infections were not unknown, their devastating effect on people with lowered immunity was part of the puzzle, as was their prevalence among men in the gay community and among health care workers in the Greenwich Village area. In 1981, their symptoms were explained and the disease was named acquired immunodeficiency syndrome (AIDS).

Dr. Marlink trained as a fellow in oncology at New England Deaconess Hospital of Harvard Medical School, the only hospital in Boston then actively accepting AIDS patients. He co-organized Boston's first hospital-based AIDS clinic and worked with the research team of Max Essex, DVM, PhD, chair of both the BHP and the Harvard T.H. Chan School of Public Health AIDS Initiative. Dr. Essex originally proposed that AIDS was likely caused by a retrovirus that destroys the immune system by infecting T cells.

In the mid-1980s, Dr. Essex's group began planning a trip to Senegal to study HIV-2, a previously unrecognized, completely different type of HIV, in which people were infected but seemed relatively asymptomatic. At the time, Dr. Marlink had limited expertise in research, but he told the group, "As a physician, I can tell you if a person is sick with HIV."

A week later, he was on a plane to Senegal to help determine if people infected with this new type of AIDS virus were ill or going to become ill. He examined patients and approached public health research problems in Africa, contributing his training in virology and oncology to the many moving parts involved in evaluating HIV-2, from infection, to symptoms, to psychology, to the effects of illness and treatment.

Taking Inventory

Richard Marlink's experienced leadership will be key to the strategic growth of RBHS, broadening the university's ability to support community public health efforts to improve health and wellness," says Brian Strom, MD, chancellor, RBHS. "His goal is to drive Rutgers' continued evolution as one of the leading global health centers in the country, linking together and building upon the significant resources we are committing to improving public health at Rutgers."

Global health uses the full range of health promotion strategies, including those directed at industrial, social, economic, and political determinants of public health. Given this broad scope, Dr. Marlink is excited about working with people throughout Rutgers who represent the university's diversity and breadth of expertise. "In a way, we are like a team of detectives," he says, "connecting the dots to solve mysteries—they just happen to be public health mysteries."

The institute will serve as a communications hub, connecting and supporting the university's programs related to global health. "If people are involved in an effort, we want them to know who else is working on—or considering—a similar effort, whether it's here in New Jersey, in Ghana, or in India," says Dr. Marlink.

In his first year at Rutgers, Dr. Marlink will complete an inventory of the university's resources, learning how each sector might best support the work of the Rutgers Global Health Institute. His findings will be the foundation for a strategic plan for the institute. "Through this process, we'll discover our gems, the strengths that will help us make an impact in global health," he says. "Then we'll be able to add educational resources, develop services to improve research, and recruit faculty."

Solutions to global health problems depend on bringing to bear overlapping sciences including statistics, demography, and epidemiology. "The diversity of schools at Rutgers promises



The Office of Global Health at Robert Wood Johnson Medical School “is the flagship of Rutgers’ global health programs,” says Javier I. Escobar, MD, professor of psychiatry and family medicine and associate dean for global health, above right, with Dr. Marlink. “Integration of the university’s global health programs supports a major objective of the Office of Global Health: to serve as a resource for other schools at Rutgers.”



diverse and effective solutions to global health problems,” says Dr. Marlink, citing some examples. The Rutgers School of Business could be involved in solving supply chain problems to expedite medication and materials to remote places, he says. And the School of Engineering could develop further biomedical engineering solutions for poor populations.

The Environmental and Occupational Health Sciences Institute and the School of Environmental and Biological Sciences are outstanding resources for addressing health problems caused by climate change. Locally, an excellent model for community health is provided by the Eric B. Chandler Health Center, with leadership shared by the medical school and a community board.

“We also have tremendous resources at the Rutgers Cancer Institute of New Jersey,” adds Dr. Marlink. “People in develop-

ing countries usually do not have access to pain medications, and they’re dying from preventable and treatable cancers. We could focus on these urgent problems, matching our expertise with the global need for cancer prevention and care.”

In several areas of the university, global health is already a focus: the Office of Global Health at Robert Wood Johnson Medical School, an office for global health at New Jersey Medical School, the Center for Global Public Health at the School of Public Health, and the Center for Global Health at the Rutgers School of Nursing.

The Office of Global Health at Robert Wood Johnson Medical School is “the flagship of Rutgers’ global health programs,” says Javier I. Escobar, MD, professor of psychiatry and family medicine and associate dean for global health.

Integration of the university's global health programs supports a major objective of the Office of Global Health: to serve as a resource for other schools at Rutgers, he says.

"Beyond Rutgers, the office has affiliations with other universities," adds Dr. Escobar. "They include collaboration agreements with more than 25 institutions in 15 countries in Asia, Africa, Europe, and Latin America. We have innovative new programs in Colombia, to train our own trauma surgeons. We also have an emerging clinical program in the Dominican Republic in collaboration with Columbia University and a collaboration with RWJBarnabas Health, which has a strong global humanitarian outreach program."

Robert Wood Johnson Medical School offers qualified students the opportunity to graduate with distinction in global health, following successful completion of a rigorous, four-year process. Requirements include a self-designed and implemented initiative, participation in global health projects—including at least one domestically—plus international rotations twice during the four years of medical school, and submission and presentation of a scholarly research paper.

Emphasizing international exchanges and learning opportunities, Dr. Escobar's program placed more than 50 medical students in sites worldwide last year, most often as participants in ongoing collaborations that have led to successful National Institutes of Health (NIH) research grant applications in which Dr. Escobar is principal or collaborating investigator in the area of global mental health research.

The Importance of Partnerships

"Students have caught the [global health] bug and want to be more involved," says Dr. Marlink. "This is part of our vision for the curriculum—to 'amp up' student opportunities through our existing programs and improve them through solid partnerships." He adds, "Students benefit most when they go into communities where we are known and have established working relationships."

Dr. Marlink hopes the Rutgers Global Health Institute will establish new partnerships in specific locations. "By committing to enduring partnerships, we'll be doing more to benefit the citizens of that particular country or of that particular New Jersey community," he says.

Francis Barchi, PhD, assistant professor in the Edward J. Bloustein School of Planning and Public Policy and a core member of the Institute for Health, Health Care Policy and Aging Research at Rutgers University, was a member of the search committee for the director of the Rutgers Global

Health Institute. Dr. Barchi, a bioethicist, teaches a combined undergraduate and graduate course in medical ethics and an undergraduate course in global health at the Bloustein School. Not only does she have expertise in global health, but, as an educator and researcher in Botswana, she had the opportunity to appreciate Dr. Marlink's work firsthand.

"Ric has the wisdom and personality to see through the complexities. And he's a great listener," says Dr. Barchi. "In Botswana, listening is a style—a strategy. You have to let everyone have their say, and it can take many hours. But everyone has the right to speak and is expected to contribute."

Attracting and securing funding will be key to the success of the Rutgers Global Health Institute. Dr. Marlink's experience will be essential in this area as well. Initially, BHP depended on small contributions, grants, and crucial help from Bristol-Myers Squibb, along with major help from the government of Botswana. Harvard and BHP invested more than \$25 million in laboratory and clinical research training for people from Botswana. In addition, with help from the Bill & Melinda Gates Foundation and the Merck Foundation, Dr. Marlink and BHP organized a national training program for thousands of physicians, nurses, pharmacists, and laboratory technicians.

In 2003, President George W. Bush announced the initiation of PEPFAR (President's Emergency Plan for AIDS Relief) grants to combat HIV worldwide. "Suddenly, we had a lot of money to do what we wanted to do in scaling up AIDS treatment and prevention in Africa," says Dr. Marlink. Harvard received one of the first four large grants, as did the Elizabeth Glaser Pediatric AIDS Foundation, where Dr. Marlink was scientific director and then vice president for program implementation. Additional funds came later from the NIH.

In addition to the tremendous strengths Rutgers will contribute to the Rutgers Global Health Institute, its central New Jersey location promises to benefit from the proximity of some of the world's largest pharmaceutical companies. Dr. Marlink's experience with the Bristol-Myers Squibb "Secure the Future" program and with the Merck Foundation's early \$50 million commitment to Botswana, equaled by the Gates Foundation, further encourages him about the future impact and long-term success of global health partnerships.

Dr. Marlink has deep experience in building an organization from the ground up, and he clearly enjoys this complex process. This background and approach, along with his experience in research and patient care and his well-honed listening skills, will serve him and Rutgers well as the institute takes shape and begins its work. **M**



Angela Pandit has a chance to make a life for herself, even as she lives with JIA—juvenile idiopathic arthritis—thanks to dedication to learning about the disease, fierce determination to fight, and the guidance of L. Nandini Moorthy, MD (MBBS), MS, FAAP, assistant professor of pediatrics and chief, division of pediatric rheumatology at Robert Wood Johnson Medical School.

**Arthritis
at 14:**

Angela's Journey

BY LYNDA RUDOLPH

PHOTOS BY
STEVE HOCKSTEIN

Angela Pandit was just finishing her freshman year in high school when she became sick with a bad cold. This wasn't a typical infection. All her joints started to swell and flare up. Her wrist was swollen, and she experienced jaw pain. Her symptoms were so bad, she had to stop participating in swim team events. Angela was confused and did what any teenager would do: she went on the Internet! Her parents, Arvind and Yuhuan, were a bit more practical. They sought the advice of local physicians. Still, there were no answers. Over time, as symptoms persisted, it became apparent something was going on in Angela's body that wasn't being identified. Finally, after consultation with a pediatric rheumatologist, Angela was diagnosed with juvenile idiopathic arthritis.

Angela's father recalls how he felt when he heard the news: "This whole diagnosis was nerve-racking for me and my wife. I was in a state of denial. I said, 'This can't happen to Angela.' Even doctors initially were not thinking juvenile arthritis." There was no history of arthritis in the family, which made the diagnosis even more mystifying.

Angela went back to the web to search. "When I found out I had this disease, I had the worst in my mind. When you Google, you see the worst scenario," she says. "But it didn't strike me as something too terrible. It's a disease that's usually associated with older people."

More Children Diagnosed

According to successive studies performed in Rochester, Minnesota, the incidence rate representing data from 1960 to 1979 showed about 13.9 cases of juvenile rheumatoid arthritis (JRA) per 100,000 children per year. In a second study performed in Rochester, representing data from the 1980s, the prevalence rate for JRA was 94 patients per 100,000 children.

If not treated early, juvenile arthritis can be aggressive and associated with deformity and disability. Medications for juvenile arthritis compromise the immune system and the ability to fight normal diseases, leaving children vulnerable to complications that affect their eyes and bone growth. According to the Centers for Disease Control and Prevention, juvenile arthritis affects children of all ages and ethnic backgrounds. About 294,000 American children under age 18 have arthritis or other rheumatic conditions. There are many

children who take the disease with them into adulthood.

Angela and her parents sought specialists who could determine the best treatment. L. Nandini Moorthy, MD (MBBS), MS, FAAP, assistant professor of pediatrics and chief, division of pediatric rheumatology at Robert Wood Johnson Medical School, was at the top of the list. Dr. Moorthy, who has been with the medical school since 2003, attended medical school in New Delhi, did her internship at the University of North Carolina, completed her residency in pediatrics at Weill Cornell Medicine, and her fellowship in rheumatology at the Hospital for Special Surgery in New York.

"Angela came to me after she had been experiencing symptoms for about three months. We determined that she had polyarticular JIA—juvenile idiopathic arthritis," says Dr. Moorthy. Juvenile idiopathic arthritis is the term for what was

previously known as juvenile rheumatoid arthritis. One of the six JIA subtypes, polyarticular



Angela and her parents sought treatment from L. Nandini Moorthy, MD (MBBS), MS, FAAP, assistant professor of pediatrics and chief, division of pediatric rheumatology at Robert Wood Johnson Medical School (right). "We knew we were in experienced hands with Dr. Moorthy," says Angela's father Arvind Pandit (far left).

JIA causes inflammation in five or more joints, typically affecting the hands and weight-bearing joints. "We see children coming in with joint pain, limps, and swelling in their joints," says Dr. Moorthy. "The big thing is getting these kids into treatment quickly to minimize problems."

Dr. Moorthy established confidence immediately with Angela and her parents. "We knew we were in experienced hands," says Arvind Pandit. "She knew exactly what was going on with Angela." Treatment was immediately initiated to get the swelling down. There were a few complications at first. Angela passed out at one point and ended up in the hospital—which was later determined to be caused by dehydration. Her knee also became so swollen it was the size of a baseball. It was at this point that Dr. Moorthy started Angela on a more aggressive treatment—a combination of injections and oral medication.

"She responded very well to methotrexate and etanercept. Nonsteroidal anti-inflammatory drugs like naproxen can be helpful, but with significant inflammation, Angela needed



methotrexate and Enbrel,” says Dr. Moorthy.

After starting the injections, Angela began to feel considerably better. She wanted to conquer what was ailing her. “I wanted to treat it aggressively,” Angela says. Dr. Moorthy and her team were constantly monitoring Angela’s condition using blood tests. Over the first four months, her inflammatory markers normalized. She also improved clinically and experienced less swelling, pain, and stiffness. Angela’s progress continues to be favorable.

Both Angela and her parents realize this is an ongoing process. Angela is now leading a relatively normal life. Though she has dropped out of swimming, she’s back to doing other things she loves, including singing and playing piano.

What the Future Holds

Currently, Angela goes for regular checkups with Dr. Moorthy. Medications are tapered as her condition dictates. “I hope she can pursue whatever she wants,” says Dr. Moorthy. “She is doing very well. But if she gets very tired or

has pain, then she will need to limit, but for now, she can try different activities.”

Angela realizes she’s going to have to take etanercept for the long term. She will attend the University of Maryland in the fall, and she has met with Dr. Moorthy to discuss her options as she begins life as a college student. Angela is realistic. “I realize arthritis will be with me for the rest of my life,” she says.

Dr. Moorthy believes both Angela’s and her parents’ positive attitudes have helped Angela overcome some of the difficulties JIA typically presents. “They are very committed to understanding the disease and understanding medications,” says Dr. Moorthy. “They always ask wonderful questions and communicate very honestly, and I feel honored to have met all of them.”

Thanks to Angela’s and her family’s dedication to learning about the disease, their fierce determination to fight it, their adherence to medications and treatments—and Dr. Moorthy’s guidance—Angela Pandit will have a chance to make a life for herself, even as she lives with JIA. **M**





Overseeing an Evolution:

**Emergency Medicine Chair Has Guided
the Department through Major Change**

Robert M. Eisenstein, MD, is the type of person who sees something that needs to be done and then goes out and does it. Whether it's bringing a new program to fruition or helping build a fledging department, Dr. Eisenstein cannot rest until his goal is accomplished—and even then, there's always another issue to be tackled, another goal to be reached.

These days, much like when he began his role as vice chair of emergency medicine in 2005, those goals have a lot to do with the expansion and evolution of the department.

At that time, Dr. Eisenstein and two other full-time employees formed the entirety of the emergency medicine faculty on Robert Wood Johnson Medical School's New Brunswick campus. Today, as associate professor and chair, Department of Emergency Medicine (ED), Dr. Eisenstein oversees 28 full-time and per-diem faculty in a thriving department that treats more than 72,000 emergency patients each year at Robert Wood Johnson University Hospital (RWJ) and is among the most efficient in the country.

BY BETH-ANN KERBER • PORTRAIT BY STEVE HOCKSTEIN

“I learned on the job—how to interview, and vet people, looking at the details not just at the care of patients, but in improving patient flow in the ED,” he recalls. During his years as vice chair, interim chair, and now chair, Dr. Eisenstein has researched systems efficiency to achieve optimal care and recruited faculty with expertise in emergency medical services, critical care, research, education, toxicology, and emergency ultrasound.

But while the details of leading a department may have been learned on the job, his chosen profession might have given him an advantage, he suggests, noting that the temperament and many of the abilities that are conducive to the practice of emergency medicine lend themselves to the duties of chair.

“Being able to get along with everybody, having to make connections very quickly, the need to figure out what is happening with the patient in the span of perhaps five or 10 minutes sometimes—that nature can really translate into the skills that are needed for negotiating with other specialists, identifying and resolving problem issues or the need for new programs to better serve patients, and managing staff personalities and needs,” Dr. Eisenstein says.

“Now,” he adds matter-of-factly, “I don’t know anything else.”

A member of the inaugural class of the Association of Academic Chairs of Emergency Medicine’s Chair Development Program, Dr. Eisenstein has also put those leadership skills to use on the board of directors of the New Jersey Chapter of the American College of Emergency Physicians (ACEP) for the past five years, currently serving as chapter president. He is also a fellow in ACEP and a member of the Society for Academic Emergency Medicine.

Finding His Passion

Yet a career in emergency medicine was not always a given. Like many physicians, Dr. Eisenstein did not settle on his chosen specialty until years after realizing that medicine was his calling. Although he once harbored thoughts of a career in veterinary medicine, he was drawn to a hospital-based career during his junior and senior years of high school after working in the emergency department at a local hospital to earn college credits. The job provided him with the opportunity to view an autopsy, observe cases, and assist in the ED.

It was during his fourth-year rotation in emergency medicine at the University of Health Sciences/The Chicago Medical School (now part of the Rosalind Franklin University of Medicine and Science) that he knew he’d found his niche, from the rapid pace of the emergency environment to the fact that it centers on his favorite part of patient encounters: the initial

evaluation to determine the root of the problem, followed by the decision about how to treat it.

That sense of facing the unknown and handling whatever the day throws at you, regardless of circumstances, is exemplified in a critical situation Dr. Eisenstein encountered at the beginning of his medical career, one that remains for him “one of the scariest and most rewarding I ever had.” He was working at a community hospital when a mother came running into the ED with a drooling, 5- to 6-year-old boy in her arms. The child had been playing on the family’s front steps when he discovered a soda can and drank from it, not realizing that someone had put liquid drain cleaner in the can.

“It was eating away at his vocal cords. We needed to intubate. The hospital didn’t have pediatrics, and you didn’t have to intubate kids all that often. There was no backup, nobody else to help,” Dr. Eisenstein says. After dealing with the issue as best they could, they were able to transfer the child to Children’s Hospital of Philadelphia for further treatment. Months later, Dr. Eisenstein saw the boy, who was doing fine. “When you’re young and by yourself, and you have to face this type of situation, these are the things that stand out to you,” he says.

Today, Dr. Eisenstein maintains a limited clinical schedule, working every Monday in the ED—typically the busiest day of the week. “Since I do clinical care less than other members of the department, I try to schedule myself for the busiest times to help out,” he explains.

By Leaps and Bounds

To that end, Dr. Eisenstein is far more likely to emphasize the achievements of his team and the department as a whole than to focus on any personal accomplishments.

The dramatic growth that the department has achieved in a relatively short time is a particular source of pride, he says, as is the team’s ability to “stay ahead of the curve.”

“We’re still very young as a department, but we’ve taken huge strides,” says Dr. Eisenstein.

Those advances have manifested themselves in a variety of areas, from the expansion of clinical services and programs, such as the development of a clinical toxicology service, to a concerted effort to increase department members’ grant-funded research and contributions to peer-reviewed journals. A published researcher in several peer-reviewed journals, books, and abstracts, as well as an ad hoc reviewer for the *Journal of Emergency Medicine* and *Annals of Emergency Medicine*, Dr. Eisenstein has focused his research efforts on efficiency, while other members of the department have been involved in studies regarding critical care issues, as well as working collaboratively on research with individuals from other specialties,

including rheumatology, pulmonology, and cardiovascular disease.

At the same time, the department has played a much more integral part in the education of medical students, instituting a required fourth-year medical student clerkship and taking a hands-on role in the mandatory BootCamps for fourth-year students, as well as providing education for first- and second-year students in the areas of “Basic Life Support,” “Advanced Cardiac Life Support,” and “Universal Precautions.” In addition, an Emergency Medicine Residency Program was launched in 2010, a three-year program, accredited by the Accreditation Council for Graduate Medical Education, that trains 18 residents each year. A clinical site for family medicine and psychiatry residents, the department also provides fellowship training in the areas of Emergency Medical Services/disaster medicine and, most recently, emergency ultrasound.

The latter fellowship is a direct result of the incorporation of point-of-care ultrasound into the department’s services—an evolution in care of which Dr. Eisenstein says he is most proud. This type of ultrasound, different from a full diagnostic imaging exam, enables ultrasonography exams to be performed at the bedside in the ED as an adjunct to patient care. It can help clarify findings of a physical exam and serve as image-based guidance for therapeutic purposes.

“It was new at the time and involved a lot of negotiations with other specialties, but it’s been a huge benefit to patient care,” Dr. Eisenstein says.

The addition of this service also led to the establishment of a new unit within the department: the division of emergency and critical care ultrasound, led by Christopher Bryczkowski, MD ’10, assistant professor of emergency medicine and interim chief. One of the key factors in implementing this new service was gaining buy-in from the medical staff so they fully understood the value of point-of-care ultrasound, Dr. Bryczkowski says. Driven to add emergency ultrasound as a fundamental skill set of emergency providers at RWJ, the department prioritized ED faculty ultrasound training and credentialing in preparation for the incoming emergency medicine residents, says Dr. Bryczkowski, who also directs the emergency ultrasound fellowship program.

“Emergency medicine residents trained at RWJ now learn ultrasonography skills, which enable them to provide safe, quick, quality care,” he says, noting that the use of bedside ultrasound by emergency medicine staff at RWJ has contributed to safer patient care. For example, this service allows for confirmation of emergent conditions such as pericardial tamponade, when fluid or blood builds up in the space sur-

rounding the heart, preventing it from working properly; ruptured ectopic pregnancies; and abdominal aortic aneurysms, Dr. Bryczkowski explains. In addition, ultrasound guidance can greatly improve the ability to provide IV care for patients who have difficult venous access—improving success rates, decreasing the time it takes for the procedure, and even avoiding unnecessary placement of central lines.

A Continued Evolution of Care

Emergency medicine practitioners are beginning to take on a much larger responsibility for patients’ health care, Dr. Eisenstein says. Although there has been a lot of stress in the health care industry on preventing unnecessary emergency visits, the real cost savings is not necessarily in keeping people out of the ED, but in avoiding inpatient hospital care, he adds.

“One of the dangers of discouraging people from emergency visits is the fact that some serious emergent issues can have benign symptoms. Patients don’t really know if that sore throat is the sign of something really serious,” he explains. “As the role of emergency physicians grows, our expertise will be critical in helping determine the most efficient, safest level of care, whether that is management in an emergency setting or in observation, or admission for inpatient care.”

And while Dr. Eisenstein has set his sights on the continued evolution of the Department of Emergency Medicine in each of the medical school’s mission areas, he does so in conjunction with an ambitious hospital expansion project that will physically enhance the department’s ability to meet the growing needs of the community. In March, Robert Wood Johnson University Hospital, one of only three Level 1 Trauma Centers in the state, began a multi-phase project that will increase the size of the Emergency Department from 40,000 to 60,000 square feet and nearly double the bed capacity.

Once complete, the new Emergency Department will feature more than 100 private treatment areas for patients, including three additional trauma bays; in-department radiology imaging; an ambulance bay that will accommodate eight ambulances at once; a separate expanded pediatric emergency department; and a treatment area dedicated to patients with less emergent diagnoses. The first phase of the expansion is expected to continue through July 2018.

It’s an exciting time for the department, Dr. Eisenstein says, and, like a busy day in the Emergency Department, he looks forward to the challenges these changes will bring: “Every day is different. Even after this many years, it’s fun. I couldn’t see doing anything else.” **M**



International Scientific Acclaim Hits Home

BY LYNDA RUDOLPH

PORTRAITS BY JOHN EMERSON



How does it feel to be recognized by the world's largest multidisciplinary scientific society?

- “It’s amazing.”
- “It’s an honor.”
- “It’s humbling.”

All three of the Robert Wood Johnson Medical School faculty members who were named fellows by the American Association for the Advancement of Science (AAAS) believe that the recognition has personal significance—particularly since it is peer-nominated. Terri Goss Kinzy, PhD, professor of

biochemistry and molecular biology and pediatrics and vice president for research (*right*); Peter Lobel, PhD, professor of biochemistry and molecular biology (*left*); and Monica Roth, PhD, professor of pharmacology (*center*), have been singled out by AAAS for their efforts to advance science applications that are deemed scientifically or socially distinguished.

The journey that led to this distinction for each honoree is unique and filled with remarkable—and in some cases life-changing—discoveries.



Terri Goss Kinzy, PhD

Dr. Kinzy has been working in the field of translation elongation for nearly 30 years, first as a graduate student and then as a member of the Robert Wood Johnson Medical School faculty. “As it turns out, translation elongation is very important in infectious diseases,” she says. Her work has created new thinking about ways to develop treatment for diphtheria and for *Pseudomonas aeruginosa* bacteria—a major cause of lung infections in people with cystic fibrosis that is associated with increased inflammation, respiratory decline, and a poor prognosis.

Dr. Kinzy joined Robert Wood Johnson Medical School as an assistant professor in 1995. In 2004, she was promoted to professor. Her work—leading to a full understanding of the entire translation elongation cycle in the process of gene expression—has made a significant contribution to biomedical research.

Collaborating with a group at Aarhus University in Denmark, Dr. Kinzy has developed an understanding of the structure and function relationships in proteins required for assembling a protein sequence—and how that assembly affects gene expression efficiency and accuracy. During the process of gene expression, a nucleotide sequence directs protein synthesis and produces the structures of the cell. The process involves two stages: transcription and translation.

During transcription, messenger RNAs (mRNAs) are produced. During translation, mRNAs assemble a series of amino acids in a specific sequence. During translation elongation, that series of amino acids is assembled into a chain. Since there are three dimensions to the structure, having a three-dimensional view of what’s happening in a cell is invaluable. “When you can see what it looks like, it’s easier to do the work,” says Dr. Kinzy.

Translation elongation is more important than originally thought. One of the proteins is a target of bacterial toxins that kill cells—important in relation to both diphtheria and *P. aeruginosa*—a cause of an infection in patients with compromised host defense mechanisms that can be complicated and life threatening. Understanding how this toxin kills cells has also contributed insight into cystic fibrosis. “Our goal is to find better ways to treat these diseases and even possibly eliminate them,” says Dr. Kinzy. Her laboratory is currently also focusing on antifungal compounds.

“People work hard in science and are dedicated to what they do,” says Dr. Kinzy in reaction to the AAAS fellowship. “The fact that your peers think highly about what you do is more important than money.” She is honored to be part of such a distinguished group of scientists and looks forward to continuing to advance the science of gene expression through her work.

Peter Lobel, PhD

It’s fun to just make mud pies: try to solve problems and sometimes figure things out,” says Dr. Lobel. Basic science is something he clearly loves to pursue. With a smile in his voice, he comments that his discoveries “just happened along the way.” But there’s much more to what he’s achieved than he’d like you to believe. The work he and his laboratory have done to develop a process of understanding the workings of proteins and the lysosome has opened the door to treatments for rare diseases.

Dr. Lobel came to Robert Wood Johnson Medical School in 1989. Recruited here as a young assistant professor, he started his own lab at the Center for Advanced Biotechnology and Medicine (CABM) to study how proteins get targeted to the lysosome in the cell. “The lysosome acts as the central digestive system of the cell,” he explains. “We study how things can be taken up from outside the cell and are delivered to the lysosome and then degraded.”

There are many different resident lysosomal proteins tailored to break down all sorts of substances that reach the lysosome and then to transport those products out of the lysosome for reutilization by the cell. Dr. Lobel studied the target-

ing for these resident lysosomal proteins—the molecular biology of how this works. Over time, the efforts of multiple laboratories figured out the overall targeting pathway. “There’s a really smart protein that can recognize approximately 70 different proteins that are destined to live in the lysosome—it puts a special tag on them, and then another protein grabs the tagged proteins and sends them to their destination,” he says.

When Kenneth Valenzano, PhD ’96, adjunct professor of pharmacology, was a graduate student in Dr. Lobel’s lab, he developed a method to visualize all of these tagged lysosomal proteins simultaneously. This method of visualization gave new importance to the research in 1996 when David Sleat, PhD, then a postdoctoral fellow in the lab and now an associate professor of biochemistry and molecular biology and a close collaborator with Dr. Lobel, began to look at samples associated with different human diseases and learn how the lysosomal proteins change.

“Serious diseases result when an individual lacks a particular protein that lives in the lysosome,” says Dr. Lobel. “For example, Tay-Sachs disease is a deficiency in a lysosomal enzyme that normally degrades glycolipids.” With this new method of visualization, the lab’s team could start interrogating samples. One of the first was from a child who had



died from a neurodegenerative disease called late infantile neuronal ceroid lipofuscinosis (LINCL)—one of the most frequently encountered of a large group of neurological diseases collectively called Batten disease.

LINCL typically emerges in children around the age of 3, when they begin to have seizures. Their health fails in stages. First, they lose the ability to walk, then to see. Eventually they are bedridden. By the age of 10, one-third of the neurons in their brain have died. Dr. Lobel and Dr. Sleat discovered that a lysosomal protein that was prominent in normal samples was missing in the child who had died of this disease. After purifying the normal protein and determining its sequence, they analyzed its gene and found mutations that had caused the disease.

This discovery occurred in 1997, and the work surrounding LINCL continues today. Dr. Lobel and his team worked to understand the basic properties of the missing protein, learned how to make the protein in large quantities, and developed LINCL mouse models for testing therapeutics. They began to work with a pharmaceutical company, BioMarin, to develop enzyme replacement therapy for LINCL, in which children are treated with a version of the missing protein that is made in the lab. BioMarin has sponsored clinical trials, led by a physician in Hamburg, Germany, that have shown a stabilization of the disease in treated children.

On April 27, 2017, the FDA approved the first treatment for a form of Batten disease—Brineura (cerliponase alfa)—based on this research. It is the first FDA-approved treatment to slow loss of walking ability (ambulation) in symptomatic pediatric patients 3 years of age and older with late infantile neuronal ceroid lipofuscinosis type 2, also known as tripeptidyl peptidase-1 deficiency.

Dr. Lobel has also spearheaded research in Niemann-Pick disease type C (NPC)—a rare progressive genetic disorder caused by cholesterol that accumulates in the lysosome. A team of investigators at the National Institutes of Health discovered the disease gene responsible for approximately 95 percent of NPC cases. As an outgrowth of their basic research to identify the proteins that live in the lysosome, in 2000, Dr. Lobel’s group reported a second disease gene responsible for NPC.

Ara Parseghian, the former head football coach at the University of Notre Dame—three of whose grandchildren were diagnosed with the disease and died in childhood—established a medical research foundation that funded Dr. Lobel’s work on NPC for 10 years, as well as work by two of his collaborators, Ann M. Stock, PhD, professor of biochemistry and molecular biology and interim director, CABM, and Judith



Storch, PhD, distinguished professor of nutritional sciences, Rutgers School of Environmental and Biological Sciences.

“While we mostly do basic research, because of the disease relevance, my lab is most known for its work on NPC and LINCL,” says Dr. Lobel.



the strong points and eliminate problems, using it as a delivery mechanism,” says Dr. Roth.

One of the long-standing projects in her lab is viral entry. “The virus has a protein on the outside called an envelope protein, by which it gains entry into the cell through binding to a host receptor,” says Dr. Roth. Her research could help determine how to enter a cancer cell that has a surface marker expressed at a high level, then get a virus to find that receptor and deliver a therapy to those cells. Virus particles for gene delivery enter cells and integrate, and they can express at a high level. “We know that a leukemia virus was identified in mice because it integrates in front of genes that could then express and transform the cell,” she explains.

The virus itself doesn’t carry an oncogene, but if you happen to integrate in front of one, you could give a growth advantage to that cell. Dr. Roth’s lab is studying how the virus chooses where to integrate. “It turns out that around 20 percent of the time, the virus integrates within a promoter region,” she says. “If you integrate in that promoter region, you have a greater chance of turning on that gene.”

Once there’s an understanding of that mechanism, you can change it. By knowing how to block the interaction with a host protein that drives the site of integration, this interaction can be eliminated and thus the virus could be retargeted. Dr. Roth’s lab is also looking at viruses as nanoparticles—using them to deliver a toxic protein to cells to kill them—which has obvious implications for cancer treatment.

Her most recent project is related to a protein called p12. “Different viruses have different properties, and some viruses can only infect dividing cells,” says Dr. Roth. Dividing cells must go through mitosis, during which the nuclear envelope disappears and the virus gains access to the host DNA, carrying a protein with it that keeps the virus attached to the mitotic chromosomes. Her project is investigating how that works, trying to understand what the protein is binding to and how that influences integration.

“The point is,” says Dr. Roth, “viral proteins have divergent functions depending on if the virus is trying to exit or enter a cell.” Her lab combines molecular biology, mutational analysis, and tissue culture studies with structural studies to examine specific aspects of the viral life cycle.

The recognition by AAAS is “humbling,” says Dr. Roth. “You spend an entire life doing research. To be recognized by this organization for contributions to science is a huge honor.”

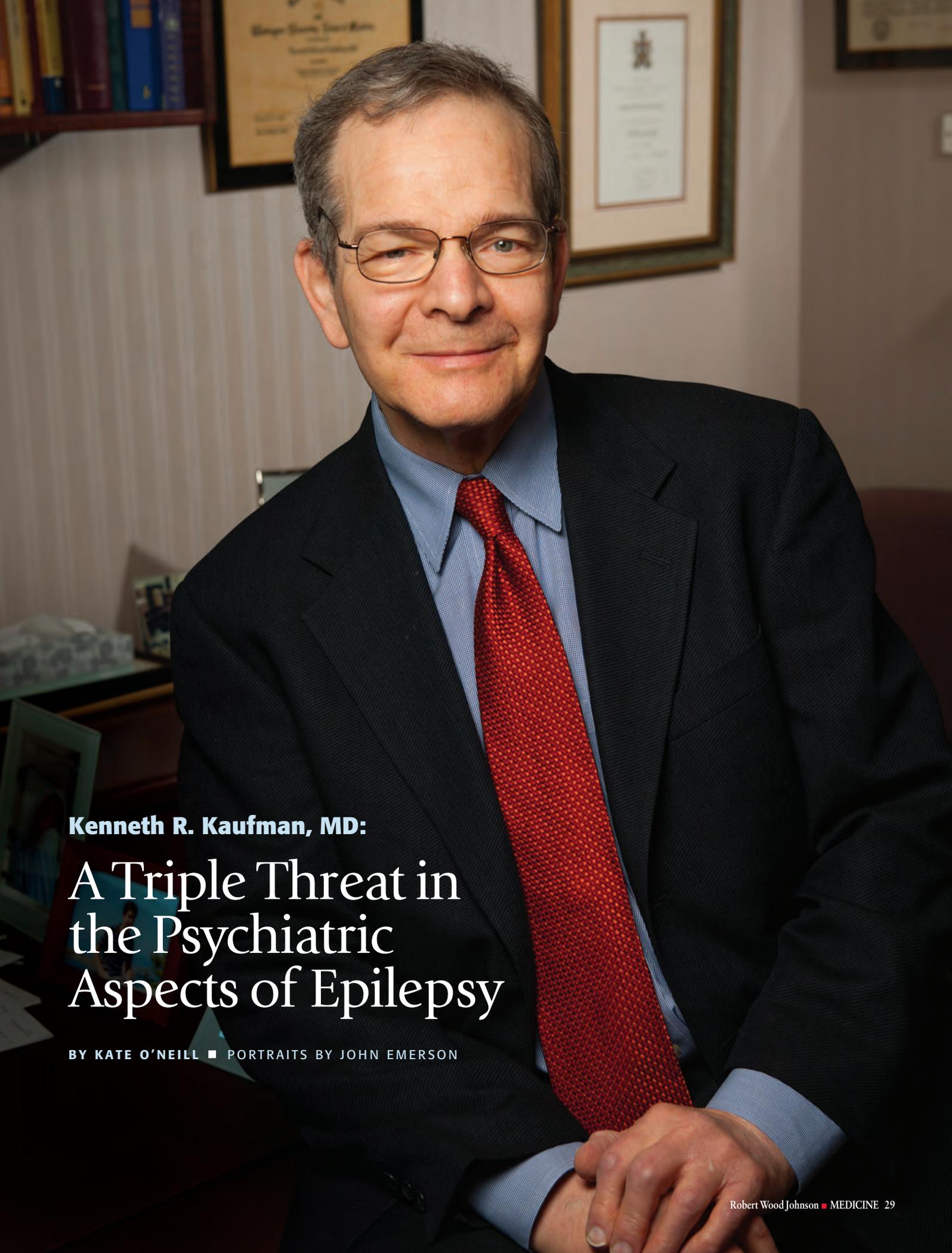
Formed in 1848, AAAS is an international nonprofit organization dedicated to advancing science for the benefit of all people. The medical school feels privileged to call these three honorees faculty. **M**

Monica Roth, PhD

“Viruses are amazing,” says Dr. Roth. She’s been studying retroviruses her entire career. “The virus is really a nanoparticle,” she explains. “You can create a nanoparticle in a test tube or see what particles exist in nature and modify them—that’s the overarching theme in my lab.”



Dr. Roth came to Robert Wood Johnson Medical School in 1988 after she completed her postdoctoral work at Columbia University in retroviruses—RNA viruses that convert into double-stranded DNA through the process of reverse transcription, integrating into the DNA of the host. The process can be either harmful or beneficial. For example, if you were trying to introduce a gene for therapy, then it’s a benefit, since it stays in the DNA of the cell. Dr. Roth’s research involves manipulating viruses to leverage their strength and then using them for the benefit of biomedicine. “We try to understand how the virus works to excerpt out



Kenneth R. Kaufman, MD:

A Triple Threat in the Psychiatric Aspects of Epilepsy

BY KATE O'NEILL ■ PORTRAITS BY JOHN EMERSON

Being named a 2017 Distinguished Life Fellow of the American Psychiatric Association was the most recent of a constellation of honors awarded to Kenneth R. Kaufman, MD, professor of psychiatry, neurology, and anesthesiology. Dr. Kaufman, Fellow of the American Epilepsy Society (2016) and Fellow of the Royal College of Psychiatrists (2015), is internationally known for excellence in his fields. His principal interests include psychopharmacology, psychiatric aspects of epilepsy, and the use of antiepileptic drugs in the treatment of psychiatric disorders. There is a personal reason for his interests and expertise: Dr. Kaufman's own history of epilepsy since childhood.

Dr. Kaufman taught and practiced in Los Angeles for 16 years. Then, in 1996, he decided to return to the East Coast to be near his parents, who still lived on Long Island. The interview process brought him to the campus of Robert

“In my practice, as in my research, I’m not a single-focus person. I want my patients and their families to know that epilepsy and other illnesses, psychiatric and medical, are conditions to be treated—not to be used as a label. Patients are people first, who incidentally have an illness,” says Kenneth R. Kaufman, MD, professor of psychiatry, neurology, and anesthesiology (*facing page, center*), with wife Christine H. Kaufman (*left*), and son Nathaniel Kaufman.

Wood Johnson Medical School, where he enjoyed conversations with faculty members that were collegial, intellectual, and academically stimulating. Of importance, too, was the knowledge that in the school's relatively small Department of Psychiatry, he would be supervising medical students as well as residents but still have ample time for his extensive clinical practice.

“It’s wonderful to have someone of Ken’s prominence on our faculty,” says Matthew Menza, MD, professor and chair, Department of Psychiatry. “He embodies the old-fashioned idea of the ‘triple threat.’ But he’s not only a very active clinician, teacher, and researcher; he’s also a dedicated mentor and tireless writer, who never hesitates to get involved—and involve others—in exploring new ideas.”

A Devotion to Scholarly Work

Dr. Kaufman is the author of more than 350 scholarly articles and abstracts, book chapters, and national and international presentations. He serves on six editorial boards and is deputy editor of the two-year-old *British Journal of Psychiatry Open (BJPsych Open)*, published by the Royal College of Psychiatrists in the United Kingdom.

“Ken’s enthusiasm for our business model and egalitarian approach to science has been remarkable,” says the journal’s editor-in-chief, Kamaldeep Bhui, CBE, MD, professor of cultural psychiatry and epidemiology, Barts and The London School of Medicine and Dentistry. “*BJPsych Open* offers open access to high-quality research, which, although methodologically sound, might be overlooked were it not published in some of the high-impact journals—a terrible loss to the scientific community and the public.”

Dr. Kaufman’s own work includes research on antiepileptic drugs in the treatment of psychiatric disorders, as well as on drug-drug interactions and adverse effects. He is also committed to ethics, research design, studies on the psychiatric aspects of epilepsy, and advocacy for sports participation—without stigma—for people with epilepsy.

He relishes his responsibilities as an editorial board member at *Epilepsy and Behavior*. In 2014, the journal published his commentary describing his own experience with epilepsy and its stigma, calling the journal “a professional and a personal home.” Founded in 2000, *Epilepsy and Behavior* focuses on the social and psychological impact of the disease, not on seizures. “Ken is one of the few psychiatrists in the country with a clinical interest in epilepsy, and he is the only one with clinical and personal experience,” says Steven Schachter, MD, professor of neurology, Harvard Medical School, the journal’s founder and editor-in-chief. “He may not think so, but he is very brave to write so openly about his own experience.”

Mentoring and Clinical Care

Dr. Kaufman’s protégés, past and present, represent a wide spectrum of health care specialties and levels of experience. Dr. Menza notes that Dr. Kaufman makes a point of involving his protégés in writing and publishing, often as his coauthors, helping to hone their skills as scholarly writers while ensuring that journal readers see the research of a new generation of scientists.

Dr. Kaufman sees a range of patients, the majority of whom do not have epilepsy. “In my practice, as in my research, I’m not a single-focus person,” he says, estimating that in more than 40 years as a clinician, he has seen approximately 40,000



patients. “I want my patients and their families to know that epilepsy and other illnesses, psychiatric and medical, are conditions to be treated—not to be used as a label. Patients are people first, who incidentally have an illness.”

A lover of words and literature, Dr. Kaufman likes to talk with his patients about the books they are reading. “It gives me a good idea of what makes them tick—what gets them excited,” he says. “My patients are people who have helped mold me into who I am today. Each physician must always remember that every patient teaches us, not only about an illness process but about being a person.”

Dr. Kaufman mindfully credits his supporters and mentors. Foremost among them was his mother, an education professor and guidance counselor, who passed away in 2001. In her honor, he established the Rebecca Goldberg Kaufman Ethical Neuropsychiatry Award. The American Epilepsy Society gives the award to the author of the highest-ranking abstract in the psychiatric topic category, and the paper is presented at a session at the society’s annual meeting. The award reads, in part: “She held knowledge and compassion as keystone virtues. As a mother of a child with epilepsy, she understood the significant psychiatric and social ramifications of epilepsy and became a staunch advocate for increased education of the psychological aspects of epilepsy.”

“There have been so many bright spots in my life, and my one ongoing regret is that Mom is not here to share them with me,” he says. “Yet I can close my eyes, and she is there before me.”

A Turning Point

Dr. Kaufman’s accomplishments attest to his intellect and grit. Despite uncontrolled seizures, he persevered in his hope of becoming a research chemist—an ambition rooted in his childhood, when he spent days joining his father at the research chemistry bench. At Columbia University, he majored in chemistry, was elected to Phi Beta Kappa, graduated summa cum laude, and received the Harvard Fellowship for doctoral studies in organic chemistry.

In his first year at Harvard, Dr. Kaufman audited “Sociology of Medicine,” a graduate course taught by Visiting Lecturer Renée C. Fox, PhD, now Annenberg Professor Emerita of the Social Sciences, University of Pennsylvania. “The course showed me medicine, a long-held fascination, from a different perspective,” says Dr. Kaufman. “It introduced me to a different thought process, making me look with a more objective eye and think differently than I had before.”

A research project in Dr. Fox’s course took Dr. Kaufman to a neurology clinic, where he overheard a Harvard profes-

sor of neurology say of a patient: “He’s just another epi [patient with epilepsy]. Give him some pills and get him out of here. He’s not interesting.”

“I was appalled. Did they know what they’d just said?” says Dr. Kaufman. “Right then I decided I was going to go to medical school, because I knew something needed to change. These behaviors had to stop. I still didn’t know if I could practice because of my uncontrolled seizures, but I was determined to find out.”

Dr. Kaufman earned a master’s degree in chemistry after his first year at Harvard; while continuing to move forward in his PhD studies, he was applying to medical schools. His thesis committee was astonished when he announced he would matriculate at Washington University School of Medicine in St. Louis, instead of completing his PhD at Harvard.

In his first year at Harvard, Dr. Kaufman overheard a professor say of a patient:

“He’s just another epi [patient with epilepsy]. Give him some pills and get him out of here. He’s not interesting.

I was appalled,” says Dr. Kaufman.

“Right then I decided I was going to go to medical school, because I knew something needed to change.”

In his third-year clinical rotations, he had an unexpected revelation: “After the first month of caring for patients, I realized I’d stopped having uncontrolled seizures,” he says. Improved seizure frequency provided an insight. “While I’d been concerned about the future, it turned out the solution was my enjoyment of the present: I loved caring for patients,” he says. “The stress was gone.”

When Dr. Kaufman reconnected with Dr. Fox 10 years later, both her course and their many common interests solidified a friendship that now dates back almost 50 years. Describing Dr. Fox as his pivotal mentor, Dr. Kaufman says, “Not many people are so lucky as to have a five-decade mentor-mentee relationship.”

“Ken is exceptionally empathetic, compassionate, and generous,” says Dr. Fox. “He is highly intelligent, with a wide-ranging intellect. He is thankful for all the good things in his professional and personal life. And, in the face of dif-

ficult challenges, he has shown great courage and resiliency.”

A Sporting Chance

Dr. Kaufman’s first seizure, as a 12-year-old, occurred in an era when epilepsy still carried a strong stigma, so his parents kept him out of athletics. They knew that if school officials learned of his disease, they would prohibit him from taking any science courses because of the perceived risks in laboratory settings.

While he excelled academically, he knew that he was missing out on the socializing opportunities of athletics, especially team sports. “Sports play a therapeutic role for people with epilepsy, both physically and psychologically,” he says, “often destigmatizing their illness and bringing them out of the shadows.” At Columbia University, he took fencing and swimming. Later, in medical school, he enjoyed cricket and earned a gold medal in the sport at the 1989 Maccabiah Games; in 2001, he served as psychiatrist to the U.S. Maccabiah team.

“Ken is committed to improving the health of people with epilepsy by expanding and promoting participation in sports, reducing depression, and building strength,” says Harvard’s Dr. Schachter. “He is a true champion for people with epilepsy, who long to be included, accepted, and valued—starting in their own homes.”

Since 2011, Dr. Kaufman has been a member of the Task Force on Sports and Epilepsy of the International League Against Epilepsy (ILAE), resulting in a recent consensus paper. Further, he supervised the North American component of Stand Up for Epilepsy, an ILAE project, during which he recruited elite athletes to be photographed with people with epilepsy, mainly children, teenagers, or young adults. The intent was to destigmatize the disease and show that people with epilepsy can achieve their goals, lead a full, active life, and engage in sports.

“My investment into improving the well-being and social integration of those young people was not only the impetus for the project, but also a personal pleasure,” says Dr. Kaufman. Subsequently, as senior author of the paper “San Diego Photo-Shoot: A Personal Odyssey,” he recounted his experiences in pursuing these goals. The youngest of his five children, Nathaniel Kaufman, served as assistant photographer, adding to Dr. Kaufman’s pride in the project.

“It was singularly gratifying,” says Dr. Kaufman, “to reflect on the paths traveled in my own life with epilepsy, while having the joy of building self-esteem among these youngsters with epilepsy.” **M**

R W J M S NEWS

Study Indicates Better Test for Jaundice

A new study published in the *Journal of Pediatrics* by researchers in the Department of Pediatrics indicates that there is a more accurate test for jaundice, a common disorder in newborns. Jaundice in preterm infants is caused by the elevation of bilirubin, an orange-yellow substance in the blood that is not properly processed by the infant's immature liver. The problem also occurs in full-term infants. If not treated effectively, excess bilirubin can cause severe neurological damage, even death. The study was led by **Thomas Hegyi, MD**, professor of pediatrics and principal investigator, and funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development.



Thomas Hegyi, MD

In preterm infants who show signs of jaundice, it is standard practice to test for total serum bilirubin, one of two types of bilirubin, in order to plan a course of treatment. According to the researchers, however, measuring solely for the level of the second type, unbound bilirubin, would more

accurately determine the risk of neurotoxicity, as unbound bilirubin is capable of crossing the blood-brain barrier and inducing brain toxicity.

In addition, the researchers found that the ability to metabolize the free fatty acids and the resulting amount of unbound bilirubin are highly variable among premature newborns. The standard test for total serum bilirubin, therefore, cannot be utilized to predict the unbound bilirubin level and potential for neurological impairment. ■

\$5M Grant for the Child Health Institute of New Jersey

The Child Health Institute of New Jersey was awarded a four-year, \$5 million grant from the Robert Wood Johnson Foundation. The funding, secured with the help of the Rutgers University Foundation, will expand and enhance the core mission of the Child Health Institute of New Jersey and allow for continued growth of its basic science mission, along with the opportunity to expand research endeavors by recruiting accomplished scientists who focus on the development of therapeutic tools and the prevention of pediatric disorders.

Arnold Rabson, MD, Laura

Gallagher Endowed Chair of Developmental Biology and director of the institute, indicated that new investigators will likely be recruited in two areas. One of the goals is to expand research in inflammation and immunity and expand its studies of neurodevelopmental disorders, including childhood autism.

The Child Health Institute also will utilize the grant to strengthen its translational research program, which employs findings from laboratory investigations in the development of treatment and prevention methods, improving the care provided to children. ■

Match Day

A total of 134 students participated in the medical school's Match Day ceremony on March 17, when it was revealed where members of the Class of 2017 would begin their residencies. Ninety-four percent of the class matched to a program of their choice, tying the national match rate. Twenty-four of the students matched to programs in New Jersey, 15 of whom matched to categor-



STEF HOOKSTEIN

cal or advanced programs of Rutgers Biomedical and Health Sciences (RBHS) and four of whom matched to a preliminary program at RBHS. Fifty-four of the students matched to a primary

Above: Students celebrate with Dean Sherine E. Gabriel, MD, MSc, at Match Day.

care program (family medicine, internal medicine, pediatrics, or obstetrics/gynecology). ■

Children with Developmental Disorders Face Long Waits, Language Barriers

According to a new study from **Manuel Jimenez, MD '03, MS**, assistant professor of pediatrics and family medicine and community health, the wait time to see a developmental and behavioral pediatrician—only 1,000 of whom exist nationally—is nearly six months. In addition, the study found that an insufficient number of developmental pediatric programs offer accommodations for non-English-speaking families.



JOHN EMERSON

Manuel Jimenez, MD, MS

Published in the *Journal of Developmental & Behavioral Pediatrics*, the study explored the barriers to obtaining an appointment for an initial evaluation; it was undertaken after no documented evidence on the subject was found. Members of the research team posed as “mystery shoppers,” calling specialized developmental pediatric programs associated with children’s hospitals across the country to request an appointment. Of the 140 unique programs that were called, 75—only 55 percent—provided an estimate wait time, with an average of nearly five and a half months. Among these,

62 were reached in Spanish within a 24-hour period of the initial call; nearly one-third did not offer any Spanish-language services for the caller.

Dr. Jimenez, who also is an attending developmental and behavioral pediatrician at PSE&G Children’s Specialized Hospital, emphasizes that more work is needed to identify strategies that provide better access to all children who are in need of specialized services, as developmental

and behavioral problems are among the most prevalent health concerns faced by children.

Along with Dr. Jimenez, the research team included **Emmanuel M. Alcaraz**, a student in the MD/PhD program at the medical school; Jerome Williams, PhD, Distinguished Professor and Prudential Chair in Business, Rutgers Business School; and Brian L. Strom, MD, MPH, chancellor, Rutgers Biomedical and Health Sciences. Dr. Jimenez’s work is supported by the Robert Wood Johnson Foundation’s Harold Amos Medical Faculty Development Program. ■



New Jersey Establishes Maternal Health Awareness Day

The tragic death of Tara Hansen from an undetected infection six days after she gave birth spurred the creation of the Tara Hansen Foundation in 2013, leading to new interprofessional education at Robert Wood Johnson Medical School.

With strong support from **Gloria Bachmann, MD**, interim chair of Obstetrics and Gynecology and associate dean for women’s health, the foundation developed a

“Stop. Look. Listen!” campaign empowering women’s voices during pregnancy and the birth process.

“Stop. Look. Listen!” resonated with New Jersey State Senator Joseph Vitale, who sponsored legislation, signed into law May 11, establishing January 23 each year as Maternal Health Awareness Day in New Jersey to raise awareness of maternal health, safety, and mortality issues. This includes New Jersey’s recent implementation of AIM, the Alliance for Innovation on Maternal Health, which is a national data-driven maternal safety and quality improvement initiative.

The legislation cites the efforts of the Tara Hansen Foundation, Robert Wood Johnson Medical School, and Robert Wood Johnson University Hospital in developing the campaign and the support of the project by Rutgers New Jersey Medical School, the New Jersey section of the American College of Obstetricians and Gynecologists, the New Jersey Obstetrical and Gynecological Society, New Jersey Section of the Association of Women’s Health, Obstetric and Neonatal Nurses, and the New Jersey Affiliate of the American College of Nurse Midwives. ■

—Courtesy of Rutgers Today

“MD/MBA Program to Know”

On December 23, 2016, *Becker’s Hospital Review* highlighted the medical school’s joint MD/MBA program as one of its “MD/MBA programs to know.” The five-year MD/MBA program is a collaborative effort with Rutgers Business School–New Brunswick. It is designed to provide medical students with the knowledge and skills necessary for positions in the health care industry that require expertise in the medical as well as economic aspects of health care. ■

Scholarship Gala

Celebrating the reunion classes of 1972, 1977, 1982, 1987, 1992, 1997, 2002, 2007, and 2012, the medical school's Scholarship Gala took place on April 8, and raised vital funds for student scholarships. The gala recognized the following honorees: **Michael A. Gallo, PhD, DABT**, emeritus professor of environmental and occupational medicine, received the Honorary Alumni Award; **Norma B. Saks, EdD**, associate professor of psychiatry, assistant dean for educational programs and director, Cognitive Skills Program, received the Meritorious Service Award; and **Jeffrey R. Petrella, MD '87**, professor of radiology,



Left: Sherine E. Gabriel, MD, MSc, dean (far right), with (left to right) Distinguished Alumni Awardee Jeffrey R. Petrella, MD '87; Meritorious Service Awardee Norma B. Saks, EdD; and Honorary Alumni Awardee Michael A. Gallo, PhD, DABT.

Duke University School of Medicine, received the Distinguished Alumni Award. ■



Left: Robert Wood Johnson Medical School students (left to right) Radhika Srivastava, Tori Gartmond, and Joshua Gilens.

Above: Future members of the Robert Wood Johnson Medical School Alumni Association, students (left to right) Travis Kling, Gianna Seeland, Alessandra Angelino, and Kyle Nelson.

PHOTOS BY KIM SOKOLOFF



PHOTOS BY KIM SOKOLOFF

Career Night

On March 7, more than 50 alumni representing 26 specialties attended Career Night in the Great Hall, making it one of the largest events in its 29-year history. Career Night is one of the Robert Wood Johnson Medical School Alumni Association's signature events, an opportunity for students to network and learn about different career paths in medicine. Part of the alumni-student mentorship program, more than 100 students attended. ■

Research News

By Kate O'Neill



Research Grants

The National Institutes of Health awarded grants of \$1 million or more to the following members of the Robert Wood Johnson Medical School faculty:

- **M. Maral Mouradian, MD**, William Dow Lovett Professor of Neurology and director, Center for Neurodegenerative and Neuroimmunologic Diseases, a three-year, \$1,333,897 R21 grant for “Developing Novel RNA-Based Therapeutics for Parkinson’s Disease.”
- **Nancy E. Reichman, PhD**, professor of pediatrics, a \$1,166,852 grant for “Effects of Maternal Work Incentives on Adolescent Social and Health Behaviors.”
- **Derek B. Sant’Angelo, PhD**, Harold L. Paz, MD, Endowed Professor of Developmental Biology, professor of pediatrics, and chief, division of developmental biology, Child Health Institute of New Jersey, increased funding for a five-year, now \$2,385,000 R01 grant for “Contribution of Innate-like Tregs for Preventing Tissue Inflammation.”

Grants of \$1 million or more from other funding sources included two additional awards:

- **Eugene Martin, PhD**, professor of pathology and laboratory medicine, a \$1,839,568 grant from the New Jersey Department of Health for “AIDS17CTN018–Rapid HIV Testing Support.”
- **Arnold B. Rabson, MD**, Laura Gallagher Endowed Chair of Developmental Biology, professor of molecular genetics, microbiology, and immunology, pathology and laboratory medicine, and pediatrics, and director, Child Health Institute of New Jersey, a four-year, \$5,000,000 grant from the Robert Wood Johnson Foundation for “Supporting the Child Health Institute of New Jersey as a Comprehensive Biomedical Research Center.”

Published Research

The following is a representative sample of articles by Robert Wood Johnson Medical School researchers recently published in leading biomedical journals:

- **Nadia D. Ali, MD**, a fellow in the Department of Medicine, was first author of “Charcot-Leyden Crystals in T-cell Lymphoblastic Lymphoma,” published in *Blood* 2017;129(3):394. (Epub ahead of print.)
- **David J. Weissmann, MD**, associate professor of pathology and laboratory medicine, was senior author of the article.
- **Melinda S. Borrie**, a graduate fellow working in the laboratory of **Marc R. Gartenberg, PhD**, professor of biochemistry and molecular biology and director, Graduate Program in Cellular and Molecular Pharmacology, was first author of “Binding, Sliding, and Function of Cohesin during Transcriptional Activation,” published in the *Proceedings of the National Academy of Sciences of the United States of America* 2017. (Epub ahead of print.) Dr. Gartenberg was senior author of the article.
- **Yanxiang (Jessie) Guo, PhD**, assistant professor of medicine and resident member, Rutgers Cancer Institute of New Jersey, was first author of “Autophagy Provides Metabolic Substrates to Maintain Energy Charge and Nucleotide Pools in Ras-Driven Lung Cancer Cells,” published in *Genes and Development* 2016;30(15):1704–1717.

In addition, Dr. Guo was a coauthor of “Autophagy, Metabolism, and Cancer,” published in *Cold Spring Harbor Symposia on Quantitative Biology*: Epub February 18, 2017.

- **Shawna V. Hudson, PhD**, associate professor and director, research division, Department of Family Medicine and Community Health, was senior author of “Integrating Primary Care Providers in the Care of Cancer Survivors: Gaps in Evidence and Future Opportunities,” published in the *Lancet Oncology*: Epub January 5, 2017;8(1):e30–38.
- **Joseph Moloughney, PhD**, a postdoctoral fellow in the laboratory of **Estela Jacinto, PhD**, associate professor of biochemistry

and molecular biology, was first author of “mTORC2 Responds to Glutamine Catabolite Levels to Modulate the Hexosamine Biosynthesis Enzyme GFAT1,” published in *Molecular Cell* 2016;63(5):811–826. Dr. Jacinto was senior author of the article.

- **Sabin Motwani, MD**, assistant professor of radiation oncology and member, Rutgers Cancer Institute of New Jersey, was first author of “Hypofractionated Radiotherapy for Prostate Cancer,” published in the *Lancet Oncology* 2016;17(12):e517.
- **Naomi Schlesinger, MD**, professor of medicine and chief, division of rheumatology and connective tissue research, was the author of “Crystal Arthritis: New Recommendations Highlight the Need for More Research,” published in *Nature Reviews Rheumatology* 2016;12(11):628–630.
- **Yufang Shi, DVM, MSc, PhD**, University Professor of Pharmacology and member, Child Health Institute of New Jersey, was first author of “Tumour-Associated Mesenchymal Stem/Stromal Cells: Emerging Therapeutic Targets,” published in *Nature Reviews Drug Discovery* 2017;16(1):35–52.
- **Josh Vieth, PhD**, a postdoctoral appointee in the laboratory of **Derek B. Sant’Angelo, PhD**, Harold L. Paz, MD, Endowed Professor of Developmental Biology, professor of pediatrics, and chief, division of developmental biology, Child Health Institute of New Jersey, was first author of “TCR alpha-TCR beta Pairing Controls Recognition of Cd1d and Directs the Development of Adipose Nkt Cells,” published in *Nature Immunology* 2017;18(1):36–44. Dr. Sant’Angelo was senior author of the article.
- In addition, “AKA,” a poem by **Zeynep Uzumcu, MD ’17**, was published in the *Journal of the American Medical Association* 2017;317(5):539. 

LETTER FROM THE ALUMNI ASSOCIATION PRESIDENT

Dear Alumni and Friends:

I am honored to serve as the new president of the Robert Wood Johnson Medical School Alumni Association. Together, we look forward to a great year with many opportunities to engage with current students, reunite with alumni, and collaborate on a variety of initiatives. I especially acknowledge and thank past Alumni Association President Sonia Garcia Laumbach, MD '99, and fellow board members for their dedication, vision, and commitment to our school.

On March 7, Dean Sherine E. Gabriel, MD, MSc, welcomed more than 50 alumni representing **26** specialties who attended the **Alumni Association's 29th Annual Career Night**, in the Great Hall on the Piscataway campus. Alumni shared their career paths with eager students, who greatly appreciated hearing personal accounts of what it is like to be a physician in a particular discipline. The event was also a great opportunity to connect with classmates, and I enjoyed seeing many of you there. I encourage you to attend next year's event as we seek to continue our strong bond between students and alumni.

The Seventh Annual Scholarship Gala, which took place on April 8 at the Heldrich in New Brunswick, raised \$195,000 for student scholarships. The Gala is a great way not only to support our students but to celebrate the reunion years of our alumni. This year, we honored the following anniversary classes: 45th: 1972, 40th: 1977, 35th: 1982, 30th: 1987, 25th: 1992, 20th: 1997, 15th: 2002, 10th: 2007, and 5th: 2012. Your classmate Jeffrey R. Petrella, MD '87, received the Distinguished Alumni Award. The Gala was a wonderful evening where alumni, faculty, and students connected and celebrated our medical school. Thank you to those who attended or supported the Gala.

I am pleased to announce a scholarship fundraising initiative with a goal of at least \$3 million within the next three years. With unprecedented financial burdens on our current and future students, the ability to provide scholarships has never been more important. We feel proud that the Alumni Association is partnering with the medical school to support this worthy cause. I would like to thank you for your generous contributions in the past and invite you to support the Alumni Annual Fund again this year. Please use the enclosed envelope to mail in a donation, or contribute online at support.rutgers.edu/RWJMSAlumni.



COURTESY OF PAUL F. WEBER, MD '87, RPh, MBA

The Alumni Association is a great way to keep in contact or reconnect with fellow classmates, build relationships with our students, and stay informed about events and programs at our school. Be sure to follow us on Facebook, and email your personal and professional updates to Jillian Prior, manager of alumni affairs, at jillian.prior@rwjms.rutgers.edu. We look forward to another successful year supporting Robert Wood Johnson Medical School as it continues its pursuit of excellence.

Sincerely,

Paul F. Weber, MD '87, RPh, MBA

President, Robert Wood Johnson Medical School Alumni Association

Huda Sayed, MD '11: A Second Home at Robert Wood Johnson Medical School

The earliest memories of Huda Sayed, MD '11, are helping her father in his clinic in Ethiopia. She was passionate about medicine throughout her childhood, with a clear desire to become a physician someday. After immigrating to the United States at age 17, she was self-conscious about her accent, and her undergraduate science courses were more challenging than she expected. The teenager realized she was going to need more than passion to fulfill her dream.

As an undergraduate student at Rutgers, The State University of New Jersey, she found that college was a breeze—until she started biochemistry. “The class shook me to my core,” Dr. Sayed shares. “It was incredibly challenging, which scared me—school had always been my strength until now.” During her freshman year, she met Kamal Khan, MD, director, Office for Diversity and Academic Success in the Sciences, who helps students of diverse backgrounds pursue careers in health care. Dr. Khan encouraged her to apply to the

BY JILLIAN PRIOR

Biomedical Careers Program (BCP) to better prepare her. “Early in our relationship, I discovered Huda Sayed doesn’t give up. I knew she would be an amazing physician with the help of the program,” he says.

Founded in 1978, BCP is an academic enrichment program for undergraduate students who are from a group underrepresented in medicine, or come from an economically disadvantaged background, and are interested in science careers. The six-week summer program is sponsored by Robert Wood Johnson Medical School, Rutgers University, and the New Jersey Educational Opportunity Fund.

For Dr. Sayed, the most meaningful aspect of BCP was enabling her to believe in herself. Program staff, mentors, and volunteers are often BCP alumni or people from similar backgrounds. She greatly benefited from hearing about their similar struggles and how they overcame barriers. “I was devastated that my lifelong dream of medicine was over until I met people who said, ‘I am like you, I went through what you did, and I succeeded,’” she says. These shared experiences motivated Dr. Sayed by making her journey in medicine feel “doable.”

The program also built her confidence by not just encouraging but requiring the students to speak up, in a small setting of only 20 of them. “When I came to the U.S. at age 17, I could never imagine talking in front of people, or giving a speech,” says Dr. Sayed. “BCP forced me out of my comfort zone and peeled back another layer of myself. Now I regularly give motivational talks and speeches.”

After she met many faculty and students of the medical school through BCP, it was an obvious choice for her. “Robert Wood Johnson Medical



COURTESY OF HUDA SAYED, MD '11

School was a second home to me,” says Dr. Sayed. “I was comfortable and felt totally supported. It was a great fit.” Although medical school was rigorous and challenging, and while studying there she experienced the death of her aunt and ongoing illness of her father, she did not become discouraged. “I am proud of my struggle because it made me the physician I am today,” Dr. Sayed says.

During her time at Robert Wood Johnson Medical School, she also taught in BCP. “You can’t forget where you came from,” Dr. Sayed shares. “I wanted to give back to the next generation and show that they can have a similar, or even better, experience.” In addition,

she founded a Youth Science Enrichment Program and Health Professions Recruitment Exposure Program at the medical school: mentoring initiatives, still active today, that encourage underrepresented minority elementary, middle school, and high school students to pursue a career in the health professions. For this, Dr. Sayed was honored by the Student National Medical Association Chapter at Robert Wood Johnson Medical School in 2016.

“Recently, I learned that one of the students from the program is now finishing college at Princeton and is part of BCP,” says Dr. Sayed. “I feel humbled that the program I started helped with this individual’s path to medicine.”

Dr. Khan notes, “I still call Huda and ask her to speak with students here at the medical school who are struggling. She never says no. She is a person who gives and gives. Even as a busy student herself, managing coursework and family illness, Huda dedicated her time to mentoring students.”

After graduation, Dr. Sayed completed an internal medicine residency at Cooper University Hospital in Camden, followed by a hospice and palliative medicine fellowship, also at Cooper. She chose end-of-life care because of her experience with her aunt’s death.

In September 2016, Dr. Sayed joined Emory University School of Medicine in Atlanta as an assistant professor of medicine and attending physician at Grady Memorial Hospital, focusing on end-of-life and palliative care. “I was attracted to Grady Hospital because its urban demographic is similar to Camden. I have always enjoyed working with the forgotten population and advocating on their behalf,” Dr. Sayed says.

Dr. Khan remembers the sentiments from Dr. Sayed’s Camden peers when she moved to Atlanta: “Camden did not

—Continued on page 46

James Metz, MD '95: Beaming into Medical History

He's considered the father of proton beam therapy at the University of Pennsylvania (Penn). And he's had a hand in the development of proton therapy facilities around the world to treat cancer. But his passion for radiation oncology was ignited right here at Robert Wood Johnson Medical School. James Metz, MD '95, remembers the day it happened.

It was during Career Night," Dr. Metz recalls. "There were tables set up for different specialties. I was set on pursuing medical oncology, so I was looking for that table. Then I saw the radiation oncology representative sitting in a corner with no one around. I got into a great conversation with him, and he encouraged me to do a summer research program, which I did." He adds, "I loved the clinical and research exposure. I knew this was it. That experience was the reason I decided to make radiation oncology my career."

The combination of the humanistic side of medicine and the technical side appealed to him. "I enjoy the intense

relationships with patients, and the fact that radiation oncologists treat any area of the body," he says. "I get to treat people of all ages, babies through adults. For me, it was that broad mix of patients I would see, and the exposure to what was going on with technology, that was the ideal blend of the two worlds."

An Enviable Career

Today, Dr. Metz serves as chair, Department of Radiation Oncology, at the Perelman School of Medicine and holds the Henry K. Pancoast Endowed Professorship. At Penn since 1996, he is also currently associate director for clinical services and programs at the Abramson Cancer Center of the University of Pennsyl-

vania—a National Cancer Institute-designated Comprehensive Cancer Center since 1973—and is considered a leading expert in the design and implementation of proton therapy facilities. His relationship with Penn began with a residency there, and then he was hired to lead the proton beam initiative.

"When I was hired in 1999, there were only two proton centers operational in the country. They hired me to help build the one at Penn," says Dr. Metz. "We opened the Roberts Proton Therapy Center in 2010—it ended up being the fifth center opened in the United States and the largest fully integrated proton therapy center in the world, based on the number of rooms and patients treated." Including other radiation oncology services, the program treats about 450 patients a day on site and at 11 satellite facilities.

Proton therapy is external beam radiotherapy. It works by aiming energized particles, in this case protons, onto the target tumor. Because of the accuracy of the beam, proton therapy delivers a higher dose of treatment directly to the tumor, while sparing healthy tissue. Patients with cancers of the brain and skull base, breast,

BY LYND A RUDOLPH



COURTESY OF JAMES METZ, MD '95

gastrointestinal tract (a specialization of Dr. Metz's), genitourinary system, head and neck, or lung, and those with lymphomas, sarcomas, or pediatric tumors, can be treated with proton beam therapy.

The center at Penn was developed from the ground up. Dr. Metz and his team have also created unique training programs for other proton centers—both to assist in the building of them and to train others in the treatment of patients. “We train more people than anyone in the world,” says Dr. Metz, “including facilities in Sweden and China.” Ten centers are due to open soon, and an international group of clinicians will be arriving for training in the coming months.

Dr. Metz is excited by proton tech-

nology's evolution and its possibilities. “It continues to improve,” he explains. “We use pencil beam scanning now—we can put the radiation dose exactly where we want it. And we can integrate it with advanced chemotherapy and imaging.” Dr. Metz believes that in the near future, we will see the use of proton beam therapy with novel biologic agents. He also describes what this therapy means to cancer patients who in the past had limited options: “We can treat patients now we couldn't treat before, particularly patients who had radiation exposure in the past. When there's a local failure, we can re-treat because of our ability to spare the normal tissues that have been radiated before. There are just a lot of new opportunities.”

Dr. Metz believes Penn and other cancer centers will continue to bring high-tech, cutting-edge cancer care closer to patients. “Moving technology closer, translating clinical trials into treatments closer to people's homes—that's the future,” he emphasizes. “If you look at cancer care in this country, 85 percent of it is already delivered in a community setting.”

A Second First

Along with his leadership in radiation oncology, Dr. Metz is executive director of OncoLink, a website that helps cancer patients, families, health care professionals, and the general public obtain accurate cancer-related information online. Started in 1994

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Esi M. Rhett-Bamberg, MD '07: A Girl Born on Sunday

Less than 20 years ago, Esi M. Rhett, MD '07, was making her mark and setting records as a sprinter and honor student at Moorestown High School, in New Jersey. At the same time, inspired by an aunt and a cousin, both practicing obstetrician-gynecologists, she set her sights on a career in medicine. “My aunt Jeanette was so knowledgeable. Whenever I had a question about science or anything else, she knew the answer. I wanted to be just like her,” she says.

Now, as a young physician, Dr. Rhett is off to a remarkable start both in her profession and in her community. In the fall of 2015, she was one of 100 physicians at varying stages of their careers chosen to be profiled in a new publication, *Against All Odds: Celebrating Black Women in Medicine*, by Crystal Emery. The honor came just four years after Dr. Rhett’s first faculty appointment, as assistant professor of anesthesiology at the University of Texas (UT) McGovern Medical School at Houston, where she com-

pleted her residency.

“It was a huge honor to be included in *Against All Odds* so early in my career,” she says. “I stand on the shoulders of the other physicians in the book. My story has just begun, but I hope that when my life and career are over, I can be the shoulders to someone else!”

Also in 2015, Dr. Rhett was recognized as a “community hero” at the Fourth Annual Top 50 Black Health, Medical and Wellness Professionals Awards Ceremony in Houston.

Another influential force and mentor was her grandfather, Hermann Rhett. A member of the historic

Montford Point Marines, “he persevered through many challenges to achieve his dream of becoming a computer engineer,” she says. “He worked so hard every day of his life and inspired the whole family.”

Hermann Rhett’s granddaughters were his greatest love. “He paved the way and encouraged me to always do my best,” Dr. Rhett says. “And when I got my MD, he’d write ‘Dr. Rhett! Dr. Esi Rhett’ all over the place!”

At Rutgers University’s Douglass College, Dr. Rhett was on the dean’s list and was chosen for the Big East Academic All-Star Team. She participated in Access-Med, an articulated program that supports members of minorities underrepresented in medicine. In addition to completing the pre-med curriculum, she studied in Spain, preparing to work with a diverse patient population, and graduated with a minor in Spanish.

“Esi was memorable: brilliant, patient, and caring,” says Kamal Khan, MD, director, Rutgers Office for Diversity and Academic Success in the Sciences. As director of the Access-Med MCAT preparation course, Dr. Khan admired Dr. Rhett’s extraordinary focus, a quality shaped in part,

BY KATE O’NEILL



COURTESY OF ESI M. RHETT-BAMBERG, MD '07

he believes, by her self-discipline as an athlete.

Dr. Rhett clearly recalls the day she was converted to the field of anesthesiology. During her surgical rotation, “an anesthesiologist stepped forward and enticed me to take a look behind the drape,” she says. “The OR was exciting, but a lot was going on behind the scenes.” A year later, she graduated from Robert Wood Johnson Medical School with an award for academic excellence in anesthesiology.

At UT, Dr. Rhett split her internship year between internal medicine and pediatrics, a foundation for working not only with adults but also with the children she would see at UT Health affiliate Lyndon B. Johnson General

Hospital.

In 2010, during her residency, Dr. Rhett accompanied her mother and sister on a trip to Ghana to visit a girls’ school sponsored by her family’s church. It was the second trip for her mother, Gloria, a former teacher and principal, and the first for Dr. Rhett and her sister, Amandi, a mechanical engineer.

Independently, Dr. Rhett turned the trip into a small medical mission, performing simple examinations such as blood pressure measurement on the students and local residents. She also distributed basic medical and hygiene supplies donated by Memorial Hermann–Texas Medical Center. “These students had been ‘purchased’ out of an illegal form of ritual servi-

tude that makes them outcasts in the community. But at the school, they learn a marketable trade and receive a seed fund upon graduation,” says Dr. Rhett. “Our mission was to dedicate a new building and show the girls that they are loved by us and by God.”

Dr. Rhett says she and her sister were deeply moved by the experience, “because we look like these girls. And the girls were so proud to see their American ‘cousins’ doing so well and giving back to their ancestral homeland.

“We traveled around the countryside, where local residents, energized by President Obama’s 2009 visit, were excited to meet an African American,” she says. “It especially intrigued them that I had a Ghanaian name, Esi, which in their language means ‘a girl born on Sunday.’”

In 2011, after appointment as a full-time assistant professor at UT, Dr. Rhett continued to travel the world. A year later, she received the Outstanding Clinical Instructor award from the Houston location of the Case Western Reserve University Master of Science in Anesthesia Program.

Carin Hagberg, MD, who chaired the

—Continued on page 46

Pavan Grover, MD '89: Spine Specialist and Filmmaker

Pavan Grover, MD '89, has two passions: medicine and movies. An unlikely pairing, perhaps, but he succeeds in melding them so that each enhances his enjoyment of the other. “Both are part of who I am,” says Dr. Grover, an anesthesiologist and interventional spine specialist. “My artistic side allows me to step outside myself, but medicine will always come first.”

Dr. Grover was 6 years old when his family moved to New Jersey from New Delhi. He immersed himself in making home videos; he even starred as Batman with his younger brother, Sandeep, as Robin. Later, after the family moved to Houston, Dr. Grover returned to New Jersey and earned his undergraduate degree in the premed program at Rutgers University. He subsequently graduated from Robert Wood Johnson Medical School with honors in surgery and family medicine. The brothers were reunited when Dr. Grover returned to Houston for his residency in anesthesiology at the University of Texas Medical School.

BY KATE O'NEILL

In his third year of residency, everything changed. Responding to a “code blue,” he found that the patient in cardiac arrest was Sandeep. Nothing could be done; his brother died in his arms. “It was heartbreaking,” he says. “I will never get over breaking the news to my parents, but I believe the experience helped me as a physician to know intimately what patients and families experience.”

Dr. Grover turned to screenwriting as both a distraction and a solace, creating a screenplay, *Lazarus Rising*, on a mystical subject—the story of a doctor exploring the possibility of life after death.

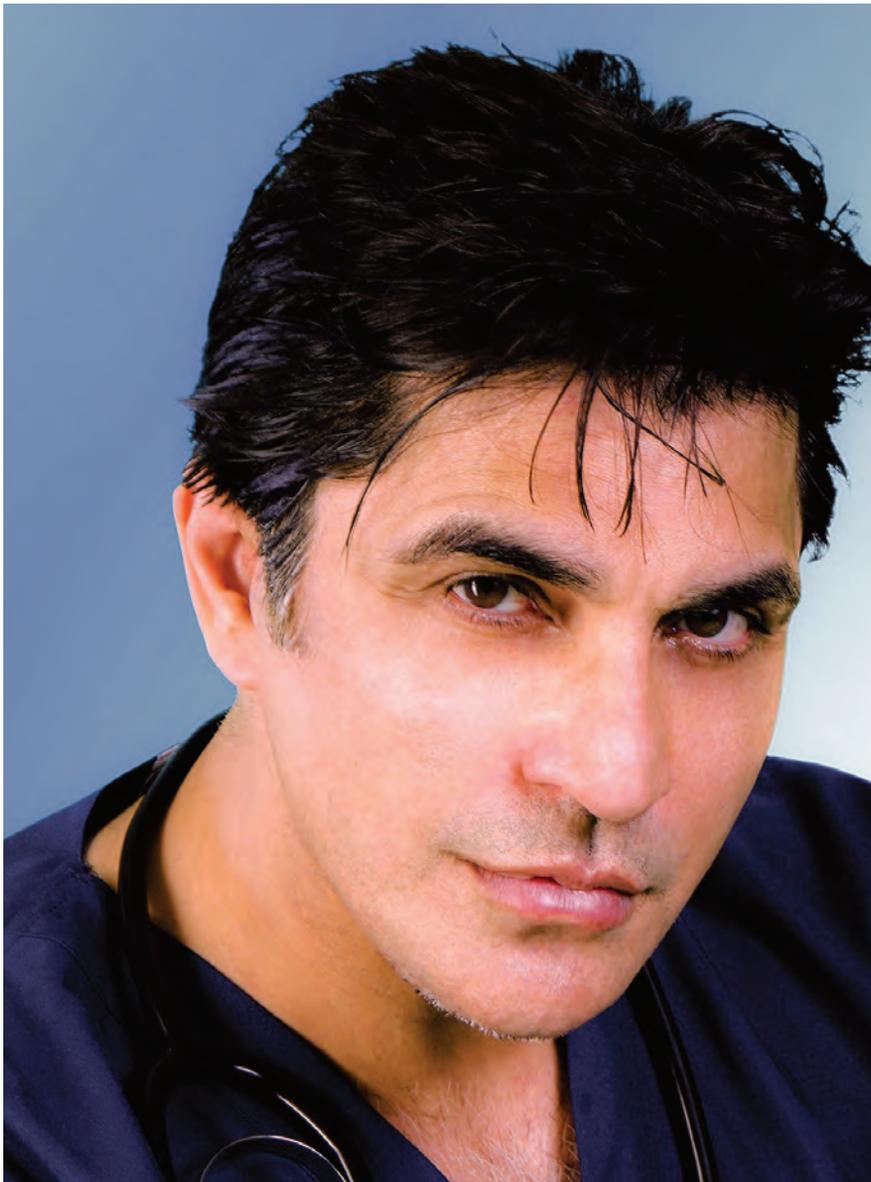
To develop experience in film production, he wrote a thriller, *Unspeak-*

able, which was later produced with Dennis Hopper costarring and Dr. Grover playing a central role as a psychopath on death row. More work on films followed, including as an executive producer on an adaptation of novelist Dean Koontz's best-selling series, *Odd Thomas*, and an actor in *Mr. Hell*.

Dr. Grover finds that film has made him a more empathetic physician. “With acting, writing, or any intense creative activity, you have to be totally in the moment,” he says. “Acting has sharpened my focus not just on my patients' words but also on their presentation. Art deepens empathy. It helps me find the best way to explain the problem and how we'll tackle it.”

Meanwhile, in 1993, following his residency, Dr. Grover completed an interventional pain fellowship in Sydney, Australia, with the late Michael Cousins, MD, widely considered to be the father of interventional pain management. Working closely with Dr. Cousins, Dr. Grover mastered the technique of healing pain with what Dr. Cousins called regional neural blockades.

In Dr. Grover's Houston-based solo practice, Inovospine, he applies Dr. Cousins's regional nerve-blocking techniques to “diagnostic mapping,” his



COURTESY OF PAVAN GROVER, MD '89

own approach to accurately diagnosing the exact source of a patient's pain.

As an example of the technique, Dr. Grover describes the case of a professional baseball pitcher he treated for chronic pain. "Prior treatments had focused on a diagnosis of a bulging disk, based on his X-rays," he says. "But once we mapped out the true source of his pain by selectively blocking different possible pain triggers and seeing the subsequent response in his pain level, we were able to perform a minimally invasive procedure to treat the exact problem. The treatment reversed the years of compensation and imbalance that were throwing off his form, and afterward, the force and accuracy

of his pitches dramatically improved."

He models the team-based approach in his clinical practice on the respectful environment that he experienced and valued at Robert Wood Johnson Medical School. "Everyone counts: the physician is no more important than the nurse or the person who shows the patient into the exam room," he says.

An ardent advocate for patient rights and education, Dr. Grover has served for more than 20 years as a medical commentator on networks including CNN, NBC, CBS, PBS, and Fox, addressing a wide range of topics. In 1994, he appeared on *Larry King Live* to debate the use of assisted suicide; he intervened in the case of a patient with

chronic, excruciating pain, caused by cancer, who had been consulting with Jack Kevorkian, MD, to end the pain through assisted suicide. Dr. Grover offered an alternative that the patient agreed to try. In an advanced procedure, he implanted an anesthesia pump directly into the patient's spine, and that succeeded in providing the patient with an additional two and a half years of life, pain-free.

In 2005, in the wake of Hurricane Katrina, Dr. Grover volunteered with a medical triage team at the Houston Astrodome, caring for evacuees from New Orleans. Less than a year later, following a devastating earthquake in Pakistan, Dr. Grover temporarily closed his office and set out alone to help. The photographs he sent back to CNN prompted the network to assign a team that would produce a special report on the disaster. Because of his work in Pakistan, Dr. Grover received the Humanitarian of the Year Award from the Pakistan Chamber of Commerce of Houston in 2006.

"The people I've helped have brought me much more than I brought them," he says. "I was born in India, so I know about karma; I know that it comes back to you in many ways." **M**

Huda Sayed, MD '11: A Second Home at Robert Wood Johnson Medical School

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not want her to leave! Everyone looked up to her there. She is an inspiration of what a doctor should be. She never rushes and takes time with every patient.”

Dr. Sayed still stays in touch with peers and mentors from BCP and the medical school. A BCP alumna helped connect her to Emory, and Dr. Khan remains a close mentor—he even officiated her marriage. And one of her fel-

low alumni, Kristen Kenan-Tate, MD '11, is the godmother of her daughter.

“I am grateful for the opportunity to have participated in Rutgers and Robert Wood Johnson Medical School programs,” she says. “Medicine is not a right, it’s a privilege, and I feel lucky to have earned the privilege to care for others.” **M**

James Metz, MD '95: Beaming into Medical History

—Continued from page 41

as a grassroots effort, it was the first cancer website in the world—and it even preceded Yahoo. Dr. Metz began working on the website in 1996, during his residency training, and moved into the editor-in-chief’s role in 2000. The idea was to get information out to thousands of people around the world in a way that was appropriate for both medically naive and clinically savvy audiences. The site isn’t segmented—there are no specialized portals. People can go as deep as they’d like on any cancer-related subject matter they choose.

Novel personalized programs help patients learn about cancer treatments and predictions about toxicity. The site also offers information and assistance on cancer survivorship. A small group—just seven full-time people—manages the site, with another 200 contributing information. “A big area of interest now is blending data-based content with medical records,” says Dr. Metz. “Because we’ve gathered information on every diagnosis, we can tailor educational information based on what we know holistically about a

diagnosis—even down to the mental health needs. It’s that integrated.”

OncoLink has received numerous awards and recognitions. The team is developing interactive content and personalized information for people, while collecting data to move the field forward. OncoLink has more than 285,000 unique visitors every month.

Where It All Began and Where He’s Headed

“I’ve been so fortunate in my career,” says Dr. Metz. He looks back at his Robert Wood Johnson Medical School experience and how well it prepared him for the significant academic and clinical career milestones he’s tallied up. “I had such good clinical training. I felt like I could step into any environment,” he adds.

That confidence—together with his preparation and education at the medical school—has resulted in a remarkable career. His influence, inquisitiveness, and knowledge have contributed to advancements in patient care and cancer treatment here and around the world. **M**

Esi M. Rhett-Bamberg, MD '07: A Girl Born on Sunday

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Department of Anesthesiology at UT for nine years, knew Dr. Rhett first as a resident and then as an outstanding clinical and academic colleague. “Students gravitate to her,” says Dr. Hagberg. “She is kind-hearted, generous, understandable, patient, and fun.”

As an attending anesthesiologist, “Esi is not just astute and skilled, she’s a great member of the team,” says Dr. Hagberg. “Patients trust her, deservedly, and, having volunteered to work as the sole anesthesiologist in the gastroenterology suite while the service was building up—with some of the sickest, most complex patients—she earned the lasting respect of nurses and physicians across multiple departments.”

Dr. Rhett is the immediate past president and an executive board member of the Mary Susan Moore Medical Society. Established in 1991 and renamed six years later for the first black woman to practice medicine in Texas, the organization supports African-American women physicians and provides health education and advocacy to communities of need in the Greater Houston and Galveston area.

A major part of the society’s work consists of mentoring premedical and medical students and raising money for scholarships. In 2014, it received permission from Crystal Emery to show a 10-minute clip from her documentary *Black Women in Medicine* at its Scholarship Awards event. Afterward, Emery stayed in touch as she developed the film into *Against All Odds*, the book in which she would include Dr. Rhett’s story.

It seems right that the relay team member whose name means “a girl born on Sunday” is devoting her career

as an anesthesiologist to helping save lives and alleviate suffering while enjoying passing her wisdom forward to a new generation of physicians and students.

Dr. Rhett also enjoys spending her free time at home with her family: her husband, Ado Bamberg Jr., and their daughter, Ava, born in the summer of 2016. **M**



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October 21, 2017:

Rutgers Health Professionals Football Tailgate, RU versus Purdue

November 4, 2017:

Reception for Alumni and Friends at the Annual Meeting of the Association of American Medical Colleges in Boston

March 2018:

30th Annual Career Night

April 2018:

8th Annual Scholarship Gala

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C L A S S

NOTES

What's New? Your fellow alumni want to know!

Please send your professional and personal news and photos to:

Jillian Prior, manager of alumni affairs, at jillian.prior@rwjms.rutgers.edu.

In addition to updates we receive from alumni, we use public news information and stories to share in our Class Notes section.

1 9 6 8



Elliot Jacobs (above left) and **Luis Villa** met up in Miami for the first time in 48 years.

1 9 8 0

Richard Liebowitz was named president of New York-Presbyterian Brooklyn Methodist Hospital.

1 9 8 2

Marilyn J. Heine of Dresher, Pa., received the Colin C. Rorrie, Jr., PhD Award from the American College of Emergency Physicians for her career dedicated to advocating on behalf of the medical profession nationwide. She practices emergency medicine and hematology oncology.

Gary Moak was appointed interim associate medical director at New Hampshire Hospital, in Concord, by the Dartmouth-Hitchcock health care system. He is chief of geriatric psychiatry at New Hampshire Hospital and assistant professor of psychiatry at the Geisel School of Medicine at Dartmouth College.

Larry Schlesinger is the new president and CEO at Texas Biomedical Research Institute in San Antonio.

1 9 8 5

David A. Halsey joined Martha's Vineyard Hospital in Massachusetts as

an orthopedic surgeon.

John A. Hohneker, executive vice president and head of research and development at FORMA Therapeutics, was elected to the board of directors at Dimension Therapeutics.

1 9 8 7

Joseph Binns is a gastroenterologist at Red Bank Gastroenterology.

1 9 8 9

William J. Hayes joined CPSI, a leading provider of health care IT solutions and services for rural and community hospitals, as medical director in Mobile, Ala.

1 9 9 0

Eugenie Brunner is a facial plastic surgeon in Princeton. She is also associated with the University Medical Center of Princeton at Plainsboro and has been an attending physician in the Department of Surgery since 1997.

Christopher Herald Comey was appointed chair of the surgery department at Saint Francis Hospital and Medical Center in Hartford, Conn.

Sudha Garla is the medical director at Atlantic Medical Associates in Ocean Township, practicing internal medicine with a focus in occupational medicine.

John O'Grady, board certified in internal medicine and infectious disease, was named a "Top Doctor" in the November issue of *New Jersey Monthly*. Recognized as a "Top Doctor" every year for more than a decade, he works at Affiliated Medical Associates of Morristown.

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C L A S S NOTES

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1 9 9 2

Kingman Ho is the new vice president of professional services and chief medical officer at Henry Mayo Newhall Hospital in Valencia, Calif.

1 9 9 3

David Becker is a cardiologist at Chestnut Hill Cardiology in Flourtown, Pa.

Michael Miller is a professor of medicine, epidemiology, and public health at the University of Maryland School of Medicine in Baltimore. He is also the director of the Center for Preventive Cardiology in the University of Maryland Medical System and a staff physician at the Veterans Affairs Medical Center in Baltimore.

1 9 9 4

Sukumar Nagendran is chief medical officer and senior vice president at AveXis. The company works on gene therapies for rare neurological disorders, including a leading candidate for the treatment of spinal muscular atrophy, and launched the number one IPO for 2016. He lives in Parsippany with his wife, Anne, and their three sons.

Cate Shanahan runs a metabolic health clinic in Denver and serves as the director of the Los Angeles Lakers PRO Nutrition Program.

Martin Walko joined the Lehigh Valley Health Network to lead the bariatric surgery program at Lehigh Valley Hospital-Hazleton in Pennsylvania.

1 9 9 5

Jeffrey Brenner is the executive director of the Camden Coalition of Healthcare Providers and medical director of the Urban Health Institute, a dedicated business unit in the Cooper Health System in Camden.

1 9 9 6

Dennis Cunningham is the new chief medical officer at McLaren Macomb, an acute-care hospital in Mount Clemens, Mich.

1 9 9 7 a n d 1 9 9 8



David Lambert, MD '97, emergency medicine physician (*above right*), and **John Lee, MD '98**, neurosurgeon, unexpectedly met on the sideline of an Eagles game in Philadelphia in September. Although both have worked at Penn Medicine for several years, their paths had never crossed before the game.

2 0 0 0

Scott Chudnoff was named chair of the Hugh K. Miller, MD, Department of Obstetrics & Gynecology at Stamford Health in Connecticut.

Mahalia Desruisseaux is an associate professor at the Albert Einstein College of Medicine in the Bronx. She and her husband live in Bellmore, N.Y., with their two daughters.

Edward J. Licitra, chair of the board of directors of Regional Cancer Care Associates, was elected to the board of the Community Oncology Alliance.

2 0 0 1

Tapan Kadia is a board-certified oncologist, specializing in hematology and oncology, and is affiliated with Memorial Hermann—Texas Medical Center and the University of Texas MD Anderson Cancer Center, both in Houston.

2 0 0 4

Revathi P. Naadimuthu, ophthalmologist at Freehold Ophthalmology, was honorably mentioned in *The Leading Physicians of the World*, a publication of the International Association of HealthCare Professionals.

2 0 0 5

Danielle E. Hart practices emergency

medicine at Hennepin County Medical Center in Minneapolis.

Edwin Kim is an assistant professor of medicine and pediatrics at the University of North Carolina (UNC) School of Medicine. He is also the director of the UNC Food Allergy Initiative and the director of the UNC allergy and immunology fellowship training program.

2 0 0 8

Nicole A. Zuber is the on-site medical director and psychiatrist at the Educational Services Commission of New Jersey's NuView Academy and NuView Academy Annex schools, both in Piscataway.

2 0 0 9

Clint Cappiello is a board-certified surgeon and pediatric surgery fellow at St. Louis University School of Medicine.

Ian Rossman, a pediatric neurologist, joined the Akron Children's Hospital staff in Ohio. His areas of interest include pediatric and adult multiple sclerosis, neuroinflammatory diseases, leukodystrophies, and neuromuscular diseases.

2 0 1 1

Kevin Lee is a psychiatrist at Noetic Psychiatry in Springville, Utah.

2 0 1 2

Daniel Fremed, a vascular surgery resident at the Icahn School of Medicine at Mount Sinai in New York, received an award for his case-study presentation at the Vascular Society of New Jersey's inaugural dinner and presentation competition for residents and fellows in October.

2 0 1 3

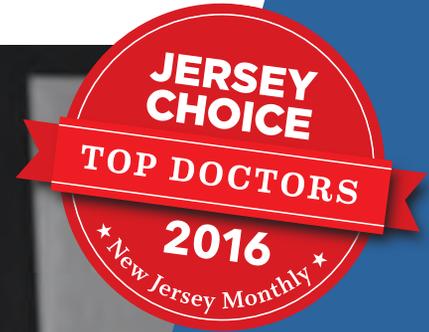
Madeline Sterling, a primary care physician, is a Health Services Research Fellow at Weill Cornell Medicine in New York.

2 0 1 5

Jacqueline Abdalla is completing her residency in the Santa Rosa Family Medicine residency program in California. **M**

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