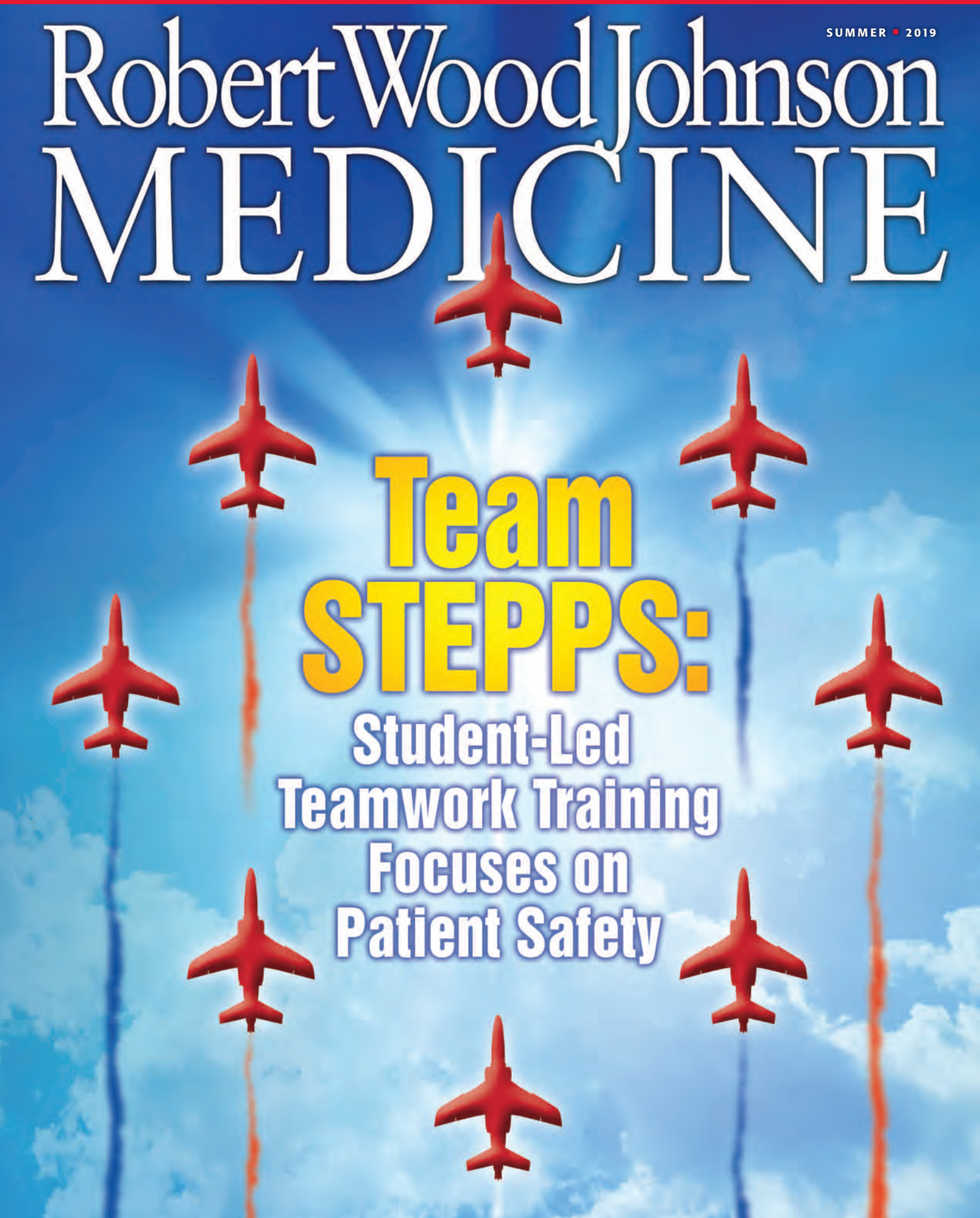
A PUBLICATION FOR ALUMNI & FRIENDS OF RUTGERS ROBERT WOOD JOHNSON MEDICAL SCHOOL

Robert Wood Johnson MEDICINE

SUMMER ■ 2019



Team STEPPS: Student-Led Teamwork Training Focuses on Patient Safety

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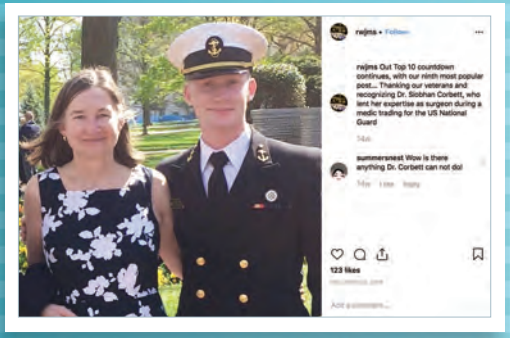
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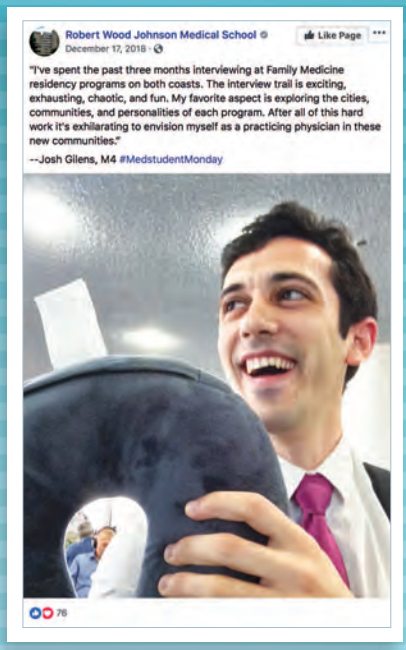


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LETTER FROM THE DEAN

Dear Friends,

I am delighted to serve as interim dean of Rutgers Robert Wood Johnson Medical School and have the opportunity to lead the school as we enter the second year of the RWJBarnabas Health–Rutgers University partnership, offering expanded patient care and educational opportunities. On a personal level, I am working with a distinguished faculty who have been friends and colleagues throughout my 14 years leading Rutgers New Jersey Medical School.

This issue of *Robert Wood Johnson Medicine* highlights people at this school who make academic medicine so exciting as, together, we pursue continued success in our commitment to providing great care to every patient.

Our cover article, "TeamSTEPPS: Student-Led Teamwork Training Focuses on Patient Safety" (*page 17*), underscores the importance of student-led initiatives. Piloted by two student-veterans, the project is fulfilling our vision of teaching strong teamwork skills to reduce medical risk and improve patient outcomes.

We turn to the career of Stephen R. Brant, MD, professor of medicine and chief, division of gastroenterology and hepatology ("Sails Up," *page 27*). Dr. Brant identified key regulators of inflammatory bowel disease and later expanded research into afflicted but unstudied populations. As associate director of the Crohn's and Colitis Center of New Jersey, he regularly sees patients—his favorite part of the week.


ANDREW HANENBERG

As we continue to grow our clinical enterprise to make top-notch care accessible to all patients, andrologist Nikhil Gupta, MD, assistant professor of surgery, helps us achieve that goal by restoring sexual function and hope to men of all ages (*page 10*).

A second andrologist, Aaron Grotas, MD '02 *(page 46*), is an assistant professor of urology at Mount Sinai Beth Israel. A cofounder of the Mount Sinai Center for Transgender Medicine and Surgery, he performs gender-affirming surgery and reconstructs past procedures that have become problematic.

Vera Bennett, MD '91 ("Advocating for Mothers and Babies in the White Mountains of Arizona," *page 44*) is a pioneer in breastfeeding medicine and a fearless champion for her patients. She is pursuing a degree in public health while supporting local efforts to provide shelter, care, and advocacy for victims of domestic violence, sexual assault, and elder abuse.

Dedication flows both ways. Lawrence J. Goldstein and his wife, Barbara, are confident that gastroenterologist Michel Kahaleh, MD (*page 35*), saved Mr. Goldstein's life during an episode of acute pancreatitis. Their $1 million pledge to the medical school will support Dr. Kahaleh's research on minimally invasive procedures to treat bowel and pancreatic disorders. We could not be more grateful for their generosity.

This issue of *Robert Wood Johnson Medicine* has given me a new level of appreciation for my colleagues' dedication to patient care. I hope you will enjoy it as much as I have.

Sincerely,

Robert L. Johnson, MD, FAAP
Interim Dean

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Urologist Nikhil Gupta, MD, is the medical school's first andrologist. In this field, which concerns male reproductive health, including endocrinology, surgery, and genetics, Dr. Gupta treats male infertility, sexual dysfunction, benign prostatic hyperplasia, and erectile dysfunction.

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The medical school celebrates the response to the 2018 Chancellor's $1 Million Challenge. Donor gifts are expanding career opportunities for students and decreasing financial anxiety, while individual and dedicated scholarships continue to support gifted students.

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27 Sails Up! Steven R. Brant, MD, Leads Division of Gastroenterology



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30 SATHI: A Medical School-Born Initiative to Improve the Health of South Asians

Educating patients in the South Asian community, helping physicians recognize problems endemic to those from India, Pakistan, Bangladesh, Nepal, Sri Lanka, and Bhutan, and conducting research into this population's health issues are why Sunanda Gaur, MD, professor of pediatrics, helped create the South Asian Total Health Initiative in 2007. More than 10 years since its founding, SATHI is improving the health of many of the 200,000 South Asian residents in New Jersey.

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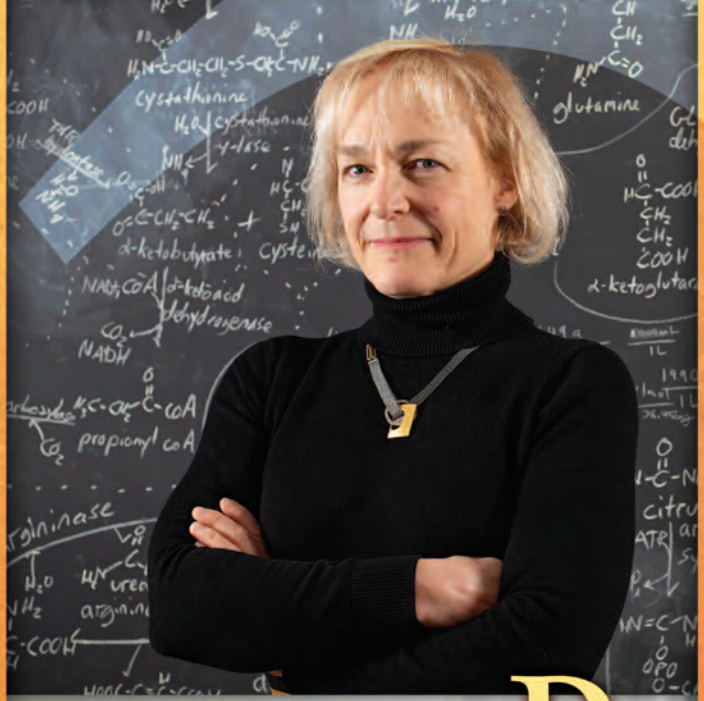
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Three Department Chairs Bring Progressive Visions to the Table

The three recently appointed department chairs at Rutgers Robert Wood Johnson Medical School all speak with great conviction about the motivation that drives them and the experiences that have inspired them. They represent decades of excellence in their own specialties and are eager to add their clinical and research knowledge to the highly regarded medical school faculty's legacy.

BY LYNDA RUDOLPH

Top left: Céline Gélinas, PhD, professor and chair, Department of Biochemistry and Molecular Biology • Center left: Keith P. Lewis, RPh, MD, professor and chair, Department of Anesthesiology and Perioperative Medicine • Bottom left: Anil Nanda, MD, MPH, professor and chair, joint Department of Neurosurgery, and senior vice president, neurosurgical services at RWJBarnabas Health.

PHOTOS BY: JOHN EMERSON

Céline Gélinas, PhD

Céline Gélinas, PhD, professor and chair, Department of Biochemistry and Molecular Biology, remembers how an internship changed her career direction. "One summer when I was a chemistry major as an undergrad, a series of experiences in research led me to become more interested in biochemistry, virology, and cancer. These opened my mind to pursue a new direction," she says. Since then, her own forays into research have gained her an international reputation. Her vision for the department is no less ambitious.

Dr. Gélinas has been part of the Robert Wood Johnson Medical School faculty since 1988, when she became a resident member of the Center for Advanced Biotechnology and Medicine and assistant professor in the Department of Biochemistry. Prior to her appointments at the medical school—where she became senior associate dean for research in 2013—she studied retroviruses and oncogenes during postdoctoral training in the laboratory of Nobel laureate Howard M. Temin, PhD, at the McArdle Laboratory for Cancer Research at the University of Wisconsin–Madison. "I would say my postdoc training was transformative in how I view and think about science," Dr. Gélinas says. His way of thinking was truly inspirational and ignited a sense of curiosity that drives her to this day. "I became even more fascinated with what we can learn from viruses to understand what's going on in cells and to develop better approaches for therapy," she says.

That same sense of curiosity is behind the research that has earned her an international reputation—investigating the signaling pathways that are critical in infection and inflammation and how they also contribute to cancer development and progression. "These signaling pathways are so important for cells and viruses," she says. "Our goal is to understand how they contribute to cancer and resistance to therapy." Other research related to HIV is also ongoing—finding ways to eliminate latent HIV infection that can remain hidden for a long period of time in individuals on antiretroviral drug therapy.

Dr. Gélinas is a member of the Rutgers Biomedical and Health Sciences Council of Research Deans and has served on many institutional and external committees, including as editor and as reviewer for several study sections of the National Institutes of Health. She is also the recipient of numerous honors for academic and research excellence, has received two postdoctoral fellowships, and was presented an award from the New Jersey Commission on Cancer Research. In addition, Dr. Gélinas was inducted into the Stuart D. Cook, MD, Master Educators' Guild in 2006 and was elected a fellow in the American Academy of Microbiology in 2010.

Dr. Gélinas has a clear vision for the Department of Biochemistry and Molecular Biology. The focus on excellence is a given. Her goal is to build on its strengths, making it more collaborative, inspiring, and mission-driven. "This is a group of highly accomplished faculty. I want to foster togetherness, help build bridges, and make us even more collaborative and successful than we are currently," she says. Dr. Gélinas points out the importance of building relationships outside the department and the school as well—connecting with others to better support and grow its research programs, and attract new outstanding faculty.

"It is important for us to do all we can to help those within the medical school achieve their full potential, to fulfill their own dreams of accomplishment and to celebrate their success," she says. "The world of science will benefit in turn."

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Keith P. Lewis, RPh, MD

Keith P. Lewis, RPh, MD, professor and chair, Department of Anesthesiology and Perioperative Medicine—who began his career in pharmacy and cancer chemotherapy at Yale University—brings focus and motivation to improving periprocedural safety and rethinking processes. "I pursued a career in pharmacy first. I was always intrigued about the safety element of medicine," he says. "When I worked in a cancer chemotherapy clinic, the person who hired me told me I would be a good candidate for medical school—and here I am." Dr. Lewis' résumé is a testament to his never-ending pursuit of changing the paradigm.

At Boston University School of Medicine and Boston Medical Center (BMC), Dr. Lewis served as professor and chair, Department of Anesthesiology, and chief of anesthesiology, respectively. He facilitated the merging of the Boston City Hospital and Boston University Medical Center Hospital operating rooms. He served for 20 years as a senior anesthesiologist and is a past president of Anaesthesia Associates of Massachusetts—one of the largest academic and private practices in the Boston area. There, he helped to develop a high-risk bariatric surgery program, a state-of-the-art multimedia center, a multidisciplinary pain clinic, and a surgical robotics program, among others. He also helped to establish a cutting-edge simulation center focusing on team training. Under his leadership, his department received multiple nationally recognized safety awards.

Practicing anesthesiology led to Dr. Lewis' development of imaginative workspace designs. He gained renown for the conceptualization and design of the Moakley Ambulatory Surgery Center's "ORs of the Future" at BMC—six ambulatory operating rooms with fast-track anesthesia techniques. Last fall, BMC introduced the Integrated Procedural Platform, another concept that Dr. Lewis helped to design, which consolidates all procedural-based specialties side by side on one floor, facilitating integrated care for patients requiring interventional procedures.

Dr. Lewis' educational background speaks to his inner drive for constant discovery. He completed his internship in surgery at New England Deaconess Hospital and his anesthesiology residency training at Brigham and Women's Hospital after receiving his medical degree from the University of Connecticut School of Medicine. Dr. Lewis also trained in cardiac anesthesia at Brigham and Women's Hospital and served on the Harvard faculty for 14 years prior to joining Boston University School of Medicine.

The general theme throughout Dr. Lewis' career has been to minimize or eliminate the variables that can impact patient safety. He designed and rolled out the official universal protocol focusing on quality and patient safety at BMC, and he has received national awards for that and other safety initiatives. Not only did he spearhead a national symposium, "Positioning Your ORs for the Future," but, with his team, he wrote a book on patient safety, *OK to Proceed? What Every Healthcare Provider Should Know about Patient Safety*. "The book's 52 chapters offer strategies on how to potentially avoid adverse outcomes," Dr. Lewis says. "It's all about making the experience the safest for our patients."

In addition to chairing the Department of Anesthesiology and Perioperative Medicine at Robert Wood Johnson Medical School, Dr. Lewis is serving as chief of anesthesia and director of perioperative quality and safety at Robert Wood Johnson University Hospital, an RWJBarnabas Health facility. He sees enormous potential for synergy. "I am excited that there is so much passion and commitment here, and that everyone is invested in the concept of patient safety and streamlining and improving the way we practice," he says. "I feel like this is an outstanding opportunity to create leading-edge changes, providing the best value-based integrated care and putting the patient at the center of it all."

Along with changing traditional practice and revolution-

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TIGERS HEALTH
Keith P. Lewis, R.Ph.
Professor and Ch
Department of Anesth
& Perioperative M

izing processes, Dr. Lewis also looks forward to what he calls "flipping the classroom" by integrating simulation into the educational experience. He sees great value in utilizing new technological advances to train all health care staff.

The holistic goal, as always, is to work with the community to make it healthier. That requires a willingness to look at things differently. He believes there is great benefit in seeing things from many perspectives while making active listening central to his management style. One thing is for certain: he can't wait to see where all of this new energy leads.

Anil Nanda, MD, MPH

Anil Nanda, MD, MPH, Peter W. Carmel MD chair of Neurological Surgery, professor and chair, joint Department of Neurosurgery, and senior vice president, neurosurgical services at RWJBarnabas Health, knew when he was 5 years old that he wanted to be a surgeon. "My dad was a physician," Dr. Nanda says, "so I was exposed to medicine from a young age." To him, surgery is the amalgamation of science and art; it has a creative side. Add his fascination with the brain, and you can see why he specialized in neurosurgery—a career path that has garnered him international recognition for clinical, research, and academic achievements.

When you ask about his interest in the educational and academic side of medicine, he offers a proverb: "A man of 70 should plant olive trees." You should always want to leave the next generation in better hands. "Our children and our grandchildren should have better care," he says.

Dr. Nanda served for 27 years as professor and founding chair of the Department of Neurosurgery at Louisiana State University Health Sciences Center in Shreveport, where he launched a residency training program—now the largest in Louisiana. He also helped build the department's Gamma Knife Radiosurgery and Neuroendovascular programs. He is recognized as a global leader in neurosurgery by the World Federation of Neurological Societies and serves as director of the American Board of Neurological Surgery. Dr. Nanda has performed more than 16,000 surgeries, including those for skull-based tumors and aneurysms, in which he specializes, and other procedures.

Dr. Nanda is an in-demand visiting lecturer and visiting professor at conferences. He has published hundreds of articles in peer-reviewed journals and written dozens of book chapters and four books, including *Complications in Neurosurgery*.

Dr. Nanda earned his medical degree with honors from Jawaharlal Institute of Postgraduate Medical Education and Research, University of Madras, in India, but he is a native New Yorker. He completed his internship in surgical oncology at Memorial Sloan Kettering Cancer Center, his residency in neurosurgery at Hahnemann University School of Medicine, his pediatric neurosurgery residency at Children's Hospital of Philadelphia, and his fellowship in microneurosurgery and cranial-based surgery at University of Pittsburgh Medical Center, Presbyterian Hospital.

Dr. Nanda also holds a master of public health degree from Harvard School of Public Health and—remembering his proverb about the olive tree—helped to pass the Louisiana Youth Concussion Act, which requires all youth athletic programs to provide athletes and their parents with information about concussion and the potential long-term effects of playing after a head injury.

His dream is to create a destination neuroscience center at Robert Wood Johnson Medical School and RWJBarnabas Health. "The Rutgers neurosurgical department in Newark and the Robert Wood Johnson University Hospital in New Brunswick are positioned to play a pivotal role in providing neurosurgical care for the state of New Jersey," he says. The health care system is uniquely positioned to serve in that role, since it has a service area with 11 acute care hospitals covering more than 5 million people. His goal is also to nurture scientific inquiry, publish papers, and spark interest in the clinical neurosciences, as well as develop continuing medical education programs on a statewide level that target family practice doctors, internists, neurologists, and neurosurgeons. A clinical outcomes data center is also part of his grand plan to add depth to research initiatives and add impetus to publication opportunities.

"We want this to become a destination for superb research with one of the best training programs in the country," Dr. Nanda says. "We want to educate, be compassionate, and make significant contributions to science." M

JOHN EMERSON




RUTGERS HEALTH
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Nikhil Gupta, MD
Division of Urology

By Kate O'Neill
Portrait by John Emerson

Andrology: A New Subspecialty

In the world of modern medicine, andrology is a relative newcomer. The field acquired its name only 70 years ago, bringing under one umbrella a variety of areas concerned with male reproductive health, including urology, endocrinology, surgery, and genetics.

In May 2018, Nikhil Gupta, MD, assistant professor of surgery, became the first andrologist and male sexual function subspecialist appointed to the faculty of Rutgers Robert Wood Johnson Medical School. "To have a comprehensive program, urology must offer this subspecialty," says Isaac Yi Kim, MD, PhD, MBA, professor of surgery and acting chief, division of urology. Dr. Gupta's character, interest in research, and approach to patient care made him the right person to inaugurate the field at the medical school, adds Dr. Kim, who looks forward to continuing growth in the division of urology.

Dr. Gupta discovered andrology during his residency at the Smith Institute for Urology in New Hyde Park, New York, part of the Northwell Health network. He had originally planned to specialize in treating patients with kidney cancer, but he found andrology to be such a "hopeful" field, he says, that he changed paths. Subsequently, Dr. Gupta completed a fellowship at Southern Illinois University School of Medicine under the renowned andrologist Kevin McVary, MD, and ultimately narrowed his

As an andrologist, Nikhil Gupta, MD, assistant professor of surgery *(facing page)*, helps couples to conceive by focusing on the man and devoting a lot of time to helping them understand that infertility is neither partner's "fault." He emphasizes instead what the diagnostic tests will show and how their results may help the couple start their family.

focus to the treatment of male infertility, sexual dysfunction, and benign prostatic hyperplasia (noncancerous enlarged prostate). He is also trained to address erectile dysfunction.

It's No One's Fault

A couple is considered infertile if they have not conceived after one year of regular intercourse, without contraception. Often it takes two to five years for a pregnancy to occur, but it is not unusual for a couple to see Dr. Gupta after trying to conceive for a year without success.

"Often, when no pregnancy occurs, the woman is the first to see an infertility specialist, believing that the problem must originate with her," says Dr. Gupta. But in fact, he adds, only 50 percent of infertility is attributable to the female partner alone; 50 percent of couples with this problem have a male factor. If the woman's specialist finds no issues, she and her partner would most likely be referred to a specialist in male infertility.

As an andrologist, Dr. Gupta's role in helping a couple to conceive focuses on the man, but he always starts out by meeting with both partners. He devotes a lot of time to helping the couple understand that infertility is neither partner's "fault," emphasizing instead what the diagnostic tests will show and how their results may help the couple start their family.

Infertility creates a special kind of anxiety in men, says Dr. Gupta. "Boys are raised to believe that if you try hard enough, you can develop the strength to overcome challenges, like reaching the next level in sports. My patients fear there is something wrong with their manhood, because they haven't been able to father a child."

Evaluating and Treating Male Infertility

Evaluation starts with blood screening to determine the signaling ability of the patient's testosterone, the hormone that stimulates sperm production. Subsequent semen analysis provides a wealth of information as well. Findings may indicate the inability of ejaculated sperm to travel efficiently through the woman's reproductive system and penetrate the outer covering of the egg, which awaits fertilization in her fallopian tubes. It also may show a low sperm count or an absence of sperm, which could stem from a variety of potential causes: for example, earlier trauma, childhood illness, undescended testis or testes, or chemotherapy.

The andrologist will look for autoimmune factors in the reproductive systems of either partner, as they can be toxic to sperm. Genetics can also be a factor. A blood test can detect a microdeletion (missing gene) in the Y chromosome, a fairly common cause that is responsible for approximately 13 percent of male infertility.

A clinical examination can reveal other issues leading to male infertility. Even if normal sperm are being produced, they may be encountering an obstruction in the male ducts, blocking them from their route out of the testes. Physical obstructions may result from a variety of other causes, including earlier hernia surgery or congenital abnormalities.

If few or no sperm are found in the semen, Dr. Gupta can perform a microsurgical testicular sperm extraction, commonly known as micro-TESE. With the patient under general anesthesia, Dr. Gupta explores the testicle with a microscope, identifying and harvesting areas likely to harbor sperm that can be used for fertilization.

Solutions for Erectile Dysfunction

One of Dr. Gupta's great satisfactions is to be able to help his patients father a child. But further along the age spectrum, many other men, past the stage of starting a family, suffer from erectile dysfunction (ED) and miss this part of the pleasure of a sexually active relationship.

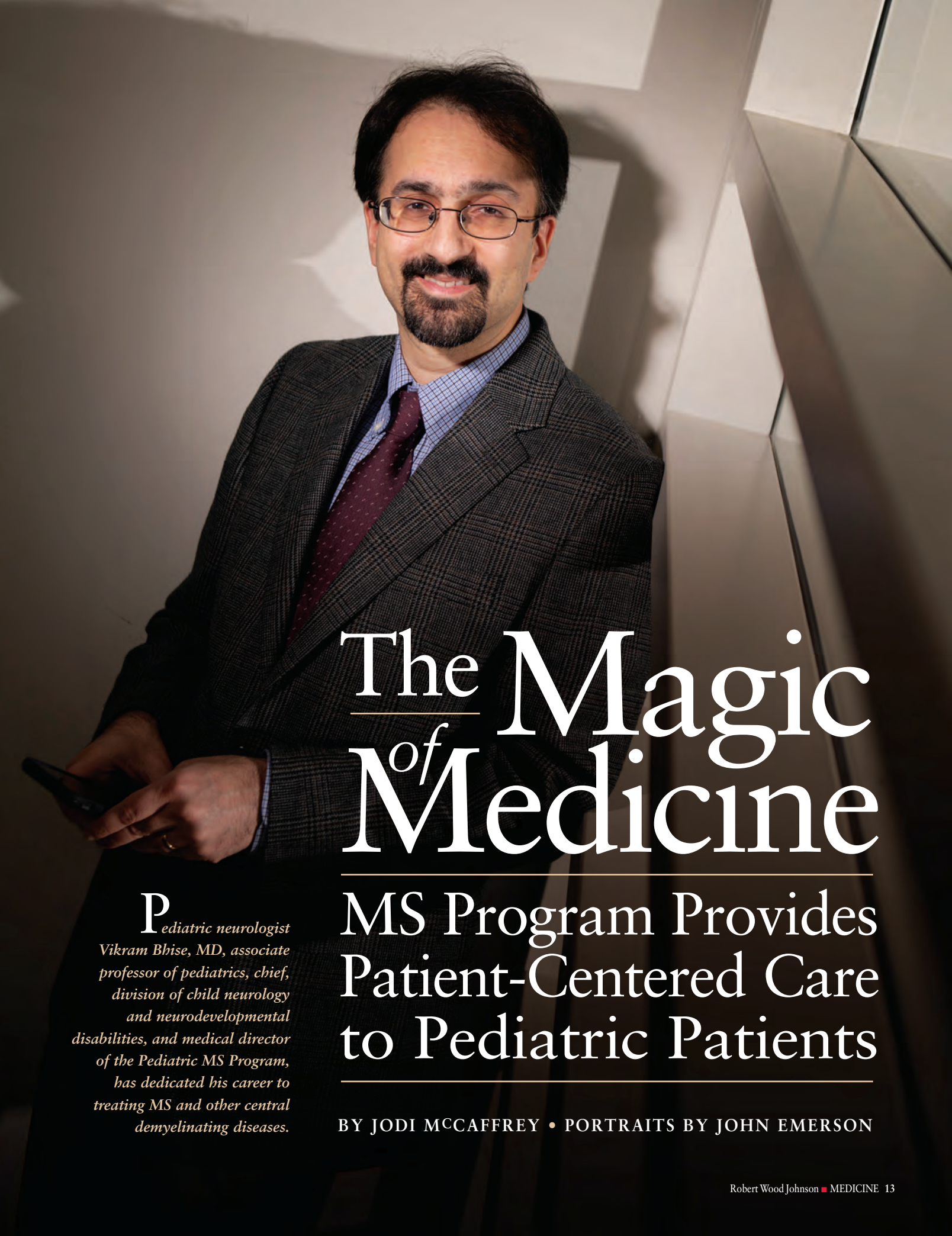
The usual cause of ED is the failure of blood flow to the ultra-narrow arteries of the penis, and it can be a reliable predictor of heart disease. Just as plaque in the arteries of the heart or brain can cause a heart attack or stroke, plaque in the arteries of the penis can prevent an erection. So Dr. Gupta often refers his patients to a cardiologist when they come to his office for treatment for erectile dysfunction.

For many people, the most familiar treatments for ED are drugs such as Viagra and Cialis, which dilate the arteries of the penis, allowing increased blood flow and a successful erection. However, Dr. Gupta offers options that have a greater success rate—more than 80 percent, versus approximately 60 percent for medications. These methods include a painless penile injection that causes the penile arteries to dilate and an implanted, three-part penile prosthesis that is manually activated by a small, built-in hydraulic pump.

"These alternatives sound so strange that when I tell men about them, their eyes pop," says Dr. Gupta. "But they're willing to try them because they are motivated to regain the intimacy they have lost, and other methods have failed."

The patient's partner also plays an important role in the success of ED treatment. "This is important," says Dr. Gupta, "because any remedy is most successful when both partners are involved together as a team."

Dr. Gupta's career is just beginning, but with his direct and easy manner, broad knowledge, and clinical expertise, he has already helped previously infertile men to father children, when they were losing hope. At the same time, he has restored intimacy for couples who thought that part of life was lost forever. Certainly Dr. Gupta chose well when he switched paths and opted for the "hopeful" field of andrology. M



The Magic of Medicine

MS Program Provides Patient-Centered Care to Pediatric Patients

Pediatric neurologist Vikram Bhise, MD, associate professor of pediatrics, chief, division of child neurology and neurodevelopmental disabilities, and medical director of the Pediatric MS Program, has dedicated his career to treating MS and other central demyelinating diseases.

BY JODI MCCAFFREY • PORTRAITS BY JOHN EMERSON



Alexander Wallerson experienced the signs of multiple sclerosis (MS) when he was 12 years old. As a patient of Dr. Bhise's at the Pediatric MS Program, Alexander received a personalized comprehensive care plan that addressed his condition and his quality of life.

Alexander Wallerson was 12 years old when he saw a popular movie with his mother. Now 26, he remembers that specific day vividly. It was the first time he experienced the signs of multiple sclerosis (MS).

"I walked like I was drunk," says Wallerson, who lives in New Brunswick. "I was limping but not in pain."

His mother, a nurse, was concerned and brought him to their family doctor. Imaging tests revealed that Wallerson had relapsing-remitting MS.

It's estimated that more than 8,000 American children are currently fighting MS. The most common presentations of the disease include optic neuritis, transverse myelitis, arm-leg weakness, sensory disturbances, or balance problems. And like most diseases, early intervention offers the greatest hope of mitigating patients' symptoms.

Pediatric neurologist Vikram Bhise, MD, associate professor of pediatrics and chief, division of child neurology and neurodevelopmental disabilities, has dedicated his career to treating MS and other central demyelinating diseases. The unifying characteristic of these diseases is that they damage myelin, the substance that coats the brain's nerve fibers. As the medical director of the Pediatric MS Program, located at the Child Health Institute of New Jersey, Dr. Bhise evaluates and treats patients presenting with neurological symptoms, focusing on each child's functional and cognitive status.

Finding and Fighting MS

When a patient experiences symptoms that might indicate a neuroimmune condition, Dr. Bhise orders an MRI of the brain and often a lumbar puncture—the two most useful clinical indicators. The number and pattern of lesions on the brain visualized by the MRI help determine the level of severity. An MRI of the spinal cord and a blood test to determine biomarkers in serum provide more clinical clues, including if the condition is one that will recur, such as MS. Then he facilitates a frank discussion with patients and their families about his findings and the treatment options, including the potential side effects and risks of each. Establishing a relationship of trust is key.

The only dedicated pediatric MS program in the state, Rutgers Health works in collaboration with pediatric-specific ophthalmology, rehabilitation, physical therapy, psychology, urology, nephrology, and cognitive specialists to provide cutting-edge therapies, patient and family education, and access to clinical trials. Education in particular is a key component to care, Dr. Bhise says, since general pediatricians and neurologists may

not have fully explained the disorder prior to referral.

A comprehensive care plan is developed for each patient to address education, cognition, social functioning, mental health, daily activities, and quality of life. The disease often is more inflammatory in children, causing younger patients to have more frequent attacks than adults. The goal is to prevent further relapses by pairing disease-modifying medical treatments with adjunct therapies, such as physical therapy, to preserve function.

"Every day that a patient lives with MS, the disease is working against them," Dr. Bhise explains. "The challenge is not knowing if what we do now will be effective in the future."

The Subtle—Yet Serious—Signs of Neurological Disease

Like Wallerson, many patients first experience motor and body-movement issues. Other signs of MS include sensory issues, such as numbness and tingling in the body; optic neuritis, which can appear as blurred vision, pain in the eye, and/or color desaturation; and bladder leakage or urgency.

Wallerson's high school years were punctuated with short episodes of double vision, right-side numbness, and left-side weakness. He discussed these issues with Dr. Bhise, who prescribed a regimen of Rebif (interferon beta-1a) injections every other day. Throughout his teen years, Wallerson continued to play tennis and exercise, and he followed a healthy diet. He suffered only one major attack in high school and was able to graduate near the top of his class, garnering scholarships for college.

Another disorder treated at the center is neuromyelitis optica (NMO), an incurable autoimmune disorder that attacks the optic nerves and spinal cord, and in some cases the brain. Damage to the optic nerves causes inflammation, pain, and loss of vision, while damage to the spinal cord can lead to weakness or paralysis in the legs or arms, loss of sensation, and problems with bladder and bowel function.

Alana Essien was blindsided with recurring headaches and eye pain in fifth grade. Within a month, she was nearly blind. Diagnosed with NMO, she was referred to Dr. Bhise after seeing specialists in New York and Philadelphia.

"We didn't know much about NMO. Dr. Bhise explained the condition thoroughly and put my mind at ease," says Essien, now a high school junior in South Plainfield. Despite a course of steroids and several cycles of plasmapheresis, she has permanently lost 50 percent of the vision in her left eye. The vision in her right eye is typically around 20/20, while her left eye is 20/50 to 20/70. She also has impaired color vision in both eyes, but the condition is worse in her left eye. She receives two infusions a year of Rituximab, a monoclonal antibody medication.

The goal of treatment is to prevent further attacks. The attacks are what are associated with disability. Each time someone has an attack, he or she doesn't always return to the same level of health. Medication keep patients like Essien from having more attacks or "relapses."



Diagnosed with neuromyelitis optica (NMO) when she was in the fifth grade, Alana Essien was referred to Dr. Bhise after seeing specialists in New York and Philadelphia. "We didn't know much about NMO. Dr. Bhise explained the condition thoroughly and put my mind at ease," she says.

"Often, diagnosing neurological disorders requires combining clinical results with insights from others in the medical community," says Dr. Bhise, who participates in periodic webinars with neurologists across the country to share research and experience. "We have a great amount of expertise in this field, which means we can provide rapid diagnostics and detailed input on each case."



Fostering hope in his patients is one of the most important services that Dr. Bhise provides. He helps patients feel empowered about their care and invested in continuing treatment.

Those who remain attack-free do well in the long term. However, those who aren't diagnosed properly or live in areas of the world with limited access to care can become blind or paralyzed from the disease.

Helping Patients Hold on to Hope

Fostering hope in his patients is one of the most important services that Dr. Bhise provides. He helps patients feel empowered about their care and invested in continuing treatment.

"Committing to the care plan is how patients can exercise a sense of control over their health. I explain to patients, 'Everything that you're doing today will have a positive impact on your future.' It's easy for them to become overwhelmed, so I help remind them of the ways that life is still pretty good," says Dr. Bhise.

"I consider myself very fortunate," says Essien, who is a singer, songwriter, and pianist. "It could be worse. There's always a way to do what you want, so keep your head up and keep moving forward."

At times, a diagnosis means adjusting expectations. By talking with patients about their goals, Dr. Bhise helps paint a more realistic picture of living with an immune disorder. He urges patients to discuss any issues with depression or anxiety that they're having, and he shares the latest research with patients to keep them motivated. The program's nurses are specially trained to engage patients to talk about their mental state and, if needed, can refer them for formal counseling.

For Wallerson, the potential loss of dexterity interrupted his goal of becoming a neurosurgeon. Instead, he studied information technology at Rutgers University and is now a 3-D modeler for a solar energy company. Essien plans to study music in college. In fact, her first song, "Dashiki Woman," premiered on iHeartRadio last year.

A Commitment to Patient-Centered Care

The program is involved in a number of research initiatives designed to improve care, including developing a serum specimen bank that researchers can use to investigate new therapies. Studies to improve patients' sleep habits and quality of life also are in motion. The program has partnered with the New Brunswick–based Embrace Kids Foundation to provide free rides to infusion appointments for patients who need them, as well as free iPads to use while waiting.

"That's the magic of medicine: just being good human beings to each other," Dr. Bhise says. M



TeamSTEPPS:

Student-Led Teamwork Training Focuses on Patient Safety

In military settings, teamwork is key to safe practices and successful outcomes. With this knowledge well ingrained, student-veterans at Rutgers Robert Wood Johnson Medical School are sharing the lessons of teamwork training and experience, uniting a growing group of students and faculty behind an initiative to bring about change.

BY KATE O'NEILL
PHOTO BY JOHN EMERSON

Student-veterans and cocreators of the TeamSTEPPS-based program Rick Lang '19 (above left) and Kevin Fitzpatrick '19, with fellow veteran and pilot program leader Stephanie Latham '21.



The seeds of the TeamSTEPPS-based program were sown in 2015, by student-veterans Richard Lang '19 (above left) and Kevin Fitzpatrick '19 (above right). They compared their early clinical experiences and observed areas where better teamwork and communication could improve outcomes, if health care teams would apply principles similar to those followed in the military.

After four years of meticulous research, planning, and initial implementation, their pilot team-building initiative is receiving significant local and even national attention. It is ready to move to the next level: changes in the health care system culture.

The seeds of the program were sown in 2015, by then-first-year (M1) student-veterans Richard Lang '19 and Kevin Fitzpatrick '19. Lang is a U.S. Naval Academy graduate and Pat Tillman Foundation Scholar with 12 years of active duty service as a Navy F/A-18 jet pilot and instructor at the Navy Fighter Weapons School (popularly called TOPGUN).

Fitzpatrick graduated in 2004 from Rutgers University with honors in electrical and computer engineering. As a 2007 U.S. Army enlistee, he completed the Special Forces Qualification Course and served as a Green Beret medic. On his last tour, in Afghanistan, he led a multinational assault team and earned a Bronze Star as a casualty care instructor.

Defining Teamwork Training

Two weeks after his last military assignment, Lang matriculated at the medical school. That fall, he began volun- teer service at The Promise Clinic, a student-run project that provides primary care for local, medically underserved and uninsured residents. Four-member clinical teams are composed of one student from each year who follow the same patients throughout medical school. Assuming that health care teams would apply teamwork principles similar to those followed in the military, Lang was intrigued to find key differences in the functioning of Promise Clinic teams. Team members did not convene before an appointment to agree upon goals, clarify roles and responsibilities, or discuss contingency plans. In addition, "debriefs"—meetings to identify areas for improvement during subsequent appointments—were not the norm.

In a clinical reflection for his "Patient-Centered Medicine" (PCM) course, Lang described the teamwork of military aviation missions. "The designated mission leader must hold a preflight briefing with all participating aircrew. They cover mission goals, roles and responsibilities, risk management, and contingency plans. After each mission, they hold a 'debrief' to review whether they accomplished mission objectives and identify areas for improvement," he wrote.

"These practices are likely as important in improving outcomes in medicine as they are in military aviation," Lang adds. "Consequences of errors are similar, but instead of risk to your own life as a pilot, it is a patient's life that may be at risk."

Early on, Lang and Fitzpatrick compared impressions of their early clinical experiences and found that the behaviors they had seen were not unique—both had observed areas where better teamwork and communication could have improved patient outcomes. They wondered if incorporating lessons learned from the military might be beneficial in medical school teams.

A Network of Champions

Lang received a strongly supportive response to his reflection from his PCM facilitator, Carol A. Terregino, MD '86, associate professor of medicine, senior associate dean for education and academic affairs, and associate dean for admissions. She responded that she had read his report "with goose bumps," recognizing, "in his Promise Clinic experience, a gap in the curriculum that had long been on my mind. Teamwork is not instinctive, and teamwork training could enhance productivity and patient safety." She suggested that Lang and Fitzpatrick build a network among students and faculty and begin researching models of team training instruction that might be tailored to medical education. "Things need to change," she added. "Perhaps your help and faculty support can be the answer to comprehensive curricular and cultural change."



COURTESY OF RICHARD LANG '19

Richard Lang '19 is a U.S. Naval Academy graduate and Pat Tillman Foundation Scholar with 12 years of active duty service as a Navy F/A-18 jet pilot and instructor at the Navy Fighter Weapons School (popularly called TOPGUN).

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Dr. Terregino referred Lang and Fitzpatrick to acute care surgeon Gregory Peck, DO, assistant professor of surgery and director of trauma performance improvement. The collaboration was well timed: Dr. Peck had recently begun developing international, multidisciplinary teams to improve surgical services worldwide. Without hesitation, Dr. Peck agreed to join Dr. Terregino as a faculty co-adviser for the project.

Meanwhile, the initiative had acquired its first "student champions." Kristin N. Raphel '19, a former EMT field supervisor, and Thomas Kuriakose '19, a former high school teacher and coach, broadened the skill sets of the project leaders and shared the workload.

The TeamSTEPPS Model and Master Training

Researching the medical literature, the student project leaders discovered TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety), an evidence-based program designed to optimize team performance throughout the health care delivery system. While its primary goal is increasing health care teamwork and communication, its ultimate goal is the improvement of patient safety.

TeamSTEPPS was developed by the nonprofit Agency for Healthcare Research and Quality in conjunction with the Department of Defense, after fusing decades of data and best practices. The four project leaders chose TeamSTEPPS as the model for their initiative, based on the goals of the program, the depth of research behind it, and the degree to which it reflected the student-veterans' experience.

All four leaders completed the TeamSTEPPS master trainer course, qualifying them, in turn, to train their peers. They then designed a student-led TeamSTEPPS intervention for the curriculum. "We hoped to provide fellow students with usable teamwork tools and strategies to improve patient care at every stage of their career," says Lang.

Two-Phase Survey Brackets Team Training

The leaders designed a two-phase survey that would precede and then follow the TeamSTEPPS curricular intervention, providing the tools needed to assess current student teamwork behaviors and perceptions about teamwork in specified courses. In addition, the post-intervention survey would provide students' observations about barriers to effective teamwork.

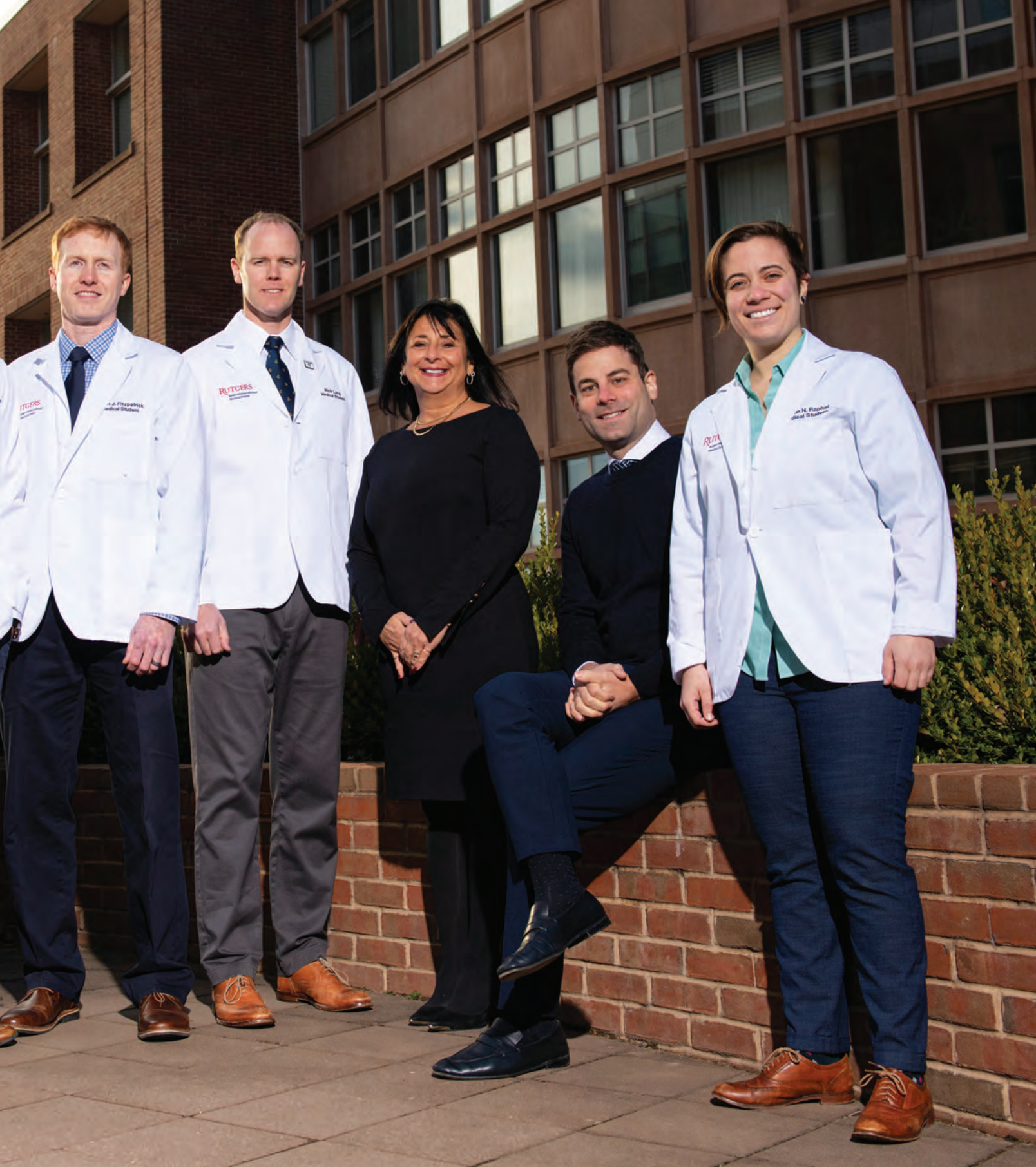
After approval by the Rutgers Institutional Review Board, the phase-one, pre-intervention survey was distributed to students throughout the medical school. It focused on three team-based settings: anatomy lab (M1s), interprofessional home visits (M2s), and Promise Clinic (students from all four years).

Responses to the pre-intervention survey indicated that a



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"The prior experience of our TeamSTEPPS leaders made them aspirational peers of all medical students, continually striving to advance medical education to the end goal: ensuring quality care and safety for patients," says Carol



A. Terregino, MD '86, senior associate dean for education and academic affairs (third from right), with (left to right) student-veteran Stephanie Latham '21, former high school teacher and coach Thomas Kuriakose '19, student-veterans and TeamSTEPPS-based program cocreators Kevin Fitzpatrick '19 and Richard Lang '19, Gregory Peck, DO, assistant professor of surgery and director of trauma performance improvement, and former EMT field supervisor Kristin N. Raphel '19.

majority of medical students operating in team environments did not conduct routine briefs or debriefs. The survey also found that students strongly desired that teamwork training be integrated into the curriculum—with specific tools to help them become more effective team members.

Following administration of the pre-intervention survey, the student leaders conducted the TeamSTEPPS training intervention in 90-minute, interactive sessions for 650 students. With the endorsement of the Curriculum Committee, the training was integrated into the health sciences thread, where the program had found crucial early support. Integral to the training was distribution of a single-page "white coat pocket reference" of TeamSTEPPS tools for the students.



Richard Lang will graduate this year and serve his residency at the Naval Medical Center San Diego, where he looks forward to continuing his work on TeamSTEPPS.

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Responses to the post-intervention survey, taken about six months after the first survey, showed significant increases in the frequency of student briefings and debriefings, leadership behaviors, and student-perceived preparedness for team events. "We went from the pre-intervention survey, where 60 percent of students reported that briefing 'sometimes or never' happens, to the post-intervention response, in which 60 percent reported briefing 'always or most of the time,'" says Lang. Student responses also helped to identify programmatic barriers: opportunities for improvement on subsequent curricular interventions.

An Unforeseen Champion and a New Leadership Team

In 2018, soon after completion of the survey, the TeamSTEPPS project acquired an unforeseen new champion, when Andy Anderson, MD, was appointed chief executive officer of the Combined Medical Group of RWJBarnabas Health and Rutgers Health. Dr. Anderson previously served for seven years at the 15-hospital Aurora Health Care system, in Milwaukee.

In leading a redesign of Aurora's primary care practices, Dr. Anderson had used TeamSTEPPS and found that the program's flexibility makes it effective in settings from interprofessional training to clinician skill development. Moreover, he says, its team-based approach leads to greater safety for patients and staff.

"Let's meet and talk about how best to incorporate TeamSTEPPS into our practices," Dr. Anderson wrote to Lang. "The students' positive energy encourages the kind of non-hierarchical bottom-up top-down culture we need," he added.

The student team won the Association of American Medical Colleges' Northeast Group on Educational Affairs 2019 Innovation in Medical Education Award. In addition, they earned second place in the American Medical Association Health Systems Science Student Impact Competition.

As a result of their work on TeamSTEPPS, two of the pilot program leaders earned their medical degrees with distinction: Lang's in medical education and Raphel's in leadership in academic health care. Lang will serve his residency in orthopedic surgery at the Naval Medical Center San Diego, where he looks forward to continuing his work on TeamSTEPPS. Both Raphel and Fitzpatrick are pursuing residencies in emergency medicine, while Kuriakose will serve his in pediatrics.

"The prior experience of our TeamSTEPPS leaders made them aspirational peers of all medical students, continually striving to advance medical education to the end goal: ensuring quality care and safety for patients," says Dr. Terregino.

Although most of the pilot program leaders will graduate this year, a strong student base is ready to sustain the project's momentum. Stephanie Latham '21—also a Pat Tillman Foundation Scholar and former Navy F/A-18 pilot—has worked with the group for two years. She will be leading a group of other M1 and M2 students to further refine TeamSTEPPS training and expand its reach within the curriculum. M



BY KATE O'NEILL

Chancellor's *Challenge*

Motivates Medical School Community as Donors Rally to the Cause

Led by Rutgers Biomedical and Health Sciences Chancellor Brian Strom, MD, MPH, the 2018 Chancellor's Scholarship Challenge promised matching funds of up to $1 million for donations supporting school scholarships. The success of this challenge means a reduction in the burden of tuition and debt for current and future Rutgers Robert Wood Johnson Medical School students. With annual tuition standing at approximately $40,000 in state and $62,000 out of state, and medical students graduating with an average $180,000 in debt, this funding will make a significant difference.



Scholarships open up career choices. They reduce the cloud of financial anxiety and allow the medical school to offer admission to the most promising future physicians, regardless of their financial circumstances. Additional aspiring medical students will want to study, learn, and practice here in New Jersey, ensuring that the school's graduates reflect the diversity of the state itself.

Endowments like the ones established by the Nahass family and the Alumni Association (see following pages) will continue to grow, as new contributors add support for those funds. Individual and dedicated scholarships will attract specially skilled and gifted students. The future looks brighter than ever for students at Robert Wood Johnson Medical School and for New Jersey.



Alejandra Bolanos '22: *Full Four-Year Scholarship "Means the World to Me"*

On a study break for the first final exam of her first year at Robert Wood Johnson Medical School, Alejandra Bolanos '22 *(above)* decided to check her email. She discovered completely unexpected news: the medical school had awarded her an annual $43,000 scholarship, covering her tuition for all four years. "I couldn't believe my eyes," she says. "I showed it to my family and asked everyone if they saw what I thought I'd seen." And, of course, they had.

"The scholarship was a welcome vote of confidence, and it means the world to me," adds Bolanos. "It means that people besides my family and friends see my potential, and that I was chosen for a reason. It means that I can continue to focus all of my time and energy on learning and becoming the best physician I can be without the added pressure of how much student debt I will have upon graduation."

A native of Colombia, Bolanos became interested in medicine while accompanying her mother to checkups, serving as a linguistic interpreter and facilitating physician-patient interactions. The experience inclined her toward family medicine, and the scholarship will help her realize that goal. "It means that I can go into whatever specialty I desire without having to consider the financial aspect. It's a giant weight lifted off my shoulders," she says.

Bolanos completed her premed requirements as a biology major at Monmouth University, in West Long Branch. While at Monmouth, she took advantage of a shadowing program at Monmouth Medical Center, offered by the university. In addition, she independently found a summer program at Weill Cornell Medical Center, in New York, which provided insights into clinical and research opportunities.

Also on her own, she arranged for shadowing opportunities, first with her mother's doctor and then with an osteopath in family practice. "He demonstrated the importance [in osteopathy] of touch in physician-patient interaction and its importance in localizing and diagnosing a problem," she says. "I liked that, and I liked the age range of his patients, from babies to adults."

During the three years after graduation, Bolanos worked as a technician in two medical practices—a retinal ophthalmologist and a dermatologist—gaining hands-on patient care experience and solidifying her decision to apply to medical school.

After her interview at Robert Wood Johnson Medical School, she had no doubt that it would be her first choice. "I loved everything about it—every interaction was friendly and welcoming," she says.

Bolanos got off to a strong start academically. At the same time, she found opportunities to give back, volunteering at The Promise Clinic as a student doctor and interpreter. She is also active in the Latino Medical Students Association and was elected vice president of the group during her first semester.

The donor of the scholarship has been delighted to get together with Bolanos on several occasions. Bolanos shares that feeling. "It was great to meet my donor—a truly relatable, friendly, and wonderful person," she says. "We've forged a bond, and I'm happy that I'm able to demonstrate my appreciation for their immense generosity."

Rosanne Vita Nahass, MD '84, *and* Ronald Nahass, MD '82, *Endow Family Scholarship*

Rosanne and Ronald Nahass' ties to Robert Wood Johnson Medical School and Rutgers University stretch back almost 40 years. In 1980, Ronald Nahass, MD '82, then in his third year of medical school, met first-year student Rosanne Vita; by the end of her second year, they were celebrating their marriage as well as his graduation.

Both completed their residencies in internal medicine at Robert Wood Johnson University Hospital, where Ron also completed a fellowship in infectious diseases. Since 1986, he has almost continuously served on the clinical faculty. A Phi Beta Kappa graduate of Rutgers University, Rosanne Vita Nahass, MD '84, majored in piano performance. After practicing as an internist for 18 years, she rediscovered her love for the piano and left medical practice to perform and lecture—often at the Zimmerli Art Museum at Rutgers, where she was pianist in residence.

The couple's two youngest children, Meghan Nahass, MD '16, who is married to classmate Louis Chai, MD '16, and Thomas Nahass, MD '17, are among the medical school's newest alumni. Their older brother, Ronald, followed a different path, going into finance. He is the father of the Nahasses' two grandchildren—"perhaps our greatest achievement," his father says.



JOHN EMERSON

Ron and Rosanne Nahass *(above)* are longtime donors to the medical school, but with their children's schooling complete, they agreed that "it was of great importance to do something a bit more enduring," he says. "As a Jersey girl and boy, we wanted to support a local institution and help



students with the high cost of medical school." The Chancellor's Scholarship Challenge offered a perfect opportunity to do exactly that, leveraging their gift to multiply the base amount of their endowment.

The criteria for the scholarships provided by their endowment are flexible, but they also reflect the Nahasses' own backgrounds and strengths, showing "achievement or interests in the arts, sciences, humanities or technology that demonstrate dedication, innovation or excellence."

They hope that by establishing the Nahass Family Endowment, they have created a vehicle that will inspire their children to sustain their vision long into the future. "We are proud of New Jersey. There are so many excellent people here, and our family has had such a positive experience at the medical school," says Ron Nahass. "By doing our small part, we hope we have provided a base that will help make our state competitive in attracting the best students and keeping high-quality doctors here in our state."

Alumni Association *Endows $50,000 Scholarship Fund*

With a unanimous "yea," the board of the Robert Wood Johnson Medical School Alumni Association voted in September 2018 to establish the first scholarship endowment in the organization's history. The vote followed a proposal by Treasurer Hank Lubin, MD '83, to create a new scholarship, knowing its impact would be doubled by Chancellor Brian Strom's Scholarship Challenge, which was set to culminate on Dec 31.



Hank Lubin, MD '83

COURTESY OF PENN MEDICINE PRINCETON HEALTH

"We had an exciting discussion leading up to the vote, with everyone taking part," says Paul F. Weber, MD '87, RPh, MBA, then president of the association. "We set three goals: first, to qualify for the challenge; second, to address our mounting concern over students' ability to afford tuition; and third, to have a long-term impact on the school."



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

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

The board debated two options in particular: whether to make a one-time $25,000 gift that would be matched by the challenge, or to leverage the match amount to establish a $50,000 scholarship endowment. Ultimately, the board members' vote for the endowment resulted not only from their confidence in its long-term impact, but also from their vision of a growing body of alumni engaged in supporting the fund for years to come. The annual payout from the fund will depend on many economic factors, but Dr. Lubin estimates that a starting balance of $50,000 might provide $2,500 in the first year. Future gifts to the endowment will build the balance and allow for larger scholarships.

The Alumni Association will continue its long tradition of offering students loans at a minimal 2 to 3 percent interest, while also contributing to scholarships and supporting programs such as Career Night.



Deborah Saez-Lacy, MD '86

Deborah Saez-Lacy, MD '86, association vice president, believes that the opportunity to make a gift that is 100 percent designated for scholarship support will motivate alumni to become donors. "Alumni understand the burden of student debt," she says. "It can be a constant concern, and the prospect of loan payments influences students' perspective on career choices."



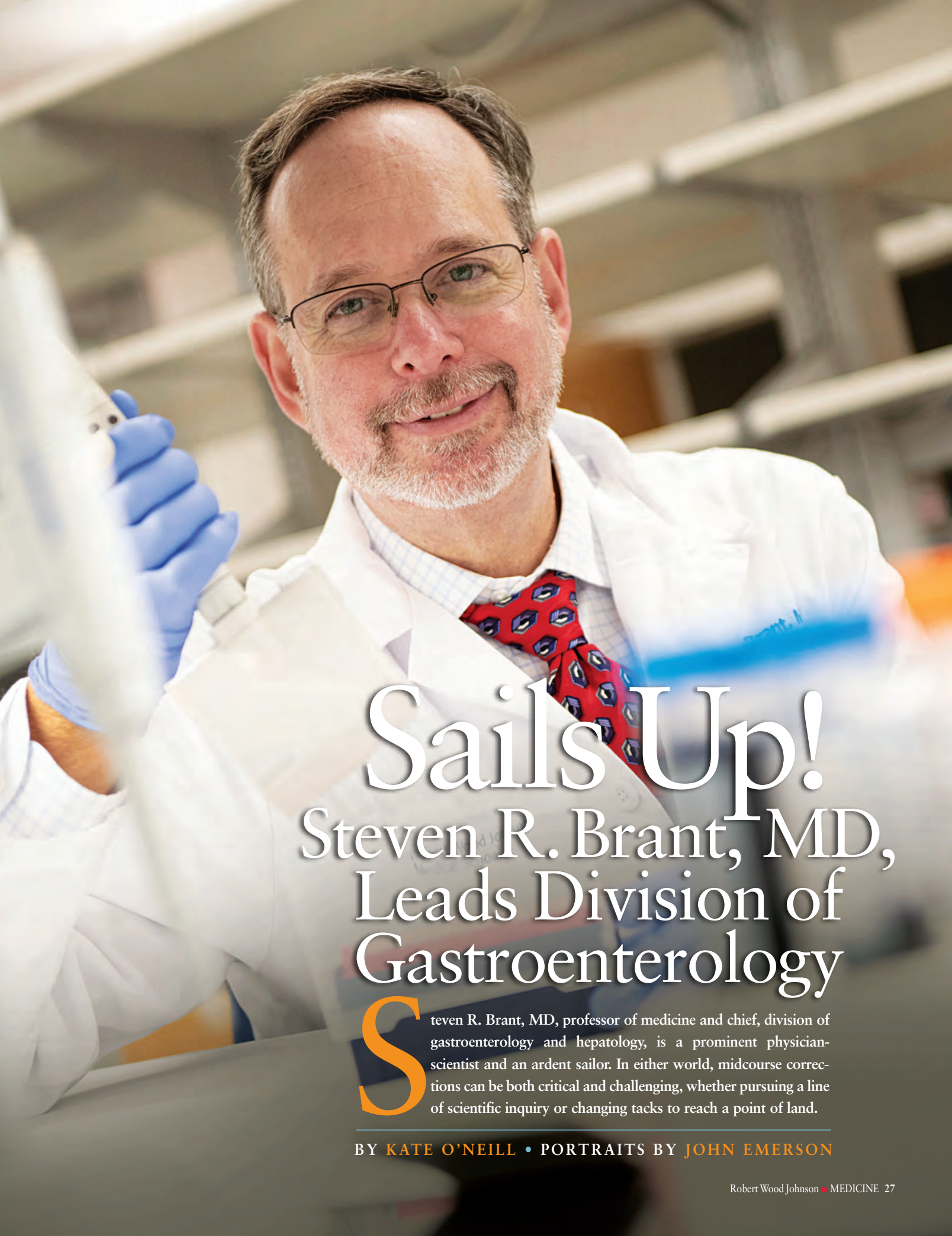
Elena Frid, MD '06

COURTESY OF ELENA FRID, MD '06

Dr. Weber first joined the association board in 1992; Dr. Lubin has been a board member since 1983 and has served as treasurer since 2007, when the position was created; and Dr. Saez-Lacy was able to increase her participation four years ago as her OB/GYN practice slowed down. Elena Frid, MD '06, joined the board several years ago, eager to be more involved in the medical school, and a mere three years later, she succeeded Dr. Weber as president.

As a student, Dr. Frid looked forward to the association's annual Career Night. In fact, one year, after speaking with alumni representing neurology, she realized she had discovered her career path. "Our student ambassadors play an integrative role on the board and were very important to this discussion," says Dr. Frid. "We are pleased to serve as a resource for them, and they keep us in touch with the day-to-day student life."

"All the alumni on the board are very involved with the school," says Dr. Saez-Lacy. "We're very excited to think of this going forward." M



Sails Up!

Steven R. Brant, MD, Leads Division of Gastroenterology

Steven R. Brant, MD, professor of medicine and chief, division of gastroenterology and hepatology, is a prominent physician-scientist and an ardent sailor. In either world, midcourse corrections can be both critical and challenging, whether pursuing a line of scientific inquiry or changing tacks to reach a point of land.

BY KATE O'NEILL • PORTRAITS BY JOHN EMERSON

For Dr. Brant, one of those changes of direction came in the spring of 2017, when he was offered the opportunity to serve as a division chief at Rutgers Robert Wood Johnson Medical School. He had spent 25 years on the faculty at the Johns Hopkins University School of Medicine and was in his eighth year as director of the school's Meyerhoff Inflammatory Bowel Disease Center. Rutgers offered Dr. Brant a compelling option: the chance to build a new program—an exciting challenge at a very successful stage of his career.

Dr. Brant brought to Rutgers Biomedical and Health Sciences his extraordinary record in research and deep dedication to caring for patients suffering from inflammatory bowel disease (IBD). He also is an adjunct professor at the Human Genetics Institute of New Jersey at Rutgers University and at Rutgers Cancer Institute of New Jersey.

Specialty Care at the Crohn's and Colitis Center of New Jersey

While leading the gastroenterology division and building on its many existing strengths, Dr. Brant serves as associate director of the Rutgers Health Crohn's and Colitis Center of New Jersey, a multidisciplinary regional referral center that offers diagnosis and expert, comprehensive care. The center has both a pediatric and an adult component, each on a separate floor, and a clinic where Dr. Brant sees patients twice a week. "It's my favorite part of my job," he says. "At Johns Hopkins, I had some patients I'd been seeing for 25 years. I miss them, but I'm already making new relationships here."

Nearly 1.5 million people in the United States suffer from IBD, which is also common and increasing worldwide. Most frequently, the disease is first diagnosed in young adults; however, young children represent 12 to 15 percent of the patients at the center, where they are cared for by pediatric gastrointestinal (GI) specialists. Dr. Brant recalls that his personal concern for people with IBD began in junior high school, where he had a good friend who suffered from Crohn's disease. Thankfully, his friend's disease is under control, and he is doing well.

The IBD umbrella covers a variety of chronic diseases, including Crohn's and ulcerative colitis. Although their symptoms are similar—including persistent diarrhea, abdominal pain, rectal bleeding and bloody stools, weight loss, malnutrition, and fatigue—in Crohn's disease, any portion of the digestive tract may be inflamed, whereas in ulcerative colitis, inflammation is confined to the large intestine and rectum.

IBD stems from a complex interplay of genetic and environmental factors that cause the immune system to have an uncontrolled inflammatory response in the intestinal tissues. Dr. Brant surmises that genes that once mutated to protect us from infection may have become dysregulated, developing a damaging autoimmune response in today's relatively sterile environment.



The goal of treatment is to achieve and retain remission, restore quality of life, and minimize complications, including those that require removal of portions of the small intestine or colon. Patients are also at increased risk for small bowel or colon cancer. Immunosuppressants—comparable to medications that prevent rejection of a transplanted organ—have been widely successful in controlling symptoms. The use of immune-modifying agents, however, requires a delicate balance: immune suppression, while preventing flare-ups and disease progression, can leave the patient vulnerable to infection.

IBD: Commitment, Support, and Discovery

As an undergraduate at Brandeis University, Dr. Brant studied enzyme function in the laboratory of the renowned biochemist William Jencks, MD. A North Miami Beach native, Dr. Brant earned his medical degree at the University of Florida. He completed his residency at Indiana University Medical Center, following Dr. Jencks' advice to specialize in internal medicine, allowing him to balance his interests in patient care and research.

Subsequently, as a gastroenterology fellow at Johns Hopkins University, he worked in the laboratory of gastroenterologist Mark Donowitz, MD, doing epithelial biology research. During this time, he discovered and cloned the NHE3 gene, a key regulator of sodium absorption in the digestive tract.

Later, working with Theodore Bayless, MD, his clinical mentor in IBD at Johns Hopkins, Dr. Brant used similar approaches



"Doing research on genetics, you get an exhilarating feeling that you may be the first person on earth to discover the nature of a human disease," says Steven R. Brant, MD, professor of medicine and chief, division of gastroenterology and hepatology.

to map the location of genes responsible for Crohn's disease and ulcerative colitis, investigating families affected with IBD. He also collaborated with Judy Cho, MD, then at the University of Chicago. Their research led to the identification of NOD2 as the first gene causing a risk for Crohn's disease. NOD2 helps immune cells and cells within the lining of the small intestines detect and respond to bacterial invasion.

Soon thereafter, Dr. Brant identified NFKB1, a master regulatory gene of inflammatory response, as a gene associated with ulcerative colitis. These and other discoveries paved the way for the identification of numerous—now more than 200—additional genes that play a role in IBD.

"Doing research on genetics, you get an exhilarating feeling that you may be the first person on earth to discover the nature of a human disease," says Dr. Brant. "But that understanding extends only so far. Next you have to piece together a multilayered puzzle, maybe looking for bacteria that interact with the gene, and solving the mystery of why people get this disease."

Since 2002, Dr. Brant has received continuous funding from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), part of the National Institutes of Health (NIH). The first award, $1.25 million, established the center at Johns Hopkins that focused on the genetics of IBD. In 2007 he received a $2.4 million, five-year renewal, bringing the total to $8.4 million.

When Dr. Brant's grant followed him to Rutgers, the Crohn's and Colitis Center of New Jersey became one of six centers in the NIDDK IBD Genetics Consortium (IBDGC); it is also a collaborating center of the International IBDGC. The center at Rutgers will continue to work with faculty at Johns Hopkins, and Dr. Brant has begun to involve additional researchers from Rutgers New Jersey Medical School.

When the center at Johns Hopkins was established, extensive genetic studies of IBD had been done among people of European ancestry. But none focused on African Americans, among whom the disease had become increasingly common. Dr. Brant chose to apply the NIH grant to an in-depth genetic analysis of IBD in African Americans, who are descendents of the oldest civilization centers on earth and have one of the most diverse human genomes.

Subsequent research was rewarded by the discovery of multiple genetic variants associated with ulcerative colitis that were exclusive to patients with African ancestry.

Reinvigorating the GI Program

For Dr. Brant, one of the principal attractions of coming to Rutgers was the opportunity to recruit new faculty and reinvigorate the GI program. He is as pleased to be working with long-term faculty—including the former division chief, Kiron Das, MD, PhD, professor of medicine—as he is with his five new recruits, whose expertise ranges from pharmacology to therapeutic endoscopy.

Dr. Brant is a sought-after mentor to fellows and new faculty. Gastroenterologist Ruby Greywoode, MD, assistant professor of medicine, joined the division in the summer of 2018, following a fellowship at Mount Sinai Hospital, in New York. Primarily a clinician, she was familiar with Dr. Brant's work with the consortium, and his study of IBD in the African American population made the program feel like a good fit for her.

"His door is always open," says Dr. Greywoode, grateful to Dr. Brant for enhancing her first faculty experience by demonstrating the value of her contributions to the group.

As he recruits outstanding faculty and young researchers, meets new patients, and pursues his fascination with the genetics of IBD, Dr. Brant is confident that his midcareer course correction was on target. And although he left the Chesapeake Bay and his 24-foot sloop behind in Maryland, he looks forward to indulging his passion for sailing along and beyond the waters of Raritan Bay. M



SATHI: A Medical to Improve the Health of S

Sunanda Gaur, MD, professor of pediatrics at Rutgers Robert Wood Johnson Medical School and director of the South Asian Total Health Initiative (SATHI) (second from left), with (left to right) Amisha



School-Born Initiative outh Asians

BY JACQUELINE CUTLER

PHOTOS BY JOHN EMERSON

Malhotra, MD; Maya Ramagopal, MD; Vanessa Rios; Usha Ramachandran, MD; Robert C. Like, MD, MS; and Shailja Mathur, MS, MEd, RDN, helped create the initiative to educate patients in the South Asian community and conduct research into this population's health issues.

A simple flier posted in the street changed Mary Varghese's life. The dental hygienist was walking through Rutgers University's New Brunswick campus when the paper caught her eye. SATHI was offering a free session about the warning signs of strokes and ways to improve health.

Varghese did not know what SATHI—South Asian Total Health Initiative—was, but it wound up benefiting her. And she shared with her mother the knowledge gleaned from attending the session. Prediabetic, Varghese learned about healthful eating and now substitutes quinoa, brown rice, and whole grains for white rice.

"Once I got used to eating healthy, I liked it and I feel good," Varghese says.

Educating patients like Varghese in the South Asian community, helping physicians recognize problems endemic to those from India, Pakistan, Bangladesh, Nepal, Sri Lanka, and Bhutan, and conducting research into this population's health issues is why Sunanda Gaur, MD, professor of pediatrics at Rutgers Robert Wood Johnson Medical School and director of SATHI, helped create the initiative at the medical school in 2007.

"There are a number of health issues from which the community suffers, particularly cardiovascular, diabetes, and mental health, and also cancer," explains Dr. Gaur. "The problem is that a lot of South Asians have immigrated to this area [Middlesex County], and there are not many health programs directed at them and their more Eastern ways of thinking about health and practicing health care."

One of the significant health concerns in the community is a lack of preventive care. While South Asians will visit doctors when sick, they tend not to practice preventive care because prophylactic tests such as colonoscopies or mammograms are not yet part of the culture.



"My dream would be to get more funding so we could turn SATHI into a center, and engage in more research directed toward the health issues in this community," says Dr. Gaur.

Educating Physicians Is Key

Physicians are not always aware of the health risks that are more common among South Asians, in part because of insufficient studies. The paucity of research means a lack of knowledge for treating patients. Once research-based evidence is found and disseminated, it moves from researchers to practitioners to patients. Eventually, those findings become enmeshed in health care.

For example, when a woman undergoes a routine mammogram, a standard question is if she is of Ashkenazi descent, since that Jewish population runs a higher risk for breast cancer. The query is on a standard form for everyone, despite focusing on the small minority affected.

For the South Asian community, such warning flags are not yet raised.

"We know that for South Asians, mortality and morbidity set in 10 years earlier," Dr. Gaur says. "Why? We don't know. That research is lacking; even though we start prevention programs, they are not informed by research."

With approximately 200,000 South Asian residents, New Jersey experienced a population surge of 133 percent in a 20-year period, based on the 2010 census. Despite such numbers, there remains a lack of understanding on both sides. Among physicians, there is an absence of the usual data; among many South Asians, there remains a stigma about seeking help for ailments such as mental illness and physical and behavioral disabilities.

"South Asians are at very high risk for different health issues—metabolic syndrome, diabetes, heart disease, and cardiovascular disease," says Usha Ramachandran, MD, assistant professor of pediatrics and associate director of SATHI. "We are at high risk for these problems even when not obese by the

general definition. Health care providers need to be more aware, and there needs to be more effort to address these risks."

Research Is Needed

While studies are conducted in India and other South Asian countries, Dr. Ramachandran stresses the importance of research in the United States, because lifestyles and diets are different.

In its quest to educate the public, SATHI partners with community-based organizations and meets in temples and other community venues, where nutritional information and other health care concerns are discussed. It's vital to begin healthful nutrition as soon as possible, and SATHI is participating in a research project funded by the National Institutes of Health on how babies between 6 and 18 months old are fed.

This research, which aims to reduce common risk factors for obesity and caries in South Asian babies, is in conjunction with Albert Einstein College of Medicine in the Bronx.

SATHI is also working on a project to study tuberculosis (TB), in collaboration with Saint Peter's University Hospital, in New Brunswick. They have completed a large survey of the South Asian population to learn people's views on TB and why they don't access treatment, and the group is entering the second phase—education of the community, Dr. Gaur notes.

Making a Difference on the Grassroots Level

Teaching people through creative outreach programs remains a hallmark of SATHI. Topics tackled at SATHI events have included stroke, TB, HIV, and nutrition, says Bishakha Ghoshal, MPH, the initiative's coordinator, who had been a physician in India and earned her master's degree in public health at Rutgers University. The events usually include lunch, and SATHI works with a dietitian who creates healthful alternatives to traditional dishes.

"The first was a healthy sugar for gajar halwa, which is a carrot mishmash with butter. It is cooked in Indian homes for holidays, and it is super unhealthy. Instead of clarified butter, a dietitian used olive oil, and instead of sugar she used honey," says Ghoshal.

Over the years, SATHI's work has included educating South Asians about the risks of stroke, cancer, childhood obesity, and HIV, as well as discussions on healthy pregnancies. Through a website, Facebook page, and outreach to community groups, SATHI continues to grow its presence. It sets up tables at health fairs a few times a year and tries to hold events monthly in temples.

Among the innovative methods SATHI employs to improve health is introducing easy ways to exercise. Dr. Gaur notes, "People don't usually engage in going to the gym and exercising very much." To counter a sedentary lifestyle, SATHI has showcased unusual, and intentionally not strenuous, activities, such as laughter yoga to combat hypertension, shoulder relaxation, and walks. Since SATHI holds many community outreach programs in Hindu temples, it is working out a method of demarcating paths for worshippers to use while circling deities so that a mile is completed when the worshipper circles the deity the customary 108 times; each circumambulation is believed to cleanse sins.

Reaching Out to Other Medical Professionals

In addition to the community, SATHI strives to work with fellow health care professionals. Among those efforts was an October 2010 conference from which SATHI generated a report, *Addressing Health Disparities and Health Literacy Challenges in the South Asian Community*, which notes that as many as 40 percent of South Asians may not have a regular source of health care. Another striking statistic is that "prevalence, hospitalization, morbidity and mortality from coronary artery disease among South Asians are 50 to 300 percent higher than in Europeans and Americans."

A second conference, in April 2013, focused on maternal and child health issues in clinical practices for South Asian families. According to Robert C. Like, MD, MS, professor of family medicine and community health, and director, Center for Healthy Families and Cultural Diversity, "The importance of educating health care professionals and learners in the provision of culturally and linguistically appropriate services was emphasized during the conferences."

SATHI collaborates with the South Asian Studies Program at Rutgers, presenting series at which experts discuss social, cultural, and environmental determinants of health in the South Asian community. SATHI works diligently at getting its message heard, such as partnering with EBC Radio, a South Asian radio station in central New Jersey; some shows have been listened to by as many as 15,000 people, Ghoshal says.

This groundswell of popularity encourages those working on the initiative as they apply for additional grants, work on studies, and remain committed to their goal of helping South Asians become healthier. Neither Dr. Gaur nor Dr. Ramachandran appears daunted by the tasks before them.

"My goal would be to grow it further," Dr. Gaur says. "My dream would be to get more funding so we could turn it into a center, and engage in more research directed toward the health issues in this community." M

Scholarship Gala



PHOTOS BY JOHN O'BOYLE





The 9th Annual Scholarship Gala, on April 6 at the Heldrich in New Brunswick, grossed more than $210,000 for student scholarships. Three members of the medical school community were honored: **Distinguished Alumni Awardee Carol A. Terregino, MD '86**, associate professor of medicine, senior associate dean for education and academic affairs, and associate dean for admissions; and **Honorary Alumni Awardees M. Maral Mouradian, MD**, William Dow Lovett Professor of Neurology and director, Institute for Neurological Therapeutics, and **Suhayl Dhib-Jalbut, MD**, professor and joint chair, Department of Neurology, and Ruth Dunietz Kushner and Michael Jay Serwitz Chair in Multiple Sclerosis. In addition, the event honored **Meritorious Service Awardee Robert E. Campbell**, retired vice chair of the Johnson & Johnson Board of Directors and former chair of its Professional Sector, and trustee emeritus and past chair of the Robert Wood Johnson Foundation Board.

The gala also served as a reunion for alumni, celebrating the classes of 1969, 1974, 1979, 1984, 1989, 1994, 1999, 2004, 2009, and 2014. ■









1. *Thomas Hecker, PhD, executive vice dean (far left), and Interim Dean Robert L. Johnson, MD, FAAP (third from left), celebrate with this year's honorees (left-right) Carol A. Terregino, MD '86 (Distinguished Alumni Award); Robert E. Campbell (Meritorious Service Award); and M. Maral Mouradian, MD, and Suhayl Dhib-Jalbut, MD (Honorary Alumni Awards).*
2. *Reginald McGriff, assistant manager of computer operations in the medical school's Office of Information Technology (left), and Anil Nanda, MD, MPH, Peter W. Carmel MD Chair of Neurological Surgery, professor and chair, Department of Neuro-surgery at Rutgers Robert Wood Johnson Medical School and Rutgers New Jersey Medical School, and senior vice president for neurosurgical services at RWJBarnabas Health.*
3. *Fourth-year students Tori Gartmond, Joshua Felton Gilens, and Rebecca Gaffney (left to right) take a break from the festivities. During a special presentation earlier in the evening, the three students shared their stories about the impact of students, faculty, and scholarships on their medical school journeys.*
4. *Interim Dean Robert L. Johnson, MD, FAAP (left), and Executive Vice Dean Thomas Hecker, PhD, congratulate the honorees.*
5. *Current Robert Wood Johnson Medical School students strike a pose.*
6. *Judith K. Amorosa, MD, clinical professor of radiology (left), and Louis Amorosa, MD, professor of medicine, who were recognized in 2016 as Honorary Alumni Award recipients, celebrate this year's honorees.*
7. *From the Office of Education and Academic Affairs are (left to right) Cynthia Ferrer-Cespedes, MPH, program director for student and multicultural affairs and assistant director for special academic programs; H. Liesel Copeland, PhD, assistant dean of admissions; Frecia Tapia, MA, chief of staff for education and academic affairs; Distinguished Alumni Award recipient and Senior Associate Dean for Education and Academic Affairs Carol A. Terregino, MD '86; Daniel J. Mehan Jr., PhD, assistant dean for student affairs; and Sonia Garcia Laumbach, MD '99, assistant dean for student affairs.*

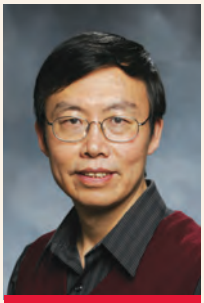
Study Shows Newly Created Cardiac Muscle Cells Can Be Made to Pump Together

A team of Rutgers physicians led by **Leonard Y. Lee, MD '92**, professor and chair, Department of Surgery, and James W. Mackenzie, MD, Endowed Chair in Surgery, and **Shaohua Li, MD**, assistant professor of surgery, has taken an important step toward the goal of making diseased hearts heal themselves—a new model that would reduce the need for bypass surgery, heart transplants, or artificial pumping devices.



JOHN EMERSON

Leonard Y. Lee, MD '92



STEVE HOCKSTEIN

Shaohua Li, MD

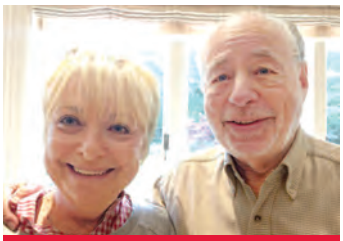
The study, published in *Frontiers in Cell and Developmental Biology*, involved removing connective tissue cells from a human heart, reverse-engineering them into heart stem cells, then reengineering them into heart muscle cells. The team's true breakthrough, however, is that the newly created cardiac muscle cells clumped together into a single unit that visibly pumped under the microscope.

Dr. Lee, who is senior author of the study, said cardiac cells made in this way don't normally come together and beat as one. His team succeeded in making this happen by overexpressing a protein in the cells called CREG. According to Dr. Lee, fibroblasts, particular cells in connective tissue, were isolated from the heart tissue and reverse-engineered for transformation into stem cells. This was done so that when the CREG protein was overexpressed, the stem cells would differentiate into cardiac cells. ■

Million-Dollar Gift to Robert Wood Johnson Medical School Supports Research on Minimally Invasive Surgery

On September 14, 2013, **Lawrence J. Goldstein** and his wife, **Barbara**, were walking back to their New York City apartment between Yom Kippur services when he doubled over with an excruciating stomachache. After returning to their apartment and quickly realizing that a traditional stomach remedy would not work, they took a cab to NewYork–Presbyterian Hospital, where the renowned gastroenterologist **Michel Kahaleh, MD**, diagnosed him with acute pancreatitis, caused by a blockage in his pancreatic duct. Facing a life-threatening condition, Goldstein put his faith that day in Dr. Kahaleh, who operated and removed the blockage.

Goldstein's recovery was not easy, requiring a weeklong stay in the intensive care unit followed by several more weeks in the hospital. He couldn't eat or drink anything for a few more months after that, to allow his pancreas to heal.



Lawrence J. Goldstein and Barbara Goldstein



STEVE HOCKSTEIN

Michel Kahaleh, MD

Goldstein, now 83 and still putting in full days as president of SMP Asset Management, an investment firm he founded in 1982, credits Dr. Kahaleh with saving his life. In early 2018, Dr. Kahaleh joined the faculty of **Rutgers Robert Wood Johnson Medical School** as distinguished professor of medicine, clinical director of gastroenterology, and chief of endoscopy.

While recovering from the surgery, Goldstein learned about Dr. Kahaleh's research on minimally invasive procedures to treat bowel and pancreatic disorders. Their conversations spurred the Goldsteins to pledge $1 million to establish the Edna and Charles Goldstein Research Fund, in memory of Lawrence's parents, to support Dr. Kahaleh's research at the medical school. "Barbara and I wanted to help him achieve his research goals," Lawrence Goldstein says.

One procedure Dr. Kahaleh hopes to improve is endoscopic ultrasound, which allows a doctor to view the digestive tract from inside the patient and remove lesions or obstructions, eliminating the need for invasive surgery. Such procedures benefit patients by lowering the risk of infection, reducing pain and scarring, cutting health care costs, and decreasing the time patients spend in hospitals.

"Patients undergoing less invasive procedures heal faster," Dr. Kahaleh says. "If we can meet patient demand for minimally invasive interventions while reducing health care costs, it's a home run." M

—Originally published by the Rutgers University Foundation.

31st Annual Career Night a Huge Success

More than 65 alumni, representing 25 specialties, participated in this year's **Career Night**, an annual event that enables current students to network with alumni and learn about the different career paths and specialties in medicine. More than 80 students took part in the event, which celebrated its 31st year this March.

Alumni Association President **Elena Frid, MD '06**, a board-certified neurologist and clinical neurophysiologist specializing in infection-induced autoimmune neurology, kicked off the event, discussing the importance of fostering relationships between alumni and medical students. She encouraged alumni to participate in the alumni/student mentorship database, which currently gives students access to more than 400



alumni willing to help students navigate their medical careers throughout the year. Dr. Frid also thanked alumni who contributed to last year's Scholarship Challenge, which raised funds for student scholarships. ■



Above: General surgeon Robert L. Plummer, MD '83 (far right), shares insights with students (left to right) Kavita Jain, Jack Hayes and Sho Yoshitake. ■ Left: Alumni Association President Elena Frid, MD '06, welcomes students and alumni to the 31st Annual Career Night. ■ Below: Mark Butler, MD '84, leads a discussion on orthopedic surgery, as Thomas G. McPartland, MD '01, looks on.



PHOTOS BY STEVE HOCKSTEIN

Rutgers-Led Team Receives $29M NIH Grant through CTSA Program

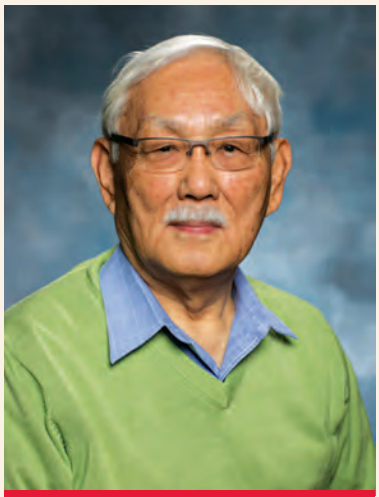
Rutgers Robert Wood Johnson Medical School is part of a multi-university team led by Rutgers that has been awarded a National Institutes of Health (NIH) grant for $29 million over five years for joining the **NIH's Clinical and Translational Science Awards Program** (CTSA). Through translational science, the observations made in the laboratory, clinic, and community are used to create interventions that improve the health of individuals and populations—from diagnostics and therapeutics to medical procedures and behavioral interventions.

"The ultimate goal is bringing more evidence-based treatments to more patients more quickly," explains **Reynold A. Panettieri Jr., MD**, vice chancellor for translational medicine and science and director, Rutgers Institute for Translational Medicine and Science, which received the CTSA grant. "In addition, our partnership with RWJBarnabas Health gives us a great opportunity to expand our clinical research, connecting the basic science research done by our 200-plus investigators to patient care statewide," says Dr. Panettieri, who also is professor of medicine at the medical school.

To be known as **NJ ACTS: New Jersey Alliance for Clinical and Translational Science**, the clinical and translational program at Rutgers will allow for diversity in clinical trials across Rutgers' five clinical research units, which include the **Adult Clinical Research Center** and **Pediatric Clinical Research Center at Robert Wood Johnson Medical School**, as well as centers based at Rutgers New Jersey Medical School, Rutgers School of Dental Medicine, and Rutgers Environmental and Occupational Health Sciences Institute. The grant also includes Princeton University and New Jersey Institute of Technology.

Through CTSA, the NIH supports a national network of more than 50 programs at medical research institutions nationwide that collaborate to speed the translation of research discoveries into improved patient care, enabling research teams to

Dr. Inouye Named to National Academy, Selected as AAAS Fellow



Masayori Inouye, PhD

STEVE HOCKSTEIN

Masayori Inouye, PhD, distinguished professor of biochemistry and molecular biology, and resident member at the Center for Advanced Biotechnology and Medicine (CABM), was elected to the National Academy of Sciences in recognition of his distinguished and continuing achievements in original research.

A leading scientist in the field of molecular biology and biochemistry, Dr. Inouye joined the medical school in 1987 as professor and chair, Department of Biochemistry, a position he held until 2007. In 2008, he was appointed distinguished professor.

He has made a number of important discoveries in life science. His pioneering contributions are represented by his more than 650 publications. His research has led to significant advances in the fields of protein folding, bacterial stress response, and gene regulation.

Most notably, in 1984 Dr. Inouye discovered a new principle of gene regulation by RNA, which opened an unprecedented avenue for engineering gene expression from bacteria to humans. In addition, he made another important discovery that gene expression can be regulated by protein-based mRNA interference by enzymes, destroying specific mRNAs in living cells. This finding has had a significant impact on the development of therapeutic methods for cancer and AIDS.

Dr. Inouye is one of a select group of 2,347 active members of the National Academy of Sciences.

In addition, in February he became one of five Rutgers professors named a fellow of the American Association for the Advancement of Science (AAAS), a distinction awarded by association members. Honorees are chosen because of their scientifically or socially distinguished efforts to advance science or its applications. Specifically, Dr. Inouye was cited for his "seminal contributions to understanding the biology of *E. coli*, particularly the functions of microRNAs and roles of toxin/antitoxin systems in cellular regulation."

He was presented with an official certificate and rosette pin during the 2019 AAAS Annual Meeting in Washington, D.C. ■



tackle system-wide scientific and operational problems in clinical and translational research that no one team can overcome.

This grant will allow Rutgers and its partners to train and cultivate the translational science workforce; engage patients and communities in every phase of the translational process; promote the integration of special and underserved populations in translational research across the human life span; innovate processes to increase the quality and efficiency of translational research, particularly of multisite trials; and advance the use of big data information systems.

Brian L. Strom, MD, MPH, chancellor, Rutgers Biomedical and Health Sciences, and executive vice president for health affairs for Rutgers, says the CTSA grant is a natural outgrowth of the integration of the University of Medicine and Dentistry of New Jersey and Rutgers. "It would not have been possible without the combination of resources from these two great universities, as well as the funding provided through our partnership with RWJBarnabas Health," Dr. Strom says. "It indicates to the world and to New Jersey industry that New Jersey is now in the big leagues of academic clinical research." ■

It's a (Record) Match!

With shouts of excitement and even some tears of joy, **Rutgers Robert Wood Johnson Medical School's Class of 2019** tore into the envelopes that held the key to their futures in medicine, learning on **Match Day** where they will be spending the next four years of internship and residency training.



Left: Lauryn Adams is all smiles on learning that she will become a resident at NewYork–Presbyterian/Weill Cornell Medical Center, training in obstetrics/gynecology.

Ninety-six percent of this year's graduating class matched to a program of their choice, exceeding the national match rate of 94 percent. The medical school has met or surpassed the national match rate for the past 13 consecutive years.





Above: Rutgers Robert Wood Johnson Medical School students pick up the envelopes that will reveal where they will complete their medical training as residents following graduation in May.

The class—the largest in school history, with 188 soon-to-be physicians—joins more than 5,500 Robert Wood Johnson Medical School alumni worldwide following the 2019 Convocation ceremony on May 10. Ten percent of the graduating students will remain at the school to complete specialized training as residents. They are part of the 18 percent who matched to programs in New Jersey.



PHOTOS BY STEVE HOCKSTEIN

Above: Akanksha Arya celebrates with family and friends after learning she matched at Thomas Jefferson University for internal medicine.

Forty-six percent of students matched to a primary care program (family medicine, internal medicine, pediatrics or obstetrics/gynecology). That marks a slight increase from the 42 percent who matched in primary medicine last year.

Ten or more students matched in each of the following specialties this year: anesthesiology, emergency medicine and psychiatry.

A record 38,376 applicants participated in this Match, according to the National Residency Matching Program. ■

Two Compounds in Coffee May Team Up to Fight Parkinson's

M. Maral Mouradian, MD, William Dow Lovett Professor of Neurology and director, Institute for Neurological Therapeutics, published a study about finding a compound in coffee that may team up with caffeine to fight Parkinson's disease and Lewy body dementia. The discovery, published in the *Proceedings of the National Academy of Sciences*, suggests these two compounds in combination may become a therapeutic option to slow brain degeneration.



STEVE HOCKSTEIN

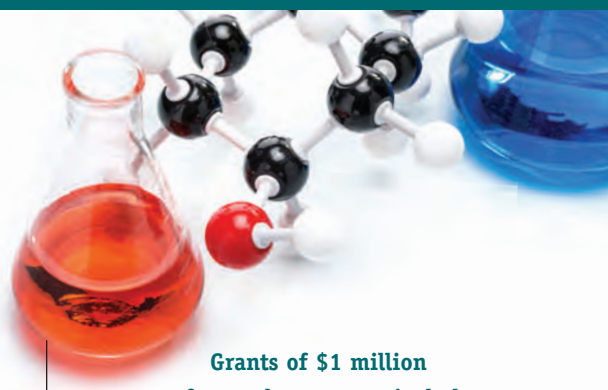
M. Maral Mouradian, MD

The study focused on a fatty acid derivative of the neurotransmitter serotonin, called EHT (Eicosanoyl-5-hydroxytryptamide), that is found in the coffee bean's waxy coating. The researchers found that EHT protects the brains of mice against abnormal protein accumulation associated with Parkinson's disease and Lewy body dementia. Dr. Mouradian's team gave mice small doses of caffeine or EHT separately as well as together. Each compound alone was not effective, but when given together the two compounds boosted the activity of a catalyst that helps prevent the accumulation of harmful proteins in the brain.

This suggests that the combination of EHT and caffeine may be able to slow or stop the progression of these diseases. Current treatments address only the symptoms of Parkinson's disease but do not protect against brain degeneration. ■

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 Rutgers Robert Wood Johnson Medical School faculty:

- **Peter Cole, MD**, professor of pediatrics and resident member, Rutgers Cancer Institute of New Jersey, a five-year, $3,417,089 multi-PI (principal investigator) R01 grant for "Identifying Children with Subclinical Neurocognitive Decline and Susceptibility to Oxidative Damage during the Early Months of Therapy for ALL."
- **Zhaohui Feng, MD, PhD**, associate professor of radiation oncology and resident member, Rutgers Cancer Institute, was awarded a second five-year, $1,818,565 R01 grant for "SENP6, a Novel p53 Negative Regulator, Is an Important New Player in Cancer."
- **Carolyn J. Heckman, PhD**, associate professor of medicine and resident member, Rutgers Cancer Institute, transferred her active ($2,049,716) R01 grant to study "Modifying Young Adult Skin Cancer Risk and Protective Behaviors (Uv4.Me2): A Hybrid Type 2 Dissemination/Effectiveness Trial."
- **John Langenfeld, MD**, associate professor of surgery, a five-year, $1,818,565 R01 grant for "Developing Bone Morphogenic Receptor ii Inhibitors for the Treatment of Cancer."
- **Steven Libutti, MD**, professor of surgery and director, Rutgers Cancer Institute, a one-year, $2,651,316 supplement to his P30 grant for "Cancer Center Support Grant."
- **Vikas Nanda, PhD**, associate professor of biochemistry and molecular biology and resident member, Center for Advanced Biotechnology and Medicine, together with lead principal investigator Paul Falkowski, PhD, Distinguished Professor and Bennett L. Smith Chair in Business and Natural Resources, Rutgers Departments of Earth and Planetary Sciences and Marine and Coastal Sciences, and Board of Governors Professor and director, Rutgers Energy Institute, and their co-investigators, $1,133,509 for the first year of a five-year, $5 million award from the NASA Astrobiology Institute for "ENIGMA: Evolution of Nanomachines in Geospheres and Microbial Ancestors."
- **Hatem Sabaawy, MD, PhD**, associate professor of medicine and resident member, Rutgers Cancer Institute, a five-year, $2,362,180 R01 grant for "Mechanisms of Targeting Cellular Self-Renewal in Glioblastoma."
- **Federico Sesti, PhD**, professor of neuroscience and cell biology, a five-year, $1,987,500 R01 grant for "Oxidation of K+ Channels Mediates an Amyloidogenic Pathway Common to Alzheimer's Disease and TBI."
- **Peter Yurchenco, MD, PhD**, professor of pathology and laboratory medicine, a five-year, $1,788,750 competitive renewal R01 grant for "Basement Membrane Self-Assembly and Structure." With this new grant, Dr. Yurchenco becomes the only PI at Rutgers Biomedical and Health Sciences and at Rutgers to have an active NIH grant awarded for 38 consecutive years.
- **Andrew Zloza, MD, PhD**, assistant professor of surgery and resident member, Rutgers Cancer Institute, was awarded a five-year, $1,818,565 multi-PI R01 grant, together with Ahmed Lasfar, PhD, assistant professor of pharmacology and toxicology, Ernest Mario School of Pharmacy, for "Role of IFN-Lambda in Promoting Breast Cancer Metastasis."

(Compiled with the assistance of the Research Support Team, Robert Wood Johnson Medical School.)

Grants of $1 million or more from other sources include:

- **Eric Jahn, MD '88**, associate professor of family medicine and community health, chief, division of community health, and senior associate dean for community health, and **Kathy Dodsworth-Rugani, PhD**, executive director, RWJMS Telehealth Initiative, a $1,592,002 grant from the Nicholson Foundation for the medical school's telehealth initiative. It supports Project ECHO (Extension for Community Healthcare Outcomes), a collaborative model of medical education that builds relationships between a team of inter-disciplinary specialists and primary care providers through videoconferencing sessions designed to help them treat more complex conditions in a primary care setting.
- **James H. Millonig, PhD**, associate professor of neuroscience and cell biology, senior associate dean, Rutgers School of Graduate Studies, and resident faculty member, Center for Advanced Biotechnology and Medicine, together with a team including Elizabeth Torres, PhD, associate professor of psychology, Rutgers School of Arts and Sciences, was awarded a five-year, $4 million grant from the Governor's Council for Medical Research and Treatment of Autism to launch the **New Jersey Autism Center of Excellence**, leading programs integrating autism research, clinical care, and education. Dr. Torres heads up the new center; Dr. Millonig directs the center's research component, and Jill Harris, PhD, director of research development and coordinator of autism services at the New Brunswick–based Children's Specialized Hospital, leads the provider training effort.

— Continued on page 40

Research News

By Kate O'Neill



Published Research

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

- **Chang S. Chan, PhD**, associate professor of medicine, was first author of "ATRX, DAXX or MEN1 Mutant Pancreatic Neuroendocrine Tumors Are a Distinct Alpha-Cell Signature Subgroup," published in *Nature Communications* October 12, 2018:9(1):4158.

- **Peter Cole, MD**, professor of pediatrics, was first author of "Brentuximab Vedotin with Gemcitabine for Paediatric and Young Adult Patients with Relapsed or Refractory Hodgkin's Lymphoma: A Children's Oncology Group, Multicentre Single-Arm, Phase 1-2 Trial," published in *Lancet Oncology* September 19, 2018:19(9):1229–1238. (Epub ahead of print, August 16, 2018.)

- **Swapnil C. Devarkar, PhD**, a postdoctoral fellow in the laboratory of **Smita S. Patel, PhD**, professor of biochemistry and molecular biology, was first author of "RIG-I Uses an ATPase-Powered Translocation-Throttling Mechanism for Kinetic Proofreading of RNAs and Oligomerization," published in *Molecular Cell* October 18, 2018:72(2):355–368. (Epub ahead of print, September 27, 2018.) Dr. Patel was senior author.

- **Kaiser Loell, MS**, a doctoral researcher at the Center for Advanced Biotechnology and Medicine (CABM), and **Vikas Nanda, PhD**, associate professor of biochemistry and molecular biology and resident member, CABM, were coauthors of "Marginal Protein Stability Drives Subcellular Proteome Isoelectric Point," published in the *Proceedings of the National Academy of Sciences U.S.A.* November 13, 2018:115(46):11778–11783.

- **Amar H. Mahdi, MD, PhD**, a former graduate researcher in the Department of Radiation Oncology; **Yanying Huo, PhD**, instructor of radiation oncology; and **Bing Xia, PhD**, associate professor of radiation oncology, were coauthors of "Evidence of Intertissue Differences in the DNA Damage Response and the Pro-oncogenic Role of NF-κB in Mice with Disengaged BRCA1-PALB2 Interaction," published in *Cancer Research* July 15, 2018:78(14):3969–3981.

- **Ronald G. Nahass, MD '82**, clinical professor of medicine, was senior author of "How Do You Measure Up: Quality Measurement for Improving Patient Care and Establishing the Value of Infectious Diseases Specialists," published in *Clinical Infectious Diseases*. (Epub ahead of print, September 25, 2018.)

- **Bhavna S. Paratala, PhD**, a postdoctoral research fellow in the Department of Medicine, division of medical oncology, was first author of "RET Rearrangements Are Actionable Alterations in Breast Cancer," published in *Nature Communications* November 16, 2018:9(1):4821. **Kim M. Hirshfield, PhD, MD '99**, assistant professor of medicine, was senior author.

- **Ethan Pearlstein '19** was first author of "Antonio Vallejo-Nágera (1889–1960) and Juan Antonio Vallejo-Nágera Botas (1926–1990)," published in the *American Journal of Psychiatry* August 1, 2018:175(8):720–722. **Javier Escobar, MD**, professor of psychiatry and associate dean for global health, was senior author.

- **Sharon Pine, PhD**, associate professor of pharmacology and medicine, was first author of "Rethinking Gamma-Secretase Inhibitors for Treatment of Non-Small-Cell Lung Cancer: Is Notch the Target?" published in *Clinical Cancer Research* December 15, 2018:24(24): 6136–6141.

- **P. Ashley Wackym, MD**, professor and chair, Department of Otolaryngology–Head and Neck Surgery, was coauthor of "Neurological Symptoms in US Government Personnel in Cuba," published in the *Journal of the American Medical Association* August 14, 2018:320(6):603–604.

- **Nikhil Yegya-Raman '19** was first author of "Dosimetric Predictors of Symptomatic Cardiac Events after Conventional-Dose Chemoradiation Therapy for Inoperable NSCLC," published in the *Journal of Thoracic Oncology* October 13, 2018:13(10):1508–1518. **Salma K. Jabbour, MD**, professor of radiation oncology, was senior author.

- **Xin Yu, PhD**, a research associate in the laboratory of **Darren R. Carpizo, MD, PhD**, associate professor of surgery and pharmacology, was first author of "Zinc Metallochaperones Reactivate Mutant p53 Using an ON/OFF Switch Mechanism: A New Paradigm in Cancer Therapeutics," published in *Clinical Cancer Research* September 15, 2018:24(18):4505–4517. Dr. Carpizo was senior author.

(Compiled with the assistance of the Robert Wood Johnson Library of the Health Sciences.)

LETTER FROM THE ALUMNI ASSOCIATION PRESIDENT

Dear Alumni and Friends:

I am delighted to introduce myself as the newly elected president of the Rutgers Robert Wood Johnson Medical School Alumni Association's board of directors. I have served on the board the past four years, and am looking forward to continuing to build our alumni activities and strengthen the bond between our alma mater and *all* its alumni. Among my goals are to help connect alumni with similar interests and offer more opportunities for social activities, as well as raise more funds for students. Check our alumni website **(rwjms.rutgers.edu/alumni)**, follow us on Facebook **(@RWJmedicalschool)** and Instagram **(@RWJMS)**, and update your email address to make sure you are receiving special alumni communications and invitations to these events.

I am proud to report that so far this year, alumni have participated in numerous activities at the school. The Annual Career Night, on March 5, brought together more than 65 alumni who returned to the Great Hall to share their career paths with students and reconnect with their classmates. Alumni interested in further mentoring students can sign up for the **alumni-student mentorship program**, found at the alumni website. As part of this initiative, a database was created so alumni near and far can identify the ways in which they would like to help current students—shadowing, researching, speaking at lectures, or providing resources for residencies and away rotations.



COURTESY OF ELENA FRID, MD '06

The Scholarship Gala this year celebrated the milestone reunions of the classes of 1969, 1974, 1979, 1984, 1989, 1994, 1999, 2004, 2009, and 2014 at the Heldrich in New Brunswick. Carol A. Terregino, MD '86, was honored as the Distinguished Alumna for leadership in moving the school through LCME re-accreditation.

As you read in the Chancellor's Scholarship Challenge article on page 23, many alumni, including the board, created new sponsorships as part of the Scholarship Challenge in 2018. I would like to personally thank you for your generous contributions to support students and encourage you to continue to give, by using the enclosed envelope to mail in a donation or contributing online at **support.rutgers.edu/RWJMSAlumni**.

I hope you enjoy reading about some of our all-star alumni in this issue. From breastfeeding medicine to pediatric bariatric surgery and treatment of the transgender community, I hope you find them as diverse and interesting as I do. Please keep us posted about your own personal and professional news so that we can highlight them in a future issue. Looking forward to representing all alumni the next two years.

Sincerely,

E. Frid

Elena Frid, MD '06
President, Robert Wood Johnson Medical School Alumni Association

Nirav Desai, MD '05:
Making an Impact on Childhood Obesity

Currently serving as a global clinical development lead at the pharmaceutical company Shire, Nirav Desai, MD '05, has made some unconventional career choices since he received his medical degree from Robert Wood Johnson Medical School. Following his instincts and pursuing different opportunities as they presented themselves make for a very interesting CV.

"I have had opportunities to be a general pediatric gastroenterologist, build an adolescent bariatric surgery program, and develop expertise in pediatric dyslipidemia. Then an opportunity arose to work in pediatric drug development," Dr. Desai says. "Each experience has been amazing and a great learning opportunity. There are so many opportunities in medicine. I think it's important to develop new skills and keep learning."

It was while studying at Robert Wood Johnson Medical School with Soula G. Koniaris, MD, MS, now assistant professor of pediatrics and chief, division of pediatric gastroenterology, and Susan Rosenthal, MMS '75, MD, now clinical professor of pediatrics, that Dr. Desai became interested in pediatric gastroenterology. That interest became a career direction when he did his residency in general pediatrics at St. Christopher's Hospital for Children in Philadelphia. Afterward, when he did his fellowship work at Boston Children's Hospital, he conducted research in lipid metabolism. Work on obesity and fatty liver disease, as well as the study of pediatric dyslipidemia, followed. After his fellowship, he worked with Sarah de Ferranti, MD, MPH, chief, division of cardiology outpatient services, and director, preventive cardiology, at Boston Children's Hospital; he began research projects regarding the effects of statin therapy on liver enzymes in children and became interested in rare causes of pediatric lipid disorders.

In 2013, Dr. Desai became medical director of the adolescent bariatric surgery program at Boston Children's Hospital. "This was a fascinating population of patients," he says. "It was all-encompassing. We were helping those with fatty liver disease, elevated lipid levels, and other complications of obesity." The program emphasizes safe and effective weight loss, addressing the medical, surgical, nutritional, emotional, and social needs of children who are candidates.

Dr. Desai is also passionate about correcting the misperception that children and bariatric surgery don't mix. This is a medically complex need that in many ways mirrors that of adults. Many pediatric patients have tried to lose weight but haven't been successful. "Aside from their medical issues, patients have significant psychosocial comorbidities—patients suffer from depression and anxiety, are teased by their peers, don't have large support networks, and need someone they can trust on their side," Dr. Desai says. "They benefit from this comprehen-

BY LYNDA RUDOLPH



STEVE HOCKSTEIN

sive program because it can address all of their needs."

Childhood obesity is a significant health problem. In the United States, according to the Centers for Disease Control and Prevention, the percentage of children and adolescents affected by obesity has more than tripled since the 1970s. Data from 2015 to 2016 show that nearly one in five school-age children and young people (6 to 19 years old) in this country has obesity.

Teens who are accepted into the Boston Children's Hospital program must have a body mass index of at least 35; most have a BMI greater than 40 and are well over the 95th percentile in their weight class. Prior to surgery, a multidisciplinary team meets with patients to give them regular nutritional, social work, and medical counseling assistance. Patients also connect with other specialists during the process. The vast majority of the patients in the program lose at least 50 percent of their excess weight post-surgery and improve or resolve medical comorbidities such as sleep apnea and high cholesterol.

"My experience in medical school gave me a window into the diversity of the field and the many ways you can impact a child's life," says Nirav Desai, MD '05, whose passion for this specialty was ignited when he was a student at Robert Wood Johnson Medical School.

Dr. Desai maintains his clinical involvement in the adolescent bariatric surgery program. In fact, he has established a mentorship with medical students at Boston Children's Hospital. He is especially passionate about getting the word to community physicians about the impact of weight-loss surgery on certain patients with severe obesity.

—Continued on page 50

Vera Bennett, MD '91:

Advocating for Mothers and Babies in the White Mountains of Arizona

Vera Bennett, MD '91, is a Renaissance woman. A board-certified pediatrician, she's also an actress, scuba diver, livestock farmer, and soap maker, among other talents. Each interest stokes the fire of her curiosity, enabling her to grow personally and professionally.

"My philosophy is to take advantage of every opportunity that you have to learn, because the more you learn, the more you can offer your patients," Dr. Bennett explains.

It was her drive to learn more that propelled her toward a specialization in breastfeeding medicine. When she had her first child, Jacob, during her pediatric residency in 1993, she had trouble breastfeeding. Despite her clinical education, she had little instruction on how to breastfeed.

"He didn't latch well and was cranky," says Dr. Bennett. "Despite being told 'breast was best,' I received very little education about how to do it—either as a patient or as a resident."

BY JODI McCAFFREY

Becoming an Expert—and Advocate—in Breastfeeding Medicine

Determined to provide the best for her baby, Dr. Bennett called the La Leche League to learn all that she could about proper breastfeeding techniques. In 1998, she became certified by the International Board of Lactation Consultant Examiners. Now Dr. Bennett is a national expert in breastfeeding medicine, a field that encompasses every facet of breastfeeding, from treating mastitis, clogged milk ducts, and yeast infections, to counseling mothers on breastfeeding techniques and what medications they can take while breastfeeding.

"I became an expert in the field because there wasn't anyone else who was," Dr. Bennett says.

As a mother of four, Dr. Bennett recalls breastfeeding her children wherever she needed to: at Disneyland, Cub Scout meetings, even at her mother's funeral. Fittingly, she's an advocate for providing safe, clean places for women to breastfeed or pump breast milk. Coupled with her belief in the benefits of breastfeeding is compassion for those who aren't able to or choose not to, for a variety of reasons: "I'm an advocate for breastfeeding, but I'm not going to tell a woman that formula is poison. We can't sit in an ivory tower; we must be aware of the realities of other people's situations. Ultimately, the goal is to feed the baby, so I support every mom in her decision on how to do that."

Dr. Bennett's path to personal and professional fulfillment has not been without its trials. An alcoholic in recovery, she relished the opportunity for a change when presented with an offer in 2011 to take over a hospital-owned practice of a retiring pediatrician in the White Mountains of Arizona. Four years later, she opened Pediatric MultiCare West, specializing in breastfeeding medicine and treat-



PHOTOS COURTESY OF VERA BENNETT, MD '91



Vera Bennett, MD '91, is a national expert in breastfeeding medicine. "I became an expert in the field because there wasn't anyone else who was," she says.

ment for children with "high needs," such as autism.

As with breastfeeding, Dr. Bennett's expertise in this area developed from a personal need: her third son was born with autism. To learn more about the condition, she read journal articles and attended industry conferences. In rural Arizona, her expertise is what sets her practice apart, often attracting patients from two or three hours away.

"Neurological issues are complex and challenging to understand," Dr. Bennett explains. "I'm not willing to cut corners. I give my best to every patient who walks in my door."

In the White Mountains, which are about three hours from Phoenix by car, many children are raised by grandparents or are in foster care. The poverty rate is high, with many living without running water, electricity, or proper nutrition. With a large number of Native Americans and a small amount of resources, Dr. Bennett often makes complicated diagnoses based on a mixture of intuition and intellect. This ability, she says, is one of the ways that Robert Wood Johnson Medical School prepared her for private practice.

"The physicians who trained us gave us a lot of autonomy," Dr. Bennett

—*Continued on page 50*

Aaron Grotas, MD '02:
Urologist and Subspecialist in Transgender Surgery

The Grotas family forms an alumni trifecta: Jay Grotas, MD, graduated from then Rutgers Medical School in 1974. His sons, Jason and Aaron, graduated from Robert Wood Johnson Medical School in 2000 and 2002, respectively. Following in their father's footsteps, both chose to specialize in urology, enjoying the diversity of a field that Aaron Grotas calls "the perfect marriage of medicine and surgery," serving a broad spectrum of patients, male and female, throughout their lives.

Dr. Grotas served his surgical internship and his residency in adult and pediatric urology at Beth Israel Medical Center in New York. Today, he serves as an assistant professor of urology at what is now Mount Sinai Beth Israel, where he practices general urology and has a subspecialty practice in transgender medicine.

As a medical student, Dr. Grotas found an ideal faculty mentor in pediatric urologist Joseph G. Barone, MD '87, MBA. In his fourth year, Dr. Grotas coauthored two papers with Dr. Barone, who now serves as professor of surgery, and chief, division of pediatric urology, at the medical school, and The Bristol-Myers Squibb Children's Hospital at Robert Wood Johnson University Hospital.

Dr. Grotas continues to publish, presenting multiple abstracts and writing numerous articles and book chapters, the most recent concerning male and female sexual dysfunction. "Transgender surgery actually has its roots in pediatric urology, where many of our reconstructive techniques were used to correct birth defects, for example," says Dr. Grotas.

As a resident, Dr. Grotas saw and treated LGBT patients, recognizing their personal and medical challenges. At a time when transgender women (male-to-female) had difficulty finding a urologist who would and could provide specialized treatment, Dr. Grotas became known as open, compassionate, and highly competent. "Robert Wood Johnson Medical School is rooted in primary care and family medicine, and, true to those roots, they taught us to care for the whole patient," he says.

"Transgender issues were not discussed when I was in medical school, however," he adds. "Learning the endocrinology and reconstructive techniques available to transgender patients has allowed me to extend great care to patients who just want to be respected like everyone else."

In 2012, Dr. Grotas was on the team of four who founded the multispecialty center for LGBT health services at Beth Israel Medical Center. Later, the center evolved as the Mount Sinai Center for Transgender Medicine and Surgery (CTMS), with a team of 23 specialists providing comprehensive, integrated health care for transgender patients.

"Aaron was transformational in

BY KATE O'NEILL



COURTESY OF AARON GROTAS, MD '02

As a resident, Aaron Grotas, MD '02, saw and treated LGBT patients, and he became known as open, compassionate, and highly competent. "Robert Wood Johnson Medical School is rooted in primary care and family medicine, and, true to those roots, they taught us to care for the whole patient," he says.

the founding and development of the center," says Barbara Warren, PsyD, director, LGBT Programs and Policies, Office for Diversity and Inclusion, Mount Sinai Health System, who worked on the center's founding team with Dr. Grotas.

Gender-reassignment surgery used to be provided primarily at private hospitals and clinics. One of a few pioneers nationwide in this field, CTMS was the first center of its kind in New York State, where insurance covers transgender medicine. Moreover, Mount Sinai is a leading teaching hospital affiliated with a major medical school, where high-quality care is provided in keeping with the standards of all surgical procedures.

Patients from throughout the world come to the center for top-level subspecialty care across the medical disciplines—primary and specialty care, surgical services, and behavioral health care—in a transgender-affirmative setting. "Many of today's patients have waited 20 years to decide on surgery," says Dr. Grotas. "And as the popularity of gender reassignment surgery increases, and procedures become safer, it creates overwhelming demand."

By combining techniques of urology and plastic surgery, Dr. Grotas creates novel approaches to gender-affirming surgery. A transgender man (female-to-male) might elect to have a metoidioplasty, known as "meta," which entails extending the urethra and constructing a penis that makes it possible to urinate from a standing position.

Phalloplasty, described by Dr. Grotas as "the holy grail of sex reassignment surgery," involves construction of a full penis and is both more complex than a"meta" and more expensive. A trans-

—*Continued on page 50*

Molly Cohen-Osher, MD '05:
Remembering the Vulnerability of Students

By necessity and tradition, medical school education has long been regimented with specific classes geared toward exams. Molly Cohen-Osher, MD '05, is working on modernizing the status quo, as she helps guide medical students in new ways of learning.

As assistant dean of medical education for instructional design and development at Boston University School of Medicine, Dr. Cohen-Osher wants medical schools to examine how they teach and how those lessons are measured. She wants emphasis put on early clinical exposure and on reenvisioning the role of the medical student on the clinical team.

"If we really want to create the doctors we desire, we need to think deliberately about how to do that," says Dr. Cohen-Osher. "Sometimes we are not quite teaching and assessing the right thing. So yes, we know doctors can take tests and put a lot of information in their heads, but being able to research on the internet is a game changer."

BY JACQUELINE CUTLER

Given instant, easy access to information available online, which allows students to fact-check, Dr. Cohen-Osher suggests that medical students could better use their time to understand medicine rather than unquestioningly absorb facts. Ideally, she wants to see critical, rather than rote, learning stressed. Careful not to denigrate generations of instruction, she instead notes that technology could be used to help create better physicians as they look up what is needed while spending more time listening to patients.

"It is not about how much they know and can memorize," Dr. Cohen-Osher says, "but how well can you access things? And what kind of communicator are you? And how do you clinically reason? It is really about pushing education to that next level and driving home critical thinking, teamwork, and the doctor-patient relationship."

Mulling over how people learn and the best methods to educate comes naturally to the Randolph native. Her mother, grandmother, and uncle are teachers, and her sister is a law professor. Like her siblings, Dr. Cohen-Osher chose to attend a state university. At Rutgers, she pursued the BA/MD program, studying biology and psychology as an undergrad.

Postdoctoral training included an internship in family medicine at the University of Wisconsin–Madison, then a residency at MacNeal Family Medicine in Berwyn, Illinois. When the opportunity arose to participate in a master teacher fellowship in the Tufts University Family Medicine Residency Program, Dr. Cohen-Osher accepted it, heeding a mentor's advice to seize exciting opportunities as they presented themselves. Taking that advice to heart, she continued her journey and earned a master's degree in medical education from the University of Dundee in Scotland.

During her training, Dr. Cohen-Osher appreciated the emphasis



COURTESY OF MOLLY COHEN-OSHER, MD '05

Honoring the importance of relationships—between physician and patient and between professor and student—is crucial to Molly Cohen-Osher, MD '05.

placed on community-based work. It harkened back to a feeling she initially experienced as a student when participating in the Homeless and Indigent Population Health Outreach Project (HIPHOP) while attending Robert Wood Johnson Medical School.

"I remember thinking a couple of things, and one was how little I knew and how little I understood," she recalls of her watershed moment as a medical school student while shadowing a physician at the Eric B. Chandler Health Center. "And two was how complicated all of the medical needs were that this primary care doctor was able to take care of, and being struck by the relationship he was able to cultivate with his patients."

Honoring the importance of relationships—between physician and patient and between professor and student—is crucial to her. In both cases, there needs to be open communication, Dr. Cohen-Osher stressed. Though spending the bulk of her time rethinking medical education and teaching educational theory and instructional design in master's programs at Boston University and the MGH Institute of Health Professions, a graduate university of health sciences founded by Massachusetts General Hospital, also in Boston, she still considers herself "very much a family doctor" and one who revels in the variety and joy her work brings.

"What I try to impart on fellow educators is that we need to remember how vulnerable you are when you are learning, and how important the role of being the more knowledgeable person to a learner can be," Dr. Cohen-Osher says. "Rather than thinking about teachers at the top of the hierarchy, we need to think about all of us, teachers and students, as learners who make mistakes and have to grow, and we need to create that space for one another." M

Nirav Desai, MD '05:
Making an Impact on Childhood Obesity

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STEVE HOCKSTEIN

Nirav Desai, MD '05 (above), with his wife, Avani Desai, and sons Anay (far left) and Rishaan.

His passion for this specialty was ignited when he was a student at Robert Wood Johnson Medical School. To this day, it affects the career decisions he makes. "My experience in medical school gave me a window into the diversity of the field and the many ways you can impact a child's life," he says. M

Vera Bennett, MD '91:
Advocating for Mothers and Babies in the White Mountains of Arizona

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recalls. "We weren't coddled, and it's made me a better physician because of it."

At age 53—24 years after residency—Dr. Bennett is pursuing a master's degree in public health from Arizona State University. She also was recently named to the board of White Mountain SAFE House, a nonprofit organization that provides shelter, care, and advocacy for victims of domestic violence, sexual assault, and elder abuse.

"I want to change the universe," she says with a laugh. "It affects me deeply when I impact a patient's life by



COURTESY OF VERA BENNETT, MD '91

catching something early. It's important to keep learning, no matter where you are in your career. It's much better to experience life and not just clock in and out each day." M

Aaron Grotas, MD '02:
Urologist and Subspecialist in Transgender Surgery

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gender woman might choose to have an orchiectomy (removal of the testes) or penile inversion to construct a vagina.

Dr. Grotas also reconstructs past procedures that may have become problematic for the patient. "It's like solving a 3-D puzzle," he says, "working to unwrap and reconstruct previously altered tissue planes."

"Aaron's medical school training in patient-centered medicine shows," says Dr. Warren. "He has always been there for people when others wouldn't treat them. His patients know they can see him comfortably, and they love him."

> "It's important to accept every patient as a VIP and realize that they're all just people who want good medical care," says Aaron Grotas, MD '02.

Every day, Dr. Grotas teaches with residents, medical students, and colleagues in grand rounds at medical schools and in large practices, teaching general urology and transgender surgery.

"Medical education should inspire a different way of thinking, encouraging adaptive skills that help physicians approach every patient and situation with a 'triage' mind-set," says Dr. Grotas. "It's important to accept every patient as a VIP and realize that they're all just people who want good medical care." M

CLASS NOTES

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

Please send your professional and personal news and photos to: **Jillian Prior, MPA**, *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.

1973

Neil Calman is the president and CEO of the Institute for Family Health, which he cofounded in 1983 in New York. Dr. Calman was inducted as an elected member of the National Academy of Medicine for his work on health-related disparities.

1978

Alan I. Schwartzstein, a family medicine physician with SSM Health Dean Medical Group, was honored by the Wisconsin Medical Society with the presidential citation for his efforts on behalf of patients, public, and community health.

1986

Ronald Vallario joined Grace Cottage Family Health in Townshend, Vt. He is also an assistant professor at the University of Massachusetts Medical School in Worcester.

1988

Marshall L. Nash has held the distinction of certified physician investigator with the Association of Clinical Research Professionals since 2002.

1992

Jeanne Clark, professor of medicine and director, division of general internal medicine, at Johns Hopkins University, received the inaugural Elizabeth and Emily Blackwell Award for Outstanding Contributions to Advancing the Careers of Women in Medicine from the American College of Physicians.

David A. Dean is a cardiothoracic surgeon and surgical director of heart transplant and device therapy at the Samsky Advanced Heart Failure Center at Piedmont Heart Institute, Atlanta. A specialist in cardiac transplantation, mechanical circulatory support, and cardiac surgery, Dr. Dean served as one of the investigators on the groundbreaking Momentum 3 study demonstrating a new Left Ventricular Assist Device (LVAD). The study was published in the *New England Journal of Medicine* and presented at the American College of Cardiology's annual meeting in New Orleans. Dr. Dean also helped originate a surgical technique that reduces infection during LVAD implantation.

1994

Sukumar Nagendran was named in February to the board of directors of Neurogene. He also serves as a member of the board of directors of Solid Biosciences, a position he has held since September 2018. Previously, he served for approximately three years as chief medical officer and senior vice president at AveXis, following senior leadership roles at Quest Diagnostics, Reata Pharmaceuticals, Daiichi Sankyo, Pfizer, and Novartis.

1995

Oliver Youssef is an otolaryngologist who practices at the Ear, Nose, and Throat Center of New Jersey, in Nutley.

1996

John E. Friend II was named chief medical officer at Druggability Technologies USA.

1999

Jongming Li is a medical oncologist at Saint Vincent Hospital in Erie, Pa.

2001

Nicholas Avallone was named an outstanding New Jersey physician for orthopedic surgery by Castle Connolly Medical Limited in 2018. He is affiliated with St. Luke's Orthopedic Care.

Abigail L. Kay is a psychiatrist in Philadelphia who is affiliated with Jefferson University Physicians.

2002

Lisa C. Maxwell was named chief learning officer for Christiana Care Health System in Delaware in March. In this position, she will oversee the strategic direction and activities of the Institute for Learning Leadership and Development (iLEAD) and ensure they are aligned with Christiana Care's goals and priorities. A board-certified family physician, Dr. Maxwell also practices primary care in Christiana Care Family Medicine at Claymont Center, in Delaware. During her 13 years at Christiana Care, she has worked in student and resident education—including positions as program director in family medicine, co-program director for the Emergency Medicine-Family Medicine Residency Program, and director for undergraduate medicine education—and in February 2018 she was named interim chair of the Department of Family and Community Medicine. She earned her master's degree in health care delivery science from Dartmouth College last year.

2003

Roberto Calderon joined the Orthopedic Clinic Association, in Phoenix, as a fellowship-trained joint replacement specialist.

Patrick Hsu is a cosmetic surgeon who specializes in reconstructive and cosmetic surgery for mastectomy patients at Memorial Plastic Surgery in Houston.

2004

Alison Escalante, a pediatrician and writer, is a TEDx speaker who helps parents with mindfulness and resilience. She is a former clinical instructor of pediatrics at Northwestern University's Feinberg School of Medicine.

2005

Melanie Ochalski, a board-certified endocrinologist, joined Shady Grove Fertility in Lancaster, Pa.

2007

Johanna L. Morton is the vice chair of acute neurology and stroke care at SOC Telemed in Texas. She is board-certified in neurology with a subspecialty certification in vascular neurology.

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CLASS NOTES

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2008

Mythili Koneru was appointed senior vice president of clinical development at Marker Therapeutics. She will be responsible for clinical development strategy, clinical study design, and medical oversight of the company's therapeutic product candidates.

2009

After residency, *Chinedu Mmeje* completed a urologic oncology fellowship at the University of Texas MD Anderson Cancer Center in Houston. Currently, he is working as a urologic oncologist at Banner MD Anderson Cancer Center in Arizona.

Yaa Oppong joined Scotland Health Care System as a board-certified nephrologist in Laurinburg, N.C.

2011

Renee Arlow, an oncologist, joined Conemaugh Physician Group and will treat patients at Conemaugh East Hills Outpatient Center in Johnstown, Pa.

Ransford Commey, a bariatric surgeon, joined the Bariatric Surgery Program at Mohawk Valley Health System, in Upstate New York.

2013

Danielle Greenman is a board-certified internal medicine physician specializing in integrative and functional medicine and practicing at Stamford Health Tully Health Center in Stamford and Greenwich, Conn.

Erica Tabakin and Alex Rozenberg welcomed



a daughter, Emma Sophia Rozenberg, born on Dec. 18, 2018.

2014

Danielle Davies was appointed to the board of Jannus, a not-for-profit health and human services organization in Idaho. Dr. Davies is a family medicine physician and faculty member in the Family Medicine Residency of Idaho Nampa Program. She has served in various volunteer efforts, including building homes in border towns in Mexico, serving a medical clinic for Nicaraguan refugees living in Costa Rica, joining educational efforts in El Salvador, and assisting tent clinics for Tibetan refugees in Spiti Valley, India.

Lindsay Samantha Elbaum married Sean Aaron Kotkin on Oct. 20, 2018, at Temple Emanu-El in Closter. Both are cardiology fellows at Mount Sinai Hospital, in New York.

Evan Sheppard will complete his orthopedic residency at the University of Alabama, Birmingham, and begin his fellowship in pediatric orthopedics at Children's National Hospital in Washington, D.C., this summer.

2015

Edwin Acevedo is pursuing a master's degree in health administration from Temple University's Fox School of Business. During his research years, Dr. Acevedo published research papers and worked in a laboratory characterizing adipose tissue from various depots to enhance fat grafting.

Era Murzaku married *Mark Bauernfeind (2014)* on October 20, 2018, in West Orange. Dr. Murzaku is a chief resident in dermatology at UT Southwestern Medical Center in Dallas. Dr. Bauernfeind completed a residency in physical medicine and rehabilitation at the University of Rochester and is now a fellow in interventional spine care at OSS Health in Pennsylvania.





The bridal party included *Nikita Ganatra (2014)* *(above, far left)*, *Elizabeth Bond (2014)* *(above, second from left)*, and *Jennifer LaPorta (2014)* *(above, far right)*.

2016

Justin Dubin is a urologist based in Miami.

Karen Fritchie was selected as a recipient of the 2018 Pathology Teacher of the Year Award from the Mayo Fellows' Association. Dr. Fritchie is a consultant in the division of anatomic pathology and a surgical pathology fellowship director. She also serves as co-chair of the Oncology Laboratory Disease-Oriented Group and is a member of the Bone and Soft Tissue and Surgical Pathology Fellowship Competency Committees. Dr. Fritchie is also an associate professor of laboratory medicine and pathology at the Mayo Clinic College of Medicine and Science, in Rochester, Minn.

2017

Rima Patel and *Kapil Wattamwar* were married on Oct. 1, 2018, in Garfield. Dr. Patel is a second-year internal medicine resident at Tufts Medical Center in Boston. Dr. Wattamwar is a second-year interventional radiology resident at Montefiore Medical Center in the Bronx. M





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RWJBarnabas Health and Rutgers University launch the state's largest academic health system

With the partnership of RWJBarnabas Health and Rutgers University, it is the dawn of an incredible new era in health.

Jointly, RWJBarnabas Health and Rutgers University will operate a world-class academic health system dedicated to high-quality patient care, life changing research and clinical training of tomorrow's health care workforce. By partnering, these two higher education and health care industry leaders will improve access to care and reduce health disparities in New Jersey and across the nation.

At the center of all of this are the patients who will benefit from increased access to a world-class academic health system, clinical innovation, groundbreaking research and newly developed centers of excellence, as well as more providers that families need to manage their health and wellness.

RUTGERS HEALTH

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