

Duke Med

ALUMNI NEWS

Fall 2018



Reaching for Equity

A new program aims to reduce racial and ethnic disparities in health care

From Innovation to Impact

Duke researchers are taking their discoveries from the research lab into the marketplace

RISING STAR



Shree Bose, who was catapulted into the national spotlight as a teenager, stays true to her mission of research and science outreach

MESSAGE FROM THE DEAN

DEAR FRIENDS,

As dean, I am surrounded by excellence and innovation on a daily basis, and I feel so fortunate to work with faculty, staff, students, alumni, and friends who are invested in the continuing growth and success of our school. I am pleased to update you on many important milestones.

Almost a year ago, the school embarked on a strategic planning initiative, engaging over 100 faculty members to guide the future of our research mission. In July, we shared the research plan, "Leading the Next Generation of Discovery and Impact," and embarked on its implementation. The plan provides a focus and clarity on the school's research priorities and reinforces our commitment to conduct research of the highest caliber and integrity as well as our commitment to recruit



visionary scientists, develop state-of-the-art resources and support, and enhance our current infrastructure. We are ambitious with our goals and excited for what the future holds.

This summer, the school also emerged as a leader in the development of physician-scientists, with the announcement of three new training awards, the appointment of Sallie Permar, MD, PhD, to a national leadership role, and the development of a new physician-scientist development office within the school. Duke was one of five recipients of The Burroughs Wellcome Fund Physician-Scientist Institutional Award, which provides \$2.5 million to address training gaps and the high rate of attrition in the physician-scientist pipeline. We also received two highly competitive Stimulating Access to Research during Residency (StARR) R38 awards from the NIH. This is a novel training program designed to support research during the residency period. Dr. Permar was named the next program director for the National Institute of

Child Health and Human Development-sponsored Pediatric Scientist Development Program. Duke is now exceptionally well positioned to promote and develop physician-scientist careers.

Duke was also the recipient of a renewal of our Clinical and Translational Science Award, a five-year grant of more than \$60 million from the National Institutes of Health designed to enhance support and resources that will expedite our ability to translate discovery into improved care for our patients.

Finally, I'd also like to welcome three new School of Medicine leaders.

Colin S. Duckett, PhD, is our new vice dean for basic science. He will be instrumental in enhancing the environment for our laboratory scientists and will have oversight of the biomedical graduate programs, postdoctoral office, animal care program, core facilities, and research lab space utilization.

Michael Pencina, PhD, was named vice dean for data science and information technology for the school. He is responsible for developing and implementing quantitative science strategies as they pertain to the school's education and training and laboratory, clinical science, and data science missions.

Kathleen Cooney, MD, a medical oncologist and internationally known physician-scientist, was named chair of the Department of Medicine. We are fortunate to have her expertise and leadership, and I look forward to working closely with her.

I find it especially rewarding to have opportunities to keep our dearest alumni and friends abreast of all that is happening at Duke. Thank you for your continued friendship and support. I look forward to seeing you at Medical Alumni Weekend this fall!

Sincerely,



Mary E. Klotman, T'76, MD'80, HS'80-'85

Dean, Duke University School of Medicine,
Vice Chancellor for Health Affairs

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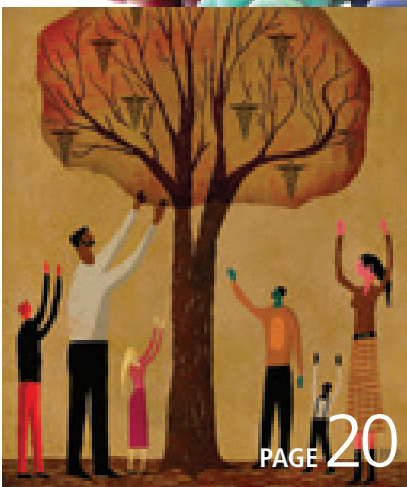
Associate Dean and

Chief Diversity Officer

Jill Boy

Associate Dean and

Chief Communications Officer



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Duke Receives Grant to Speed Medical Research Into Practice

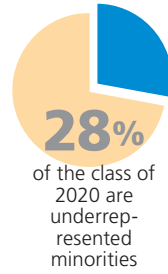
The Duke Clinical & Translational Science Institute has been awarded a five-year grant of more than \$60 million from the National Institutes of Health (NIH) to advance innovative ideas from the point of discovery to implementation in clinical practice and population health.

The Clinical and Translational Science Awards (CTSA) program, supported by the NIH's National Center for Advancing Translational Sciences, provides infrastructure for researchers at Duke to conduct clinical research, train young scientists, and share developments across a consortium of more than 60 other leading centers.

Duke received one of the original 12 CTSA grants in 2006, with a previous renewal of \$47 million in 2013.

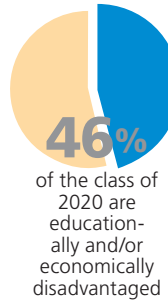
Three principal investigators lead Duke's CTSA program: L. Ebony Boulware, MD, chief of the Division of General Internal Medicine, vice dean for translational science in the School of Medicine, and associate vice chancellor for translational research; Jennifer Li, MD, chief of the Division of Pediatric Cardiology; and James McNamara, MD, director of the Center for Translational Neuroscience.

PA PROGRAM REACHES MILESTONE IN UNDERREPRESENTED MINORITIES



The Duke Physician Assistant Program's incoming class contains the highest percentage of underrepresented minorities the program has accepted in more than a decade.

The Class of 2020 will include 10 African-American students, 14 Hispanic students, and one Native American student—approximately 28 percent of the 90 students accepted. The Duke PA program has averaged an acceptance rate of 18 percent underrepresented minorities for the past 10 years.



Additionally, 46 percent of accepted students in the Class of 2020 are educationally and/or economically disadvantaged, as determined by Physician Assistant Education Association guidelines. This is the largest percentage since the Class of 2016's 47 percent.

Over the past two years, the program has refocused recruitment efforts across North Carolina and at a number of historically black colleges and universities across the nation, in addition to taking part in information sessions online and hosting on-campus sessions.

New Hospital Addition

Construction is well under way for the 11-story bed tower that will be connected to Duke University Hospital. The tower, expected to be completed in January 2022, will add bed facilities to the hospital. The photo shows construction progress in September.

For information about naming opportunities please contact Amy Deshler, Senior Executive Director, Duke Children's Development at 919-385-3132 or amy.deshler@duke.edu

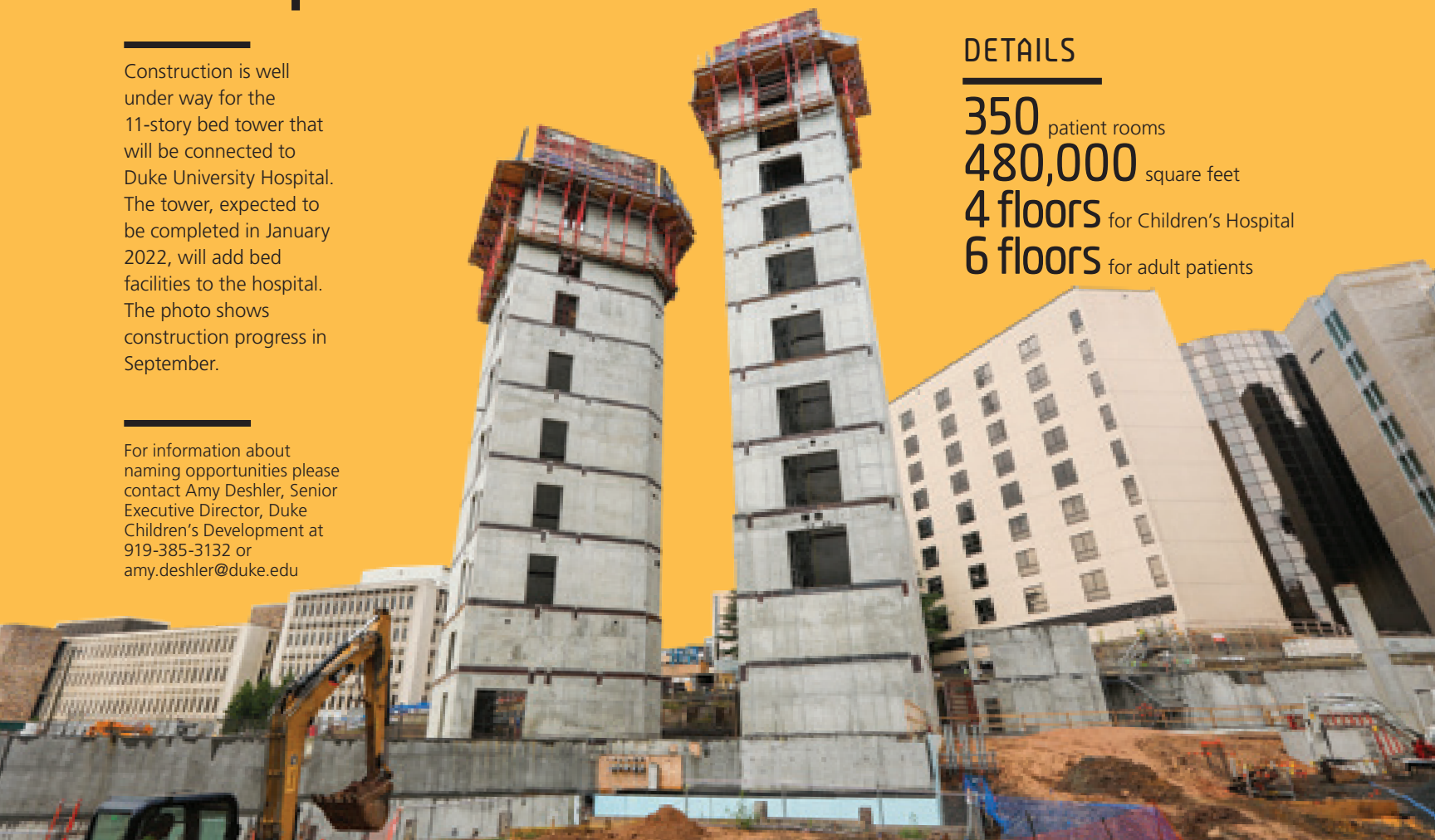
DETAILS

350 patient rooms

480,000 square feet

4 floors for Children's Hospital

6 floors for adult patients



MARCUS CENTER ESTABLISHED TO ADDRESS AUTISM, RELATED DISORDERS

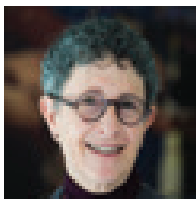
The Marcus Center for Cellular Cures at Duke University School of Medicine has been established to bring together physicians and faculty across medicine and the Pratt School of Engineering at Duke to develop cellular and biological therapies for autism, cerebral palsy, stroke, and related brain disorders.

The center is named to recognize the generous support over a number of years from The Marcus Foundation, an Atlanta-based philanthropic organization. Established by Bernie Marcus, the co-founder of The Home Depot, The Marcus Foundation has a long-established interest in autism, stroke, cerebral palsy and other neurological conditions, and in stem cell research.



JARED LAZARUS

Geraldine Dawson



Joanne Kurtzberg



Ravi Bellamkonda

Joanne Kurtzberg, MD, Jerome S. Harris Professor of Pediatrics and director and chief scientific officer of the Robertson Clinical and Translational Cell Therapy Program at Duke, is director of the new center. Ravi Bellamkonda, PhD, Vinik Dean of the Pratt School of Engineering, and Geraldine Dawson, PhD, professor of psychiatry and behavioral sciences and director of the Duke Center for Autism and Brain Development, were named associate directors.

Conference Addresses Population Health

Faculty, staff, and students from the School of Medicine and other units across campus attended the inaugural Duke Population Health symposium at the Trent Semans Center this past spring. The symposium was aimed at coalescing the Duke community around a shared vision of improving health through innovative research and advanced care. It featured panel discussions focused on various aspects of population health and a keynote address by Clay Johnston, MD, PhD, dean of the Dell School of Medicine in Austin, Texas.

Much of the discussion centered on ways to improve health outside the clinic, expand preventive measures, and help people find more convenient, less disruptive, and less expensive health care options.

Lesley Curtis, PhD, chair of the newly formed Department of Population Health Sciences in the School of Medicine, said Duke is creating an environment in which significant advances in the field can be made.



KONIN HUTH

A. Eugene Washington, MD, chancellor for health affairs, asks a question of the panel during the Duke Population Health symposium.

DUKE JOINS NATIONAL CLINICIAN SCHOLARS PROGRAM

The National Clinician Scholars Program (NCSP), an interdisciplinary, community-partnered research program for physicians and nurses, has added Duke University to its prestigious consortium.

The NCSP was launched two years ago with four founding sites: UCLA, Yale, University of Pennsylvania, and University of Michigan. The program offers the opportunity for post-doctoral nurses (DNP and PhD) and physicians who have completed their clinical training to serve as leaders, researchers, and change agents in health care, community health, and public policy.

"I am very pleased that Duke has joined this impressive group of our peers and our own Duke School of Nursing to facilitate this unique program," said Mary E. Klotman, T'76, MD'80, HS'80-'85, dean of Duke University School of Medicine. "Our shared goal is to train and mentor physicians and nurses so they can impact our patients and community in the most positive way."

Supporting the Spirit of Medicine



Duke Global Health Institute's Peter Kussin, MD, sees patients in Kenya as part of the AMPATH program that is supported by Craig and Stephanie Brater.



Craig and Stephanie Brater

When **Craig Brater, T'67, MD'71, HS'71**, became chair of medicine at the Indiana University School of Medicine, the department had just launched an initiative giving medical students and residents the opportunity to work in clinics and hospitals in Kenya. Brater not only supported the program wholeheartedly as chair and then as dean but also got actively involved, making multiple working trips to Kenya with his wife, Stephanie, and their daughter, Aimee.

The program has since grown into a consortium involving other medical institutions, including Duke. **"It's rewarding to see multiple institutions working together, and this one involves the two institutions I care the most about,"** Brater says. **"It's the best of all possible worlds."**

He believes deeply in the value of service to under-served communities. "It reinforces the al-

truistic spirit of medicine," he says. "Experiences like this do a better job of that than almost anything else we do in medical education."

That's why the Braters established the Craig and Stephanie Brater Global Health Fund at the Duke Global Health Institute to support experiential learning in the developing world for medical students, residents, and fellows.

Giving to expand global health opportunities is just one of many ways you can support medical education at Duke. To learn more, please contact **Jason Bouck**, director of Davison Club and Special Gifts, at **919-385-3162** or **Jason.bouck@duke.edu**. **Make your gift online at gifts.duke.edu/daa.**

DUKE EMERGES AS KEY PLAYER IN DEVELOPMENT OF PHYSICIAN-SCIENTISTS

Duke University School of Medicine has emerged as a national leader in the development of physician-scientists, with the announcement of three new training awards, a national faculty appointment, and the development of a new office within the school.

Duke was one of five recipients of The Burroughs Wellcome Fund Physician-Scientist Institutional Award, which provides \$2.5 million to address training gaps and the high rate of attrition in the physician-scientist pipeline. Rasheed Gbadegesin, MD, MBBS, a professor of pediatrics and medicine, will serve as principal investigator (PI). Other faculty members on the grant include Michael Gunn, MD, professor of medicine, professor of immunology, and associate professor in pathology; Sallie Permar, MD, PhD, professor of pediatrics, immunology, and molecular genetics and microbiology; Andrew Alspaugh, MD, professor of medicine and professor of molecular genetics and microbiology; Gowthami Arepally, MD, professor of medicine and professor of pathology; Gerard Blobe, MD, PhD, professor of medicine and professor of pharmacology and cancer biology; Chris Kontos, professor of medicine, professor of pharmacology and cancer biology, and director of the Medical Scientist Training Program; William Steinbach, professor of pediatrics, professor in molecular genetics and microbiology, and chief of the Division of Pediatric Infectious Diseases; and David Harpole, MD, professor of surgery, associate professor in pathology, and resident research director.

In addition, a Duke faculty mentor team recently received two Stimulating Access to Research during Residency (StARR) R38 awards. The National Institutes

of Health (NIH) initiated the R38 awards as a novel training program to support research during the clinical residency period.

The PIs are Permar, Harpole, and Scott Palmer, MD, vice-chair for research in the Department of Medicine and a professor of medicine and immunology.

Permar has also been named the next program director for the National Institute of Child Health



Gbadegesin



Harpole



Permar



Palmer

and Human Development (NICHD)-sponsored Pediatric Scientist Development Program.

Dean **Mary E. Klotman, T'76, MD'80, HS'80-'85**, recently announced plans to form a new Office for Physician-Scientist Development at Duke to coordinate Duke's efforts in the recruitment, development, mentorship, and retention of physician-scientists.

Boston Alumni Event



"Science in the Service of Society: Growing, Sustaining and Financing Innovation"

Mary E. Klotman, T'76, MD'80, HS'80-'85, joined Valerie Ashby, Dean of Trinity College of Arts & Sciences, and **Adam Sharkawy PhD'97**, for a discussion about groundbreaking innovations and research in science, technology, and health care in Boston on June 5.

Dean Klotman with Kathy Upchurch, MD'76, P'10, president of the Duke Medical Alumni Association

DCRI Unit Tests Broad-Spectrum Influenza Vaccine

The Duke Early Phase Clinical Research Unit (DEPRU) recently completed the first study cohort for a broad-spectrum investigational influenza vaccine that has the potential to be effective against multiple strains of the virus for five or more years at a time.

The study is sponsored by the international nonprofit PATH, and the investigational vaccine was developed

through a partnership between the Icahn School of Medicine at Mount Sinai (ISMMS) and PATH, the study's sponsor.

"I think this is a step toward finding a vaccine that is broadly cross-protective," said Chip Walter, MD, Duke Clinical Vaccine Unit director and co-investigator on the study. "If the technology is successful, the vaccine will protect against seasonal influenza strains and pandemic influenza strains that jump species from animals to humans."

DUKE PERFORMS STATE'S FIRST LIVER TRANSPLANT FROM HIV DONOR TO HIV RECIPIENT

Duke transplant surgeons last year performed North Carolina's first organ transplant from a deceased HIV-positive donor to an HIV-positive recipient. This type of transplant had been illegal until just a few years ago, but the federal law was changed after clinical evidence demon-

strated it was safe.

North Carolina had a separate state law, and Duke physicians were instrumental in getting that law changed, enabling the first North Carolina transplant between a donor and recipient who are both HIV positive. Stanley Boling of Knoxville, Tennessee, was the first recipient for the complex procedure, which requires additional matching between the donor and recipient around the viral strains and drug regimens that complicate the procedure.



SHAWN ROCCO

Stanley Boling, right, speaks with Cameron Wolfe, MD, in April.

Duke Joins Partnership to Foster Open Science

Duke University School of Medicine has established a partnership with Vivli, a nonprofit organization that has launched a new data-sharing and analytics platform. With the launch of the Vivli platform, researchers worldwide will have a simple yet secure way to discover, share, and analyze data from clinical trials, regardless of who sponsored the research or where the research took place.

Vivli, Duke, and other partners hope that sharing data from clinical

trials will expedite the development of cures and treatments for diabetes, Alzheimer's, malaria, and other diseases.

The new platform allows researchers to store and share clinical trial data across all diseases, nations, and research entities. Vivli also allows researchers to freely combine and analyze data from multiple trials. This means researchers can validate research findings and avoid duplicative studies, thus reducing costs and shielding research participants from unnecessary risks. The data can also be combined to ask new research questions and gain information to inform the design of future studies.



COLLIN HUTH

Programs Unite for Adaptive Sports Experience

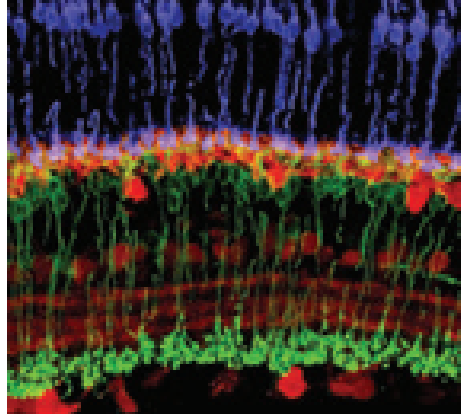
Students from the Doctor of Physical Therapy (DPT), Physician Assistant (PA), and Doctor of Medicine programs at Duke University gathered at the Brodie Gym to participate in the annual **Adaptive Sports Experience**.

Adaptive Sports are competitive or recreational sports for persons with disabilities. The event was held in partnership with **Bridge II Sports**, a local organization that educates, develops, and implements opportunities for youth and adults with physical disabilities to "Find the Player Within" through the power of adaptive sports and recreation.

During the annual event, pioneered in 2011, health care profession learners engage and/or participate in a variety of adaptive sports, such as wheelchair basketball, seated volleyball, bocce ball and hand cycling.

The event promotes the inter-professional partnership between physical therapists, physician assistants, and physicians while increasing awareness of potential barriers to providing quality health care to persons with disabilities, and of community resources available to meet the active lifestyle needs of patients and families with disabilities.

ROLF HERRMANN



New Strategy Prevents Blindness in Mice with Retinal Degeneration

More than 2 million people worldwide live with inherited and untreatable retinal conditions.

These conditions are caused by more than 4,000 different gene mutations, many of which have a propensity for creating misfolded proteins that cells in the eye can't process. These proteins build up inside cells, killing them from the inside out.

Now Duke University scientists have shown that boosting the cells' ability to process misfolded proteins could keep them from aggregating inside the cell. The researchers devised and tested the strategy in mice, significantly delaying the onset of blindness. Their findings are outlined in the journal *Nature Communications*.

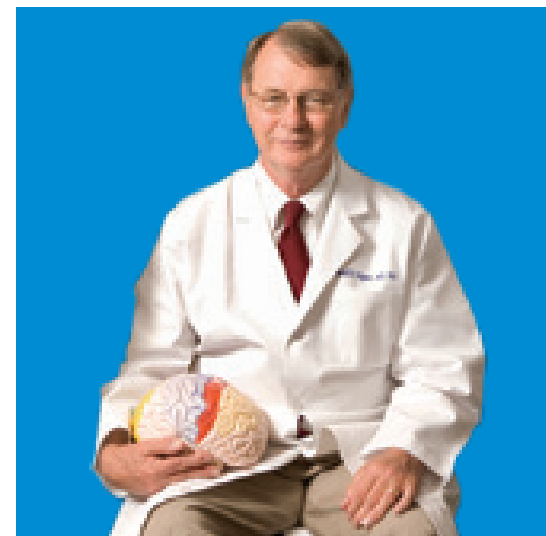
Their approach potentially could be used to prevent cell death in other neurodegenerative diseases, such as Huntington's, Parkinson's and Alzheimer's, said Vadim Arshavsky, PhD, senior author of the paper and Helena Rubenstein Foundation Professor of Ophthalmology at Duke University School of Medicine.

POLIOVIRUS THERAPY FOR RECURRENT GLIOBLASTOMA SHOWS INCREASED SURVIVAL

A genetically modified poliovirus therapy developed at the Preston Robert Tisch Brain Tumor Center at Duke Cancer Institute shows significantly improved long-term survival for patients with recurrent glioblastoma, with a three-year survival rate of 21 percent in a phase 1 clinical trial.

Comparatively, just 4 percent of patients at Duke with the same type of recurring brain tumors were alive at three years when undergoing the previously available standard treatment.

Phase 1 clinical trial results of the poliovirus therapy were presented at the 22nd International Conference on Brain Tumor Research and Therapy in Norway and pub-



Darell D. Bigner

lished in *The New England Journal of Medicine*.

Senior author Darell D. Bigner, MD, PhD, emeritus director of The Preston Robert Tisch Brain Tumor Center at Duke, and colleagues—including co-senior author David Ashley, PhD, MBBS, and co-lead authors Annick Desjardins, MD, and Matthias Gromeier, MD, all in the Department of Neurosurgery—reported median follow-up of 27.6 months

in the phase 1 trial, which was launched in 2012 with a young patient who was just entering nursing school.

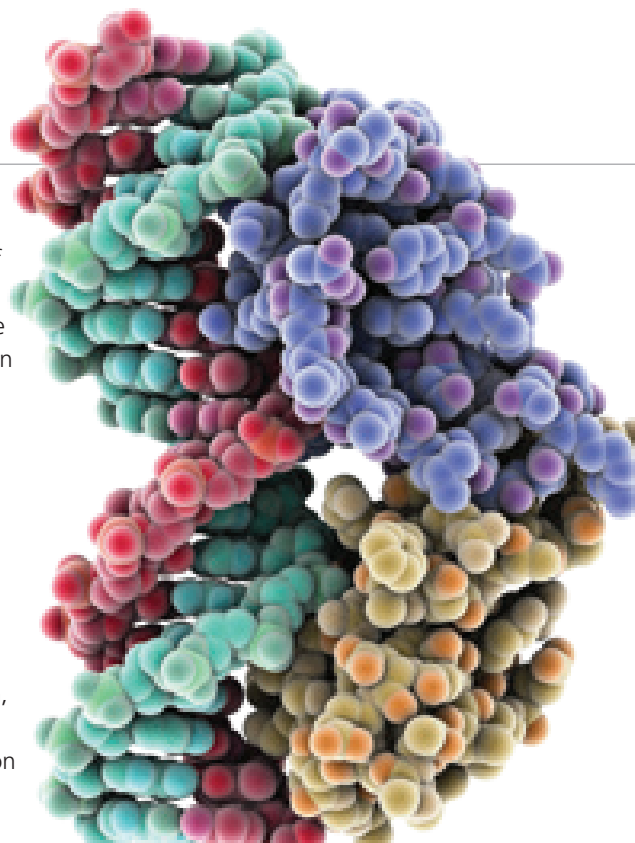
The therapy includes a genetically modified form of the poliovirus vaccine, which is infused directly into the brain tumor via a surgically implanted catheter. Developed by Gromeier in his lab at Duke, the modified virus preferentially zeroes in on tumor cells, igniting a targeted immune response.

RESEARCH POINTS TO PROMISING NEW TARGET IN PROSTATE CANCER

Targeting a protein genome-binding process that directs expression of diverse cancerous genes could be an important new therapy approach for stopping the progression of late-stage prostate cancer, according to Duke researchers.

The study, published in the journal *Proceedings of the National Academy for Science*, examined the role of a cancer-relevant protein called androgen receptor-V7 (AR-V7) in prostate cancer cell cultures and patient tissues.

The AR-V7 protein oversees the regulation of multiple different types of cancer-promoting genes. But because these genes often vary from person to person, designing drugs to target them in the mass population



has proved challenging.

Lead author Qianben Wang, PhD, a professor of pathology in the School of Medicine, and colleagues found that the AR-V7 protein always relies on another protein, HOXB13, to bind to a person's genome. Wang's team knocked out HOXB13 and found that AR-V7 binding is dramatically decreased and the prostate tumor becomes very small with the absence of HOXB13, clearly having an impact on cancer growth.

Shaping Lives



Cindy and Michael Rigsby

“Duke shaped my life. We want to help make it possible for Duke to shape somebody else’s too.”

Cindy Rigsby

Cynthia Karfias Rigsby, T’86, MD’90, first saw Duke in the spring of her senior year in high school, before she’d decided where to go to college. “I took one look at the campus and said, ‘This is heaven. This is where I want to go,’” recalls Rigsby, who grew up in Chicago.

She stayed at Duke for medical school, where her third-year research track in a radiology lab set her career on its course. She’s now a pediatric radiologist at Lurie Children’s Hospital in Chicago.

“The caliber of students, house staff, and faculty at Duke are unparalleled,” she says. “Being in an environment with exceptional people who perform at a very high level drives you to do your best. That’s what Duke did for me.”

She and her husband, **Michael Rigsby, E’86, G’92**, support the Davison Club so that other students might have access to the same

experience. “The Davison Club’s support for medical education is so important,” she says. “Duke shaped my life. We want to help make it possible for Duke to shape somebody else’s too.”

Gifts to the Davison Club provide critical unrestricted support for medical education at Duke through scholarships, curriculum enhancements, new technologies, and innovative research. To learn more about supporting the Davison Club, please contact

Jason Bouck, director of Davison Club and Special Gifts, at **919-385-3162** or **Jason.bouck@duke.edu**.

Make your gift online at gifts.duke.edu/daa.

RESEARCHERS MAP HOW HIV AVOIDS IMMUNE ATTACK TO INFECT INFANTS

Researchers in the Duke Human Vaccine Institute have shed important new light on how HIV is transmitted from mothers to their babies.

The key to a specific maternal virus infecting the infant appears to be the virus's ability to escape attack by antibodies in the mother's blood, enabling transmission during pregnancy, delivery or breastfeeding. The findings were published March 29 in the journal *PLOS Pathogens*.

Senior author Sallie Permar, MD, PhD, director of the Laboratory of Neonatal Viral Pathogen Immunity at the Duke Human Vaccine Institute, said the finding is important for vaccine development. The results suggest that strategies to boost immune response against the mother's virus might lessen the chance of transmission to the baby.

Permar and colleagues—including lead author Amit Kumar and co-senior author Feng Gao, MD—said establishing a definitive route of mother-to-child infection was a priority in light of transmissions that persist despite current therapies.



SCIENCE SOURCE ILLUSTRATION

Researchers Find Missing Immune Cells That Could Fight Lethal Brain Tumors

Glioblastoma brain tumors often cause a dramatic drop in the number of circulating T-cells that help drive the body's immune defenses.

Where the T-cells go has been unclear, even as immunotherapies are increasingly employed to stimulate the body's natural ability to fight invasive tumors.

Now researchers at Duke Cancer Institute, led by Peter E. Fecci, MD, PhD, director of the

Brain Tumor Immunotherapy Program in Duke's Department of Neurosurgery, have tracked the missing T-cells in glioblastoma patients. They found them in abundance in the bone marrow, locked away and unable to function because of a process the brain stimulates in response to glioblastoma, to other tumors that metastasize in the brain, and even to injury.

The findings, published online Aug. 13 in the journal *Nature Medicine*, open a new area of exploration for adjunct cancer drugs that could free trapped T-cells from the bone marrow, potentially improving the effectiveness of existing and new immunotherapies.

MAN-MADE ANTIBODIES SHOW PROMISE IN ATTACKING CANCER

Using chemotherapy along with aptamers—lab-made molecules that function like antibodies—Duke Health researchers showed that they could zero in on and kill prostate cancer tumors in mice while leaving healthy tissue unscathed.

The finding suggests that aptamers could form the basis of

new cancer therapies if additional studies in animals and humans bear out.

Senior author Bruce Sullenger, PhD, professor in the departments of Surgery and Pharmacology and Cancer Biology, said the benefit of aptamers compared to antibodies is that physician-scientists have more control over where they go and what they do.

Sullenger and colleagues—including lead author Bethany Powell Gray, PhD, and co-author Linsley Kelly, PhD—published their findings online in the journal *Pro-*

ceedings of the National Academy of Sciences.

Man-made aptamers can be created to target cancer cells. Recent drug advances have used antibodies in conjunction with chemotherapy to create immunotherapies that successfully fight cancer. But inflammation and other side effects are common in these drug combinations.

Aptamers are increasingly being studied as good alternatives. The researchers said studies will continue in animals and be tested in other types of cancer.

TEAM FINDS GENE THAT CONTROLS REGENERATION

A Duke research team led by Donald Fox, PhD, assistant professor of pharmacology and cancer biology in the School of Medicine, has shed new light on how certain organs repair damage from injury.

The team pinpointed a gene that serves as an important regulator of hypertrophy, a process by which some organs—including the heart, liver, and kidney—replace lost tissue by growing the size of remaining cells rather than by creating new cells through cell division. The study was published in the journal *eLife*.

The team found that the expression of this gene in a segment of a fruit fly's intestine blocks the cell division program, which switches the repair process from cell division to hypertrophy.

And while researchers saw no difference in outcome between cell division and hypertrophy after one brief injury, fly tissue that underwent many cell divisions or many rounds of hypertrophy did show an important difference: cell divisions led to organ distortion and loss of permeability, where hypertrophy had no substantial effect.

This finding is important because the same gene is found in humans, where it is known as FZR1.

Regenerative medicine strategies are often aimed to forcing cell division. "Our study shows that hypertrophy not only can be used when cell division is not possible, but also that it actually might protect organ integrity in some cases," said Fox.

SUPPORTING FUTURE STUDENTS....
THE RESULTS ARE IN!



Congratulations, Class of 2018:

75 of you participated in your
Graduating Class Gift Campaign
and raised a total of
\$3,182
for the Medical Scholarship Fund!

This total includes a gift from Dean Mary E. Klotman, who graciously agreed to match dollar-for-dollar what the Class of 2018 raised during its campaign.

Every student who made a gift of \$20.18 or more was presented with “honorary” membership into the **Davison Club**, the distinguished School of Medicine annual giving society. All 75 students who made a gift to the campaign qualified for Davison Club membership—a **FIRST for any graduating class!**

Committee Chair **Neha Kayastha** led the successful campaign along with committee members **Brad Ackerson, David Kerr, Colin Martz, Colin O’Leary, Krystina Quow, and Valentine Esposito.**

Thank You

to Dean Klotman and to those students
who participated!

The Graduating Class Gift Campaign allows graduating students to show appreciation for the top-tier medical education they received, to experience the satisfaction of giving, and to honor the new crop of medical students by raising funds to support scholarship. Giving back is part of the Duke experience—Duke truly would not be the same place without it.

Please visit the Graduating Class Gift Campaign website to find additional information, including the Class of 2018 Gift Honor Roll:

medschool.duke.edu/about-us/giving/graduating-class-gift



Honoring the Legacy of Half a Century of Service

Together, **William W. Johnston, MD’59**, and **Charles R. West** have a more than half a century of combined service to Duke University. To be in their presence is to be regaled by one astonishing and often hilarious story after another.

And yet they say their most recent undertaking—establishing an estate gift that will endow a professorship and multiple fellowships in the Duke University Department of Pathology—is by far the most fun.

“It took us years to make a decision, but this is one of

the happiest things we have ever done,” says Johnston. “To see how we can make a difference in the department is a true joy.”

**“To see how we
can make a
difference in the
department is a
true joy.”**

WILLIAM W. JOHNSTON

Johnston joined the Department of Pathology after completing medical school and residency at Duke. At the time, the department was small and had limited resources. “Unlike surgery or

medicine, pathology is a department without grateful patients,” says Johnston. “Yet it is vital. All of medicine is buttressed by pathology.”

Over the course of a distinguished career, Johnston worked tirelessly to improve the department’s diagnostic, teaching, and research capacities. Among other things, he lobbied to create the Division of Cytology and then became the first director of the division, a position he held for 25 years.

Johnston established the first formal training for residents in cytology in the United States. To address the



Charles R. West and William W. Johnston

backlog of residents with no training in the field, Johnston taught in the evenings, from 8 p.m. to 4 a.m. He also lobbied for grant funding to establish the first fellowship in the Department of Pathology.

Johnston co-authored five books, 23 book chapters, and 135 peer-reviewed papers. Among many accolades, he received the American Society of Cytopathology's highest honor, the Papanicolaou Award.

"Dr. Johnston is a superb pathologist, an accomplished researcher, and a dedicated teacher," says Jiaoti Huang, MD, PhD, chair of the Department of Pathology. "His generous estate gift demonstrates his continued commitment to the department and will be another highlight of his legacy."

On the other side of campus, West spent 27 years as director of corporate payroll services, instilling in his team an ethos of pride and service. In an era before computers—initially, they didn't even have an adding machine—he and his team handled the distribution of nearly 25,000 checks every two weeks from their cramped office on the third floor of the Allen Building.

Their work was sometimes unexpectedly intrepid. In 1969, they were inside the Allen Building when student protesters occupied it. "We could hear the hammering of nails through the doors," says West. There was concern the building would be set on fire. "I turned to my team and I said, 'We have a payroll to get out. Do your thing!'"

The staff divvied up financial records for safekeeping and hustled out of the building—and made sure everybody got paid.

West was a beloved figure on campus, known to staff in nearly every department. Upon his retirement, he received the Duke University Award for Merit for his exemplary service.

Today, West and Johnston have time to indulge in their passions for music, traveling, gardening, and ice skating. But even in retirement, they serve. Their estate gift will continue the legacy to which Johnston devoted his career: training future generations of pathologists.

— By Mara Shurgot

Li Gift Fulfills Daughter's Wish

Sunny Li was a fun-loving, gregarious, talented student at one of China's top-ranked high schools. She had traveled extensively and wanted to attend university in the United States. She cared about the environment, loved music, and had a deep desire to help others. Her future seemed limitless.

So it came as a shock when, in her first year of high school, she was diagnosed with kidney cancer, a renal cell carcinoma associated with the TFE3 gene.

The cancer was aggressive. If the worst happened, Sunny told her family, she urged them to do what they could to support immunotherapy research that might someday save someone else in her position. She wanted others to reap

the benefits of such promising research, even if she herself could not.

Sunny died of translocation associated renal cell carcinoma in late 2017. She was 17 years old.

Upon her death, her family honored her wish by making a substantial donation to Duke University and Cincinnati Children's Hospital to support research into immunotherapies that might one day cure cancer.

On a blistering hot June day earlier this year, Sunny's father, Ying Li, MD, and You-Wen He, MD, PhD, Duke University professor of immunology, stood underneath a plaque in the Jones Building on Duke's campus. The plaque marked the naming of He's lab as the Sunny Li Research Laboratory, in recognition of the donation the Li family made in their daughter's honor. The halls were crowded with researchers posing for pictures and humbly expressing gratitude. It was a subdued celebration, but a celebration of sorts nonetheless, of a joyful young person whose too-brief life will be remembered

and will serve as inspiration to He and his team.

Early in her treatment, Sunny had her left kidney removed. She was transferred to Cincinnati Children's Hospital Medical Center, one of the world's leading treatment centers for TFE3 kidney cancer.

He, a specialist in personalized immunotherapy treatments for cancer, learned of Sunny's case and flew to Cincinnati to consult. He recommended treatment with a promising immunotherapy agent called Interleukin 10 (IL-10). But there was a catch: the drug had not yet been approved by the U.S. Food and Drug Administration. Sunny returned to



Ying Li and Duke professor You-Wen He at the lab named for Sunny Li.

China while He negotiated with the pharmaceutical company to secure a trial dose and managed to get the treatment safely transferred to China. "It was truly a miracle," says Li.

Although the treatment did not cure Sunny, Li and his wife, Xin Shi, wish to express their gratitude for the tireless efforts He and others made to help their daughter. In addition to their donations, they plan to support up to 10 physicians a year to travel to the United States from China for training specifically in immunotherapy. They are also encouraging researchers in China to improve clinical treatments and research on cancer immunology.

"It is such a fast-evolving field, and the better physicians are trained in China, the more benefit there will be for patients," says Li. "It is what Sunny would want. We are just fulfilling her wish."

— By Mara Shurgot

"It is what Sunny would want. We are just fulfilling her wish."

YING LI

The first time Shree Bose saw a live beating human heart, it took her breath away.

She was on a surgery rotation, one of the clinical rotations that Duke medical students complete during their second year. Just a short while earlier, the patient had spoken with the medical team, expressing anxieties about the surgery. Now, with a few strokes of the surgeon's scalpel, Bose

Bose in the Duke
University Hospital
newborn nursery.



RISING STAR

Shree Bose, MS, who has been in the national spotlight since she was 17, stays true to her missions of cancer research and science outreach

by
LINDSAY KEY



photos by
CHRIS HILDRETH

could see the patient's heart. It was a little mind-boggling.

"It helped me to realize that people are simultaneously really fragile and really resilient," Bose says. "On rotation, we talk through anxieties with patients, but then, when you open them up and see their insides, you realize, they're going to heal from this, they're going to be just fine. So much can be fixed."

Seeing the heart was a moment of wonder even for Bose, who has been working in scientific research longer than most medical students have—since the age of 15.

A COMMITMENT TO SCIENCE

Bose was just a teenager when her grandfather died from cancer. It was then that she made a commitment to study the disease in hopes of finding a cure, and she didn't intend to wait until after high school. After contacting multiple people in her home state of Texas, Bose finally found a researcher willing to take on a 15-year-old—Alakananda Basu, a professor in the Department of Molecular Biology and Immunology at the University of North Texas Health Science Center.

Working in Basu's lab, Bose found that an energy protein in cells is tied to the body's resistance over time to a standard ovarian cancer drug treatment. The team inhibited the protein and found that cells once again responded to the drug treatment.

The discovery won Bose the grand prize in the first-ever Google Science Fair in 2011, beating out more than 7,500 entries. She also earned first place in the 17-18 age category. The prize included a \$50,000 scholarship, which she used to attend Harvard University to study molecular and cellular biology.

The award catapulted Bose into the national spotlight. She was interviewed by numerous news outlets, including the *New York Times*, CNN, NPR, and MSNBC Nightly News. She's been invited to give numerous TEDx talks, and *Glamour* magazine named her one of the nation's "Top 10 College Women." She got to meet President

Bose came to Duke because of its spirit of collaboration and the "genuinely nice and genuinely happy people."

Below, Bose with fellow students Lyra Olsen, left, and Jackee Okoli.



Barack Obama, whom she says she "bear hugged" out of pure excitement.

"It is always rewarding to see students succeed, and Shree's success has been remarkable," says Basu. "She has been extremely driven. I was also very impressed by her presentation skills."

Early national and international recognition helped Bose realize the impact that scientists can have when they communicate effectively with the general public about their research.

"I think one of my favorite parts of doing really cool science is being able to share it, to help people who have no idea how cancer behaves understand how different therapies work," she says.

CHOOSING DUKE

She continued to grow her career in scientific outreach when she and friend and fellow student Mark Pavlyukovskyy co-founded Piper, a start-up company that distributes computer engineering kits to kids around the world. Bose and Pavlyukovskyy raised more than \$10 million to support the initiative, and today the company is run by a team headquartered in San Francisco.

"At the end of my undergraduate education, I realized I had to make a choice about my future and the next step I wanted to take—whether that was continuing to work with Piper or apply to medical school," says Bose. "I realized ultimately that what I want to do with my life is very much medicine."

To Bose, Duke stood out as the best choice for medical school for two reasons: the School of Medicine's philosophy of collaboration and the people here. Bose says when she visited Duke, every person she spoke with emphasized collaboration, not just within medicine but also in basic science.

"I remember hearing that and feeling that this was the place that really supported the sorts of crossovers I was looking for," said Bose. "And on top of that, I found that most of the students I met were people who were genuinely nice and genuinely happy. And I wanted to be some place where people around me



After reviewing her patient case notes, Bose knocks on a patient's door before entering.



Left, Bose shows the detail of the Piper computer kit she created to promote interest in science and technology. She was meeting with a high school student Skye-Anne Tschoepe, whom she is mentoring.

Bose works with fellow student Jenna Frush on their classroom exercises.



would be happy. Even at the most stressful points, my classmates are incredible... they blow me away. Somehow, even with all of the stresses of medical school, they're just insanely nice humans."

REACHING OUT

As a student in the Medical Scientist Training Program, Duke's dual-degree MD/PhD curriculum, Bose has her work cut out for her. In 2018-19, during her third year, she will begin the PhD component of her program, during which she will join a lab and conduct basic science research. Bose is interested in specializing in cancer metabolomics research, the study of the aberrant ways cancer cells process energy, and how these processes might be targeted to stop cancer cell growth.

She has remained true to her mission of finding ways to stop cancer—not only in tribute to her grandfather, but because there is so much left to know, Bose says.

"The fact that we still don't understand how cancer works is fascinating to me," says Bose. "I still feel like I'm a 15-year-old reading about metabolism for the first time and being like, 'Wait, why don't we know

In a class on pediatric seizures, Bose watches a video with student Eleanor Semmes.

"Getting more girls excited about STEM is something that I'm passionate about—not only because I've had incredible female role models along the way, but also because each generation of female pioneers paves the way for the next. It's that cycle that sparks new ideas and innovation."

SHREE BOSE

more about this?"

Despite the demands of medical school, Bose still makes time for science outreach. She has served in multiple roles on the board of the *Science Review*, a Duke student-run publication in which students tackle writing about scientific topics for a general audience.

Bose is also an ambassador for Girlstart, an Austin-based organization that offers a wide range of programs for girls to increase their learning opportunities in the Science, Technology, Engineering, and Math (STEM) fields.

"Getting more girls excited about STEM is something that I'm passionate about—not only because I've had incredible female role models along the way, but also because each generation of female pioneers paves the way for the next. It's that cycle that sparks new ideas and innovation," says Bose.

CREATIVE OPPORTUNITIES

In January, Bose was asked by the Congress of Chile to speak at a national political event in support of science, where she emphasized the importance of creating forums for scientists and scholars from diverse fields to brainstorm new ways to cross-pollinate.

In March, her public speaking skills caught the eye of casting agency employees who asked her to audition for a series of Microsoft commercials. Bose traveled to Universal Studios in Los Angeles

to participate in the shoot, in which she donned a white coat and explained how the new Windows 10 PC's 3D visualization component allows her to share her research in exciting new ways.

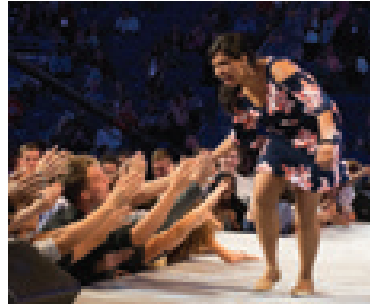
"I was legitimately studying on the set, in the scenes where I'm shown studying," says Bose with a laugh. She credits Duke School of Medicine faculty and staff for allowing her the flexibility to participate in the shoot and travel internationally to give talks.

"Everyone has been amazing to work with," she says. "I don't think I could have done something like this at any other medical school."

"Shree came to Duke like many of the other students, with very diverse and unique experiences," said Andrea Liu, assistant dean of admissions for the School of Medicine and Medical Scientist Training Program. "It's our job to allow our students to express themselves in creative ways inside and outside of the scientific and clinical setting. Giving Shree this opportunity



Top, Fifteen-year old Bose demonstrates her 2011 research that was awarded the grand prize at the inaugural Google Science Fair.



Middle, In July, Bose emceed a STEM event, Congress for Future Physicians and Medical Leaders in Massachusetts.

ANDREW FEDERMAN



Bottom, Bose is featured in a Microsoft commercial.

allows her to grow personally and professionally while also having fun."

A CAREER AT THE INTERSECTION

In Bose's class of 119 students, only 10 are pursuing the MD/PhD track. The program, funded by a stipend from the National Institutes of Health, prepares students to pursue careers as physician-scientists once they graduate, with the skills to serve as physicians, basic science researchers, or both. Physician-scientists are especially valued in the workforce because,



Bose shares an idea as students run through a pediatric case presentation.



Bose's enjoys a dinner out in Durham with friends Morgan Simons and Lauren Sweet.



A quiet moment in the newborn nursery

“It’s our job to allow our students to express themselves in creative ways inside and outside of the scientific and clinical setting. Giving Shree this opportunity allows her to grow personally and professionally while also having fun.”

ANDREA LIU

having trained in both the basic and clinical sciences, they are uniquely positioned to translate discoveries in the lab to treatments or cures.

The number of physician-scientists in the workforce has decreased across the nation in recent years, but Duke has recently taken steps to encourage and support students in the field, including the formation of a new Office for Physician-Scientist Development. Although it’s a long road, Bose thinks it’s the best career path for her.

“A lot of the mentors who I have admired and striven to emulate in terms of career paths have been MD/PhDs,” said Bose. “In seeing them, I realized that I wanted a career that is at the intersection—that’s not medicine, and not just basic science, but both.”

Looking forward, Bose plans to continue advocating for science and STEM education, as she says in her Microsoft commercial: “Half of science is about convincing the world that what you’re working on matters. I want to be making the discoveries that help people live better lives.” ■

Come back to revisit, reconnect, rekindle

November 8-11, 2018

Weekend Highlights Include

Thursday, Nov. 8

Medical Alumni Association Awards Reception and Dinner

Friday, Nov. 9

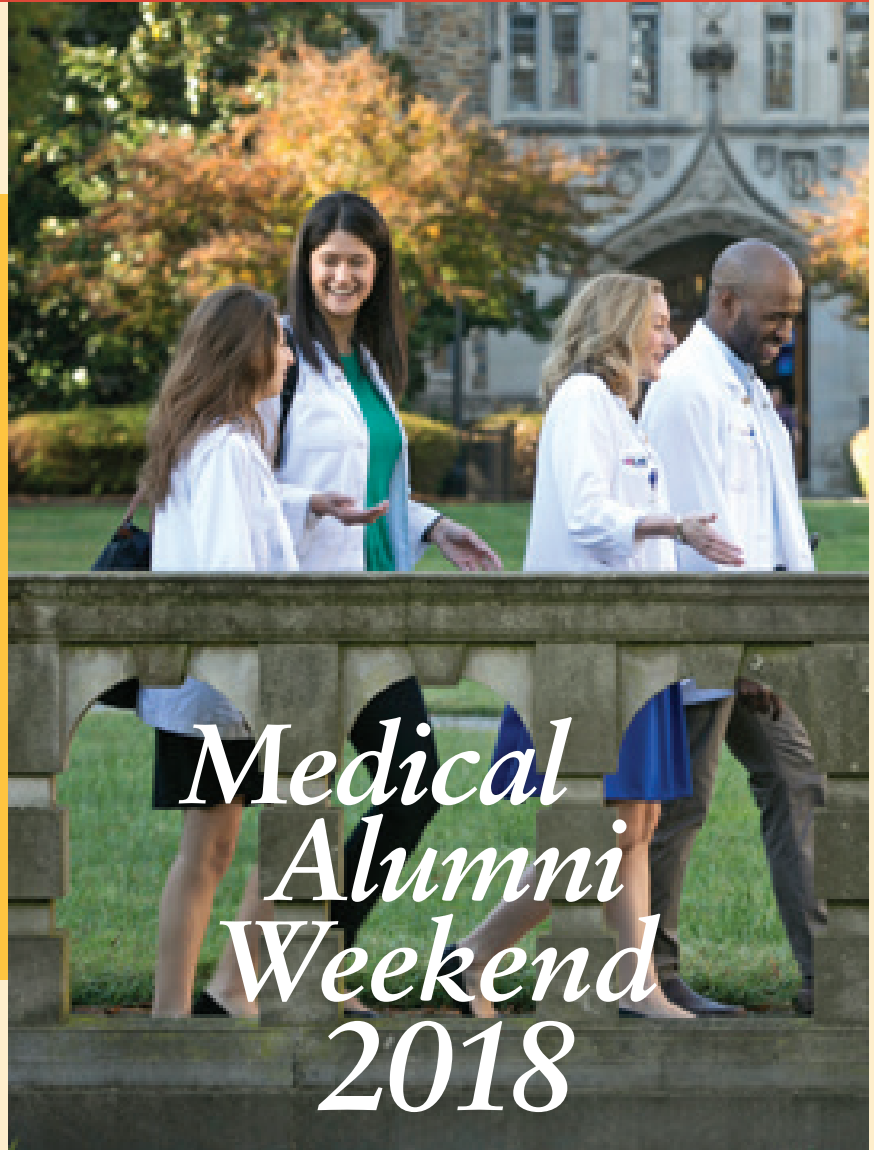
Golden Blue Devils and Class of 1968 Luncheon
5th Annual Women in Medicine Luncheon
CME Sessions
Welcome Reception

Saturday, Nov. 10

Breakfast with Dean Klotman
UNC vs. Duke Football
Class Reunion Meals and Photos
After party

Sunday, Nov. 11

Class of 1968 Breakfast
Class of 2008 Brunch



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Make your plans now
to return to campus, share
medical school memories, and reconnect
with classmates and friends.



REACHING FOR EQUITY

A new program aims to reduce racial and ethnic disparities in health care

In the 1950s, Kimberly Johnson's maternal grandmother was diagnosed with metastatic cervical cancer and ultimately lost her life to the disease. Since then, her family has always wondered whether the situation might have had a different outcome if her grandmother had had access to today's health care.

"We talk about how things are different now, and if she'd lived today she might have lived longer and better, especially if she had good insurance and a good income," says Johnson, MD, MHS, associate professor of medicine.

But she knows that advances in cancer care since then still might not have saved her grandmother. She was African American, and the evidence is overwhelming that even now, after years of medical progress and economic improvement, racial and ethnic minorities tend to receive inferior health care. In fact, according to 2016 U.S. Department of Health and Human Services Office of Minority Health data, racial and ethnic health disparities result in nearly 1 million preventable deaths per decade, accounting for \$50.3 billion in direct medical expenses.

It's this lack of health care equity—the clear presence of controllable and avoidable disparities—that pushed Johnson and a multi-disciplinary research team to create the Duke Center for REsearch to AdvanCe Healthcare Equity (REACH Equity) and apply for grant funding. Together, the team and community stakeholders launched the initiative to test and develop patient-centered care improvement interventions.

The ultimate goal, she says, is providing the best possible care during clinical encounters.

"Racial and ethnic disparities are pervasive," says Johnson, nationally known for her research on racial disparities in palliative care for older African Americans. "They exist even among white and minority populations with similar access to care, and their elimination is paramount given the consequences to patients, families, and health systems."

A NEW APPROACH

Research into health care disparities and health equity isn't new, but the concept behind REACH is unique. Instead of specifically honing in on improving patient behaviors and knowledge, like most work in this area, REACH focuses on how health care providers might inadvertently contribute to inequitable care delivery that may result in poorer health outcomes for minority patients—and what can be done to change it.

"REACH is special in how it develops and tests interventions that concentrate on improving the quality of patient-centered care in the clinical encounter," Johnson says. "But it's also really about helping doctors and health systems acknowledge and realize we have a real role to play in reducing a widespread problem."

Most doctors are well intentioned, she says, and are unaware they might be doing anything to contribute to this problem. Presenting them with research that highlights flaws in the system and suggests actionable solutions could

By Whitney J. Palmer // Illustration by Ken Orvidas



improve health equity overall, greatly improving population health.

The program has already drawn significant support. Not only has REACH garnered interest from dozens of physicians, researchers, and community members, but it's also received substantial financial backing. In 2017, Johnson received funding as one of 12 National Institutes of Health Centers of Excellence. The grant, totaling approximately \$6.8 million over five years, comes from the National Institute on Minority Health & Health Disparities. Duke University School of Medicine and School of Nursing have also pledged funding.

"This new center at Duke has tremendous potential for impact at Duke. It will create a collaborative environment in which Dr. Johnson and a team of very talented investigators can continue their formative work to improve the health of minority populations in our own community and globally," said Mary E. Klotman, MD, Dean, Duke University School of Medicine.

SEEKING SOLUTIONS

Disparities exist with almost every disease or condition, Johnson says, and REACH endeavors to ameliorate them.

The program is in its early stages, and all plans are nascent, Johnson says, but funds are being divided among research, training and education, and community-engagement efforts. Three large projects are underway to reduce implicit bias, improve communication, and augment the delivery of need-based care to patients and families.

With research, Johnson says, REACH aims to create an umbrella for multidisciplinary health disparities investigators. An annual colloquium is planned, beginning in spring of 2019, and a seminar series is scheduled for this year, giving investigators a forum to present their work and develop collaborations.

According to pancreatic cancer researcher Antonio Baines, PhD, associate professor of biological and biomedical sciences at North Carolina Central University, involving students—undergraduate through doctoral—is the best way to maximize research efforts. As a REACH collaborator and Stakeholder Advisory Board member, he hopes to create research opportunities for students.

"My hope is REACH could open the door for summer internships in doing health disparities

research," he says. "It could be clinical, at the bench, or public health research. Not only would this usher in more collaboration between institutions, but it would also increase students' understanding of health disparities."

Training opportunities also exist for junior faculty investigators, Johnson says. Four junior investigators received REACH Equity Career Development Awards to continue their health disparities work, and plans exist to fund others. Each investigator receives \$75,000 annually for two years.

Sarahn Wheeler, MD, assistant professor of obstetrics and gynecology at Duke University School of Medicine, is one of the first recipients. She's using the funding to investigate strategies to improve clinical experiences and increase adherence to preterm birth prevention therapies among African American women. She hopes to develop an intervention to make it easier for women to follow a regimen for 17P, a weekly injectable progesterone treatment that helps prevent pre-term birth.

Wheeler says addressing this problem in the African American community is vital to improving the community's overall health.

"Black women have 49 percent more pre-term births than other racial or ethnic groups," says Wheeler, who was a premature infant herself. "I want to determine the most cultur-

"It's also really about helping doctors and health systems acknowledge and realize we have a real role to play in reducing a widespread problem."

KIMBERLY JOHNSON



ally sensitive way to administer this therapy so women will experience the most benefit of prematurity prevention."

Wheeler says she plans to create an intervention to improve clinical encounters for women with a history of prematurity who are also eligible for 17P. She hopes improvements in the clinical encounter, such as work-friendly appointment availability times, will improve women's ability to stick with the weekly injection.

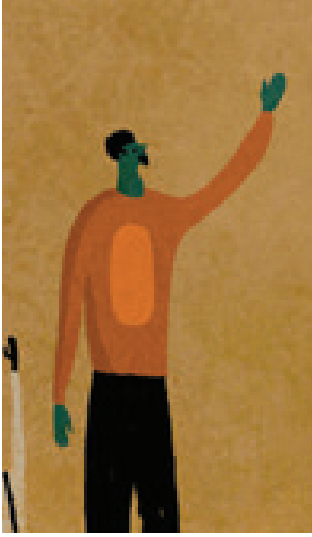
"Pre-term birth leads to billions of dollars of health care costs, and it has a rippling effect, including lost work productivity, lower long-term infant and child health, and profound implications for families and communities," she says. "We have a huge need to address the disparities and reduce the impact."

REACH will also offer Health Disparities Research Vouchers for investigators who want to launch new projects or add additional aims to existing ones. The program will establish Transdisciplinary Think Tanks to provide researchers with seed money to develop collaborations that can progress to larger endeavors. REACH also will award grants to residents, fellows, and post-doctoral students who identify mentors to work with on health disparities projects.

ENGAGING THE COMMUNITY

The real key to REACH's success, however, is community involvement. Greater input from patients will give providers the guidance they need to change their behavior and improve the patient's clinical experience and ultimate outcome. Through its Community Engagement and Dissemination Core (CEDC), REACH is gleaning input from community members and organizations, as well as Lincoln Community Health Center and Duke Regional Hospital leadership.

According to Nadine Barrett, PhD, assistant professor in community and family medicine and a CEDC faculty leader, the Stakeholder Advisory Board meets monthly and is integrated in all aspects of REACH Equity. The board members represent a variety of perspectives, including those of patients, caregivers, researchers, clinicians, and community leaders. Collectively, they share their perspectives to inform REACH activities: they provide input on research projects, serve as reviewers in the grant reviewing process, and provide recommendations and participate in dissemination activities. The goal, Barrett says, is to incorporate the perspectives of stakeholders, including the broader community, in all deci-



“Sometimes, we understand when we walk into the room, we’re not viewed as just a patient, but specifically as an African American patient.”

CYNTHIA KORNEGAY

sion-making and activities aimed at improving the health care experience. Bryan Batch, MD, and Schenita Randolph, PhD, work together with Barrett to build stakeholder engagement and the dissemination of the center’s work to a broader audience.

Together they worked with Johnson to ensure the REACH Equity leadership, staff, researchers, and stakeholder advisory boards went through a race equity training program to reinforce a shared understanding of how systemic racism functions and shapes the lived experience of people of color and particularly African Americans.

“Oftentimes, we look at the fish, and if it comes up sick, we want to find out what’s wrong with it; we look at the group and community to see what’s wrong with them, and we want to fix them,” says Barrett. “But if more fish come up sick, maybe it’s not the fish. Maybe it’s the water. Maybe it’s the society and the systems, including health systems, in which our patients live and interact that make them sick. We need to investigate those factors as we develop solutions. In order to reach equity, we must have a broad and deep understanding of the environment

we live and function in, the assumptions and decisions that are made that shape our experiences differently based on race, and why these disparities exist. For REACH Equity, we are focusing on the clinical encounters, and the Stakeholder Advisory Board is critical to shaping our process and progress.”

So engaging the community in REACH Equity helps ensure that the work actually addresses a community need, Johnson says.

This is where community partners, such as Cynthia Kornegay, come in. Kornegay doesn’t have a medical background; she’s a major in the Detention Services Division in the Durham County Sheriff’s Office. She’s deeply integrated into the community and has a direct line to what’s most important and effective for the population.



Her input is critical to helping REACH investigators realize their goals.

“I give them my perspective on how patients in the African American community can sometimes be very distrustful of the medical field,” she says. “Sometimes, we understand when we walk into the room that we’re not viewed as just a patient, but specifically as an African American patient.”

Many problems, she says, could be solved by teaching providers how to communicate better with patients. Ensuring doctors can ask and answer questions without making patients feel talked down to could go a long way toward improving patient compliance and satisfaction.

Having community members involved also helps REACH break down barriers between local groups and the health care community, Kornegay says. Including laypeople without medical training shows patients that project leaders are truly vested in developing strategies and interventions to improve the

provider-patient interaction and bolster health outcomes.

“I’ve never seen anyone approach health disparities from where REACH is going with it,” Kornegay says. “We hear about studies where they’re trying to teach patients to engage more with the doctor and tell patients what questions they should ask. But, through REACH, they’re trying to show doctors and health care providers they have certain biases they might not even understand.”

MAKING A DIFFERENCE

Ultimately, Johnson says, REACH aims to give providers tangible guidance on how to best

The REACH Equity leadership team, left to right, Benjamin Reese, Karen Steinhauser, Kimberly Johnson, Tyson Brown, Judy Seidenstein

optimize the health experience for all patients, especially minority patients.

“At any time, any patient may perceive they’ve been treated poorly by any provider, but there’s evidence it occurs more often with racial and ethnic minorities,” she says. “They report lower-quality communication, poorer doctor-patient relationships, less respect, less trust, and increased discrimination in the clinical encounter, and it’s all associated with poorer health outcomes. REACH’s focus on improving patient-centered care attempts to address these issues.” ■

—
by
LAURA ERTEL

—
photos by
ALEX BOERNER

from

INNOVATION

to

IMPACT

Duke
researchers
are taking their
discoveries from
the research
lab into the
marketplace

When four Duke researchers developed an innovative technique for exploring the non-coding genome—the 98 percent of our DNA that does not encode protein sequences, often called the genome’s “dark matter”—the implications were clear. Their approach, using technologies including CRISPR gene editing to shed new light on gene regulation, has enormous potential to guide development of new drugs to combat a host of genetic diseases.



DEEP
BLUE

Howard Levinson



PREPARED
HEALTH

Arif Kamal



ELEMENT
GENOMICS

Tim Reddy, Kris Wood,
Greg Crawford, and
Charlie Gersbach

The question the researchers then faced was: How best to develop those new therapies in order to make them available to patients? The answer: Take the work beyond the academic lab and into the world of commercialization.

The four researchers—Greg Crawford, PhD, associate professor in the Department of Pediatrics; Charlie Gersbach, PhD, Rooney Family Associate Professor of Biomedical Engineering; Tim Reddy, PhD, associate professor of biostatistics and bioinformatics; and Kris Wood, PhD, assistant professor of pharmacology and cancer biology—launched a startup company called Element Genomics. Last spring, Element made big news when a global pharmaceutical firm, UCB, acquired it for \$30 million.

Element Genomics is emblematic of the growth of academic entrepreneurship, increasingly the path of choice to move innovative new biomedical technologies, devices, techniques, and other advances from the lab to the marketplace, where they can be deployed to benefit patients.

“We all want our work to have impact in the world,” says Wood. “And it’s great to see that, increasingly, faculty at Duke are able to take discoveries in their labs and not only publish those results to advance scientific understanding, but also leverage those discoveries to start companies that ultimately connect the science to consumers and patients.”

NAVIGATING THE MAZE

Scientists are experts at doing science. They tend to be less conversant in matters like raising capital, negotiating industry contracts, and navigating commercial licensing and regulatory requirements.

Fortunately, Duke has a number of people who are experts in those areas, and they are on hand to help. Element Genomics benefited greatly, for example, from the Duke-Coulter Translational Partnership, directed by Barry Myers, which supports translational research collaborations between the Duke Department of Biomedical Engineering and clinical units of Duke Health. John Oxaal, the Pratt School of Engineering’s first entrepreneur-in-residence, also played a key

DUKE OFFICE OF LICENSING & VENTURES 2018 FISCAL YEAR

329 agreements

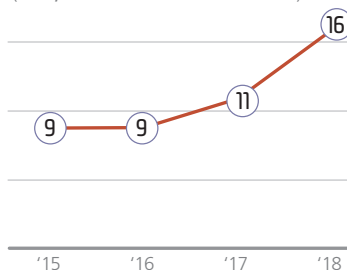
103 issued patents

16 new startups
(nine from School of Medicine/Duke Health)

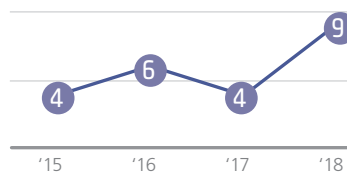
\$51M revenue

NEW STARTUPS

Duke University
(DU, SOM + Duke Health)



**Duke Health +
School of Medicine**



role in bringing Element Genomics to market, and served as the company’s CEO.

The main conduit between academic innovation and commercial enterprise at Duke is the Office of Licensing & Ventures (OLV), the university’s technology transfer office. OLV partners with faculty and staff, industry, and investors to help discoveries and innovations birthed in Duke labs reach the marketplace for the benefit of society, and to enable future investment in Duke research and innovation. That means guiding innovators through the complexities of analyzing the market and competition, securing patents, connecting with potential industry partners, raising capital, exploring options for licensing or launching a startup, negotiating deals, managing expenses and revenue, and more.

While Element Genomics was one of the quickest faculty startups to move from lab to launch to sale, it was far from the first. Last year alone, OLV received nearly 350 invention disclosures from Duke faculty, staff, and graduate students interested in moving their innovations from the lab to market. The majority of these inventions—about two-thirds—are related to improving health care through biomedical therapeutics, medical devices and diagnostics, and other innovations.

OLV was instrumental in the launch and acquisition of Element Genomics.

“Even before we knew we wanted to start a company, OLV was diligent in ensuring that we were properly filing new inventions, so when we were ready to start a company, we were able to transfer that technology,” Gersbach recalls. “OLV was incredibly helpful and responsive in getting the licensing deal complete, which was essential to our fundraising efforts and played a key role in the negotiation with the acquirer.”

TRUST THE PROCESS

Rob Hallford, MBA, director of new ventures at OLV, says that technology transfer offices like Duke’s date back to the 1980s, when the Bayh-Dole Act gave universities ownership over intellectual property (IP) that came out of employees’ federally funded research.

“While Duke officially owns the IP, there’s a huge benefit to our innovators as well,” Hallford explains. “We work with them to

understand the opportunity, protection strategies, and potential licensees and partners, and can help them think through strategies to maximize the value of their invention.”

Interest in innovation and entrepreneurship across campus is growing, as evidenced by the rising numbers of invention disclosures OLV receives. Even before receipt of a formal disclosure, OLV staff are available to meet with each innovator or team of innovators to discuss their idea. Is it protectable via patents or copyrights? Is there a market for it? Is there an unmet need that it can fill? Are there competing products or technologies already in the market?

The team discusses whether the innovation is more appropriate for a startup or licensing to an existing company, and OLV experts help the inventors navigate the process, drawing on relationships with key players in industry, potential investors, partners, management teams, and laboratory space/incubators, as well as resources at Duke and beyond.

When innovations do lead to commercialization, revenue generated from them is shared according to the Policy on Patents, Inventions and Technology Transfer in

“As a surgeon, I can heal with my two hands and help a few thousand patients in a lifetime. But as a surgeon/scientist/entrepreneur I can heal with many hands and perhaps help tens of thousands of patients or more in a lifetime.”

HOWARD LEVINSON



the Duke Faculty Handbook. Once OLV recoups any unreimbursed costs of patent protection, all remaining revenue is shared among the innovator(s), their department, lab, and school, with a sliding scale as revenues increase. (For example, for the first \$500,000, the inventors’ share is 50 percent; if revenues surpass \$2 million, the inventors keep 25 percent.)

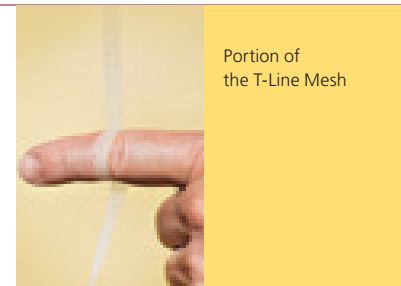
“We have some innovators who have been through this process many times and may need different types of assistance than others where it’s their first time and they need help understanding appropriate expectations, the process, how to work with industry,” says Robin Rasor, MS, who became executive director of OLV in 2016. “We also recognize that each innovator has different goals and objectives, so it’s our job to put teams around people to help them achieve the best possible outcome.”

CREATING SOLUTIONS

The most successful technology transfers, Hallford notes, happen when a researcher sees a space in the market where things aren’t optimal—where patients aren’t getting the care they need, for instance—and steps up to devise creative solutions to the problem.

For Howard Levinson, MD, associate professor of surgery, the problem was an

almost 25 percent failure rate in the mesh used for hernia surgeries. Levinson worked with textile experts at North Carolina State University to develop a new mesh with



enhanced anchoring strength to resist wounds from gapping and bursting open. With its simple yet revolutionary design, the T-Line Mesh has the potential to reduce hernias by preventing or reducing mesh fixation failure.

Levinson turned to OLV for help in filing patent applications, securing technology enhancement grants, and advancing toward commercialization. With OLV’s assistance, he started Deep Blue Medical Advances, Inc., and has licensed the IP in several countries.

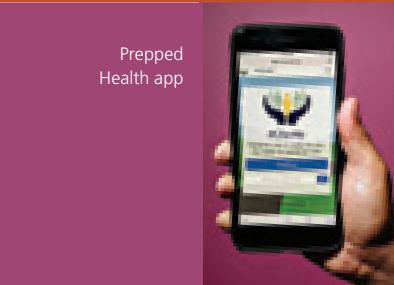
“My dream has always been to perform research to improve patient care,” says

Levinson, Deep Blue's chief medical officer. "As a surgeon, I can heal with my two hands and help a few thousand patients in a lifetime. But as a surgeon/scientist/entrepreneur I can heal with many hands and perhaps help tens of thousands of patients or more in a lifetime."

The evolution of translational medicine at Duke has opened new opportunities for Levinson and his colleagues to make that dream a reality in an emerging landscape.

'CHANGE THE WORLD'

Duke medical oncologist and palliative care specialist Arif Kamal, MD, MBA, MHS, was concerned about the high percentage of palliative care patients—some 40 percent—who don't show up for appointments, increasing the cost and reducing the quality of their end-of-life care. He built a suite of mobile apps to help patients and families take control of managing their disease. Kamal had the medical and technology background to



design the apps, but not the business acumen to make them available to a wide audience.

"I walked into OLV and said, 'I've got a great idea; now I want to change the world. How can you help me?'" Kamal says. "And the OLV folks said, 'Great! Let's help you go change the world.'"

OLV helped Kamal and his team figure out how to commercialize and protect his intellectual property. The office also helped connect Kamal to experts and thoughtleaders around the university who could help guide and mentor him. Kamal and his colleagues launched Prepped Health, LLC, which offers app-based products that help demystify

"At a place like Duke, there are lots of smart people and great ideas floating around. The question is: How do we impact the world broader than our own campus?"

ARIF KAMAL

palliative care and empower patients facing serious illnesses. The company is in conversation with potential partners and investors, as well as groups interested in mergers or acquisitions.

"Our company really got launched because of the relationships we made with folks OLV connected us with," Kamal says. "At a place like Duke, there are lots of smart people and great ideas floating around. The question is: How do we impact the world broader than our own campus?"

EXPANDING THE REACH OF RESEARCH

Rasor, who previously held leadership positions in tech transfer at the University of Michigan and Ohio State, jumped at the chance to come to Duke—in part because its focus on multidisciplinary collaboration makes it ripe for academic entrepreneurship opportunities.

"One of the great things about Duke is that there's such a collaborative environment," she says. "As a result, many invention disclosures include inventors from multiple colleges and departments."

That environment, she says, is increasingly important.

"If you want to recruit great faculty and students these days, you absolutely must have an innovative environment," Rasor says. "More and more, faculty candidates want to know about the tech transfer office and entrepreneurial resources. They often arrive at Duke with preexisting inventions and sometimes startup companies, they plan on continuing development of these inventions, and they want to talk to us before they come here."

Commercialization also helps advance science by generating diverse funding streams

beyond the traditional ones available through federal agencies.

"Diversification can now include options not traditionally available to researchers," says Kamal. "Entrepreneurship provides researchers unique options for sustainability."

Most importantly, Rasor says, lowering the barriers between biomedical research and industry can hasten the delivery of therapeutic interventions to the people who need them.

"Part of Duke's stated mission is to help those who suffer, to cure disease, and to promote health," she says. "So it is our job to get these solutions out into the marketplace for the benefit of the public."

GALVANIZING OPPORTUNITIES

At Element Genomics, the acquisition is helping the founders realize the potential of technologies they developed at Duke to create new medicines. It's also helping create jobs—Element employs a number of Duke alumni—and stimulate biotech activity in Durham. The company will remain based in the newly renovated Chesterfield Building on West Main Street, a former tobacco factory that Duke has transformed into a gleaming hub of biotech and advanced science (*See sidebar, page 29*).

Most Duke startups remain in this area, providing opportunities for employment and growth throughout the Triangle. "These companies need the type of expertise that Duke alums have, whether it's clinical, professional, or scientific leadership," Hallford says. "There are real opportunities here for people who have the right skill set to take things forward and really make a difference."

This expertise is particularly needed, because most faculty stay at Duke even after their companies launch.

"Taking those first steps was frightening, but also exhilarating," Wood remembers. "We hope that our success galvanizes other scientists at Duke to think similarly about how they can convert their discoveries into commercial opportunities." ■

Former Cigarette Factory Becomes a New Hub for Biomedical Research

By Lindsay Key

Ties between Duke University and the City of Durham are stronger than ever with the opening of a new translational research building in the Brightleaf District.

The prominent Chesterfield Building, located at 701 West Main Street, was built in 1948 as a cigarette factory for the Liggett & Myers tobacco company. Now, it is a sparkling glass gateway for scientists, clinicians, and entrepreneurs to meet and collaborate.

The School of Medicine has a powerful presence in The Chesterfield, with numerous units calling the building home, including the Clinical and Translational Science Institute (CTSI), Center for Genomics and Computational Biology, the Robertson Research Lab, part of the Marcus Center for Cellular Therapies, and the Children's Health and Discovery Initiative, with others set to join them in the future.

More than 200 people attended the

Chesterfield Building for Life Science Research Grand Opening on May 8. Duke University Provost Sally Kornbluth, PhD; School of Medicine Dean Mary Klotman, T'76, MD'80, HS'80-'85; Ravi V. Bellamkonda, PhD, Vinik Dean of Engineering, PhD; and Scott Selig, associate vice president for capital assets, spoke at the event. Durham resident and rapper Joshua Gunn delivered a poem that chronicled the history of the building and expressed optimism about its exciting new purpose.

Scientists whose work is especially translational—or ripe for connection to consumer markets—were chosen as some of the building's first tenants. The idea is that co-habitation with local businesses—which include digital storage software firm Nutanix; LaunchBio, a nonprofit that supports life sciences-based entrepreneurs; and the innovative coworking space BioLab—could lead to breakthrough ideas and products.

"It's exciting to be co-located in this state-of-the-art facility with neighbors like the Pratt School of

"We connect Duke investigators to funding, project management, datasets, and other critical resources to move their ideas from the lab to the real world."

EBONY BOULWARE

Engineering and LaunchBio—both of whom share the vision of innovation and progress and embrace the concepts of partnership and collaboration," says Klotman.

The new Marcus Center for Cellular Cures, a collaboration between the School of Medicine and Duke Engineering, will bring together physicians and faculty across medicine and engineering at Duke to develop cellular and biological therapies for autism, cerebral palsy, stroke, and related brain disorders.

"The Chesterfield Building makes real a vision of how working together, thinking outside the box, and looking for new ways, new people, and new companies to partner with will be the formula for progress and success we can all share in the future," says Klotman. ■



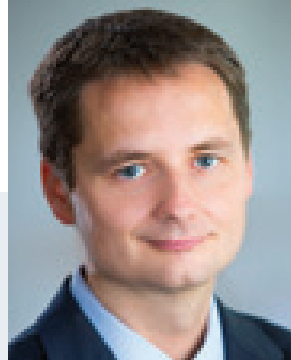
CAMERON TIGGS



Kathleen Cooney



Cathleen Colon-Emeric



Michael Pencina



Jacqueline S. Barnett

COONEY IS NEW CHAIR OF MEDICINE

Kathleen Cooney, MD, a medical oncologist and internationally known physician-scientist, is the new chair of the Department of Medicine at Duke University School of Medicine.

Cooney joins Duke from the University of Utah School of Medicine, where she was the H.A. and Edna Benning Presidential Endowed Professor, chair of the Department of Internal Medicine, and member of the Huntsman Cancer Institute. She began her new role at Duke on August 1.

A specialist in prostate cancer, Cooney has conducted research on the genetic epidemiology of prostate cancer. She is currently an investigator on three grants from the Department of Defense and one grant from the National Institutes of Health (NIH) and is an author on 140 peer-reviewed journal articles.

At Utah since 2016, Cooney was committed to growing the clinical mission of the department while simultaneously investing in research. She is an avid teacher and mentor with a strong devotion to guiding and supporting clinical and laboratory trainees as well as faculty.

Prior to her appointment at Utah, Cooney was a professor of internal medicine and urology and previously served as the division chief of hematology/oncology and deputy director of the Comprehensive Cancer Center at the University of Michigan.

Cooney received her medical degree from the University of Pennsylvania Perelman School of Medicine in Philadelphia. She was

also chief resident in internal medicine and completed fellowship training in hematology/oncology at the University of Michigan.

DUCKETT NAMED VICE DEAN FOR BASIC SCIENCE

Colin S. Duckett, PhD, is the new vice dean for basic science for the Duke University School of Medicine.

Duckett, who began his service as vice dean on September 4, comes to Duke from the Baylor College of Medicine in Houston, Texas, where he was chief scientific officer of the Baylor Scott & White Research Institute and professor in the Department of Medicine.

As vice dean for basic science, he serves as a liaison between the Dean's office and the basic science community. His duties include oversight of the biomedical graduate programs, postdoctoral office, animal care program, core facilities, and research lab space utilization in the School of Medicine.

Prior to joining Baylor, Duckett spent 15 years at the University of Michigan, where he was a professor of pathology and internal medicine. He also served as director of the Cancer Biology Program in the Comprehensive Cancer Center and as scientific director of the North Campus Research Complex at the University of Michigan.

COLON-EMERIC NAMED ASSOCIATE DEAN FOR RESEARCH MENTORING

Cathleen Colon-Emeric, MD, MHS, has been appointed as-

sociate dean for research mentoring for the School of Medicine. She will lead two existing grant programs, the K-Club (to assist faculty writing career development awards) and the Path to Independence Program (to assist faculty writing their first R-grant).

Colon-Emeric is a professor of medicine, a senior fellow in the Duke Center for the Study of Aging and Human Development, and the associate director of the Geriatric Research Education and Clinical Center at the Durham Veterans Affairs Medical Center. She has a longstanding passion for and experience mentoring faculty and trainees in the School of Medicine and School of Nursing. She directs the Duke Pepper Center Research Education Core, won the 2017 Clinical Science Research Mentoring Award, and is a recipient of the Duke Health Scholars Award.

PENCINA APPOINTED VICE DEAN FOR DATA SCIENCE AND INFORMATION TECHNOLOGY

Michael Pencina, PhD, is the new vice dean for data science and information technology for Duke University School of Medicine.

Pencina will be a senior member of Dean Mary E. Klotman's leadership team, responsible for developing and implementing quantitative science strategies as they pertain to the education and training, laboratory science, clinical science, and data science missions of the School of Medicine. He will lead the School's IT strategic direction and investments, working in collaboration with the vice presidents and chief

information officers of Duke Health and Duke University's Office of Information Technology.

Pencina is a professor of biostatistics and bioinformatics at Duke University and served as director of biostatistics at Duke Clinical Research Institute (DRCI). He is an internationally recognized expert in risk prediction model development and evaluation. Pencina joined the Duke faculty in 2013.

BARNETT NAMED DIRECTOR OF PHYSICIAN ASSISTANT PROGRAM

Jacqueline S. Barnett, DHSc, MSHS, PA-C, associate professor of community and family medicine, is the new program director of the Duke Physician Assistant Program. Barnett had served as associate program director since late 2015.

A National Health Service Corps Scholar, Barnett's clinical experience includes practice in an Air Force clinic, the Federal Bureau of Prisons, family medicine, and the Department of Infectious Diseases at Johns Hopkins School of Medicine. She began teaching full-time in PA programs 18 years ago, initially at the University of Maryland Eastern Shore and then at George Washington University.

In 2017, Barnett was the first PA to complete the Duke University School of Medicine's Academic Leadership, Innovation, and Collaborative Engagement program for mid-career women faculty.

The Duke Physician Assistant Program is the birthplace of the physician assistant profession and



Shelley Hwang



Sallie Permar

is consistently ranked as the top PA program in the country by *U.S. News & World Report*.

UNIVERSITY AWARDS FIVE SOM FACULTY DISTINGUISHED PROFESSORSHIPS

Duke University awarded five School of Medicine faculty with distinguished professorships at the annual ceremony in May. Distinguished professorships are awarded to the most distinguished faculty who have demonstrated extraordinary scholarship in advancing science and improving human health.

■ Soman Abraham, PhD, professor of pathology, was honored with the Grace Kerby Chair in the School of Medicine. He also holds appointments in immunology and molecular genetics and microbiology, and is a professor in the Emerging Infectious Diseases Program at Duke-National University of Singapore Medical School.

■ Matthew D. Barber, MD, MHS, chair and professor of obstetrics and gynecology, was named the Edwin Crowell Hamblen Chair of Reproductive Biology and Family Planning. He is a nationally recognized educator, researcher, and surgeon specializing in urogynecology and pelvic reconstructive surgery.

■ P. Brian Smith, MD, MHS, MPH, professor of pediatrics, was awarded the Samuel L. Katz Professorship in Pediatrics. Chief of the Division of Quantitative Sciences in the Department of Pediatrics, he has made seminal contributions in the field of pediatric drug safety, neonatal phar-

macology, and the epidemiology of neonatal infections research.

■ Fan Wang, PhD, professor of neurobiology, was named the Morris N. Broad Distinguished Professor. She conducts research aimed at understanding the neural mechanisms that transform tactile or painful stimuli into percepts and movements, with a special emphasis on “active” sensation.

• Myles Wolf, MD, MMSc, professor of medicine, was awarded the Charles Johnson, MD, Chair of Medicine. Chief of the Division of Nephrology, he is internationally recognized as a leading clinical nephrologist and physician-scientist in the fields of disordered mineral metabolism and cardiovascular disease in patients with chronic kidney disease.

SOM FACULTY ELECTED TO AAP

Four School of Medicine faculty members were elected to the Association of American Physicians at the AAP/ASCI/APSA Joint Annual Meeting. Membership is a distinction recognizing excellence and outstanding achievement. School of Medicine faculty selected were:

■ Adrian Hernandez, MD, vice dean for clinical research. He leads research programs focused on understanding population health, generating real-world evidence, and improving patient-centered outcomes through development of new therapies and better care delivery in the national health system.

■ Laura Kristin Newby, MD, professor of medicine. She researches the process and treatment of acute and chronic coronary artery disease and systems issues for delivery of care to patients with these illnesses.

■ John Sampson, MD, PhD, MBA, MHSc, the Robert H., MD, and Gloria Wilkins Professor of Neurosurgery. His current research activities involve the immunotherapeutic targeting of a tumor-specific mutation in the epidermal growth factor receptor.

• Kevin Schulman, MD, MBA, professor of medicine, director of the Center for Clinical and Genetic Economics, and research professor of global health. His research interests include economic evaluation in clinical research; health services research and policy; and medical decision-making.

HWANG, PERMAR SELECTED TO ELAM PROGRAM

Shelley Hwang, MD, MPH, and Sallie Permar, MD, PhD, were selected as 2018-2019 fellows of the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Program for Women. ELAM is a prestigious national fellowship that aims to increase and sustain the number and impact of women in academic leadership positions in the health sciences.

Hwang is professor of surgery and radiology, vice chair for research in the Department of Surgery, and section chief of breast surgery at Duke Cancer Institute. Permar is professor of pediatrics, molecular genetics and microbiology, and immunology,

an affiliate of the Duke Global Health Institute, an associate of the Duke Initiative for Science and Society, a member of the Duke Human Vaccine Institute, and director of the Children’s Health and Discovery Initiative within the Department of Pediatrics and Translating Duke Health.

AOA NAMES NEW MEMBERS

Nine School of Medicine students and two trainees were elected to the Alpha Omega Alpha Medical Honor Society in spring 2018. The criteria include scholastic achievement, leadership capabilities, ethical standards, fairness in dealing with colleagues, demonstrated professionalism, achievement or potential for achievement in medicine, and a record of service to the school and community at large.

Elected to the Duke University School of Medicine chapter of the Alpha Omega Alpha Medical Honor Society:

MEDICAL STUDENTS

- Isaac David Bleicher
- Kelly Lynn Buchanan
- James Clark Campbell
- Emma Margaret Fixsen
- Eliza Danielle Hompe
- Emily Claire Lydon
- Julia Rose Salinaro
- Banafsheh “Bean” Sharif-Askary
- Erin Song

RESIDENT

- Surgical Resident, Muath Bishawi, MD

FELLOW

- Pediatric Rheumatology Fellow, Rebecca Sadun, MD

YEE NAMED ASSOCIATE DEAN FOR ADMISSIONS

Linton Yee, MD, has been named associate dean for admissions for Duke University School of Medicine.

Yee will provide administrative oversight for the medical student admissions process and develop new initiatives to improve admissions strategies and processes. He is an associate professor in the Department of Pediatrics, Division of Emergency Medicine. He has served as an interim co-associate dean of admissions since 2017. Prior to that role, he served as vice chair and chair of the School of Medicine's Admission Committee.

SOM STUDENTS NAMED SCHWEITZER FELLOWS

Three School of Medicine students will spend a year improving community health and developing lifelong leadership skills after being named Albert Schweitzer Fellows for 2018-19. Schweitzer Fellows develop and implement service projects that address the root causes of health disparities in under-resourced communities, while also fulfilling their academic responsibilities.

Schweitzer Fellow Maya Talbott leads the Triangle Health Literacy Initiative to help middle school students in Durham understand health information and empower themselves to become health ambassadors.

Schweitzer Fellows Christelle Tan and Jackee Okoli are expanding the Fresh Produce Program, a community food share based at the Duke Outpatient Clinic.

FROM THE CDC TO THE CAMPAIGN TRAIL

Shannon Hader, MD, HS'95-'99, believes physicians should expand their scope of service beyond the clinic or lab and into the realm of politics. Regardless of whether they're Republicans or Democrats, she says, more doctors need to get involved and support candidates for office.

She feels so strongly about the importance of political involvement for physicians that last year she decided not only to support a candidate but to become one. In November 2017, she decided, "I've got to jump into this," and she registered to run for the Eighth Congressional District seat in the state of Washington, where she grew up in the small town of Auburn. One reason she decided to run, she says, is there are too few women—and no women physicians—in Congress.

She found campaigning an eye-opening experience. "It was a blast," says Hader. "It was like a master's class in partisan politics." In the end, her first bid for political office came up short, as she lost the primary vote in early August.

In the first days after the election, Hader was relaxing at home reading a book, doing house chores, and sleeping in: all the things she didn't

"I guess that was when I decided I'd better put my money where my mouth is. I was going to do something about it."

SHANNON HADER



CHRIS HILDRETH

White Coat Ceremony

August 3, the class of 2022 received their white coats at a ceremony at the Bryan Center.

The Duke Medical Alumni Association presented each incoming student with a personalized stethoscope during the White

Coat Ceremony. Alumni were invited to participate in this special occasion by showing support for our students with a gift to the Medical Annual Fund. The students are grateful for this meaningful and long-lasting gift and appreciate the generosity of our alumni.

Gifts to the Medical Annual Fund support scholarships, innovative research, faculty support, curriculum enhancements, new technologies, and more. To participate, please visit medicalannualfund.duke.edu.

have time for while she was on the campaign trail. The past eight months had been filled with campaign appearances—sometimes four a day—and 250-mile drives from one end of the district to the other.

What will she do next? She says candidly, "I have no idea at this point." Jokingly she says, "People can reach out to me if they have a job."

Whatever she does next, Hader will certainly continue her life-long mission "to serve the community in a unique and purposeful way" by making the world a healthier place. It's something



Hader, on the left, campaigns in the Algona Family Fun Days and Parade in Algona, Washington.

she has been dedicated to since her undergraduate days.

Hader attended Stanford University—the first person in her family to complete a four-year college. While Hader was attending Stanford, she heard Yvonne (Bonnie) Maldonado, MD, talk about her two years as a virus hunter for the Centers for Disease Control and Prevention (CDC). Maldonado became Hader’s long-time mentor.

After Maldonado’s talk, says Hader, “I thought, ‘So that’s what a doctor can do. I can do that. That’s perfect.’” It’s the work that became her life’s passion.

After Stanford, Hader went on to Columbia University College of Physicians and Surgeons to earn her MD and MPH degrees. Then she came to Duke University School of Medicine for a residency in pediatrics and internal medicine.

“Duke was my first choice for residency,” Hader says. The program at Duke offered a global health rotation, something few schools offered at the time. During her residency she studied and conducted research in China, Brazil, Jamaica, and Zimbabwe. While on Duke’s campus she worked with Samuel L. Katz, MD, in pediatric HIV research.

The Duke experience “was intense and hardcore,” Hader says. “And I have never been treated more collegially by the most senior people immediately upon walking in the door. It was like, ‘We know you want to work hard, we know you’re going to be great, and we’re in it together.’ Being trained by people who have that attitude and were willing to put in the intensity and the teaching that came with it was a real privilege.”

After her residency, Hader joined the CDC Commis-



sioned Corps of the U.S. Public Health Service. She went on to a number of health care policy positions in Washington, D.C. Most recently she was the director of the CDC’s Division of Global HIV and TB, a division that has 2,000 public health experts.

It was while she was a director at CDC that Hader became disturbed by what she saw as the erosion of health care policy. “I was inside the new administration as a senior leader at CDC for nine months,” she says, “I guess that was when I decided I’d better put my money where my mouth is. I was going to do something about it.” She decided to run for Congress and stepped down from her position at the CDC to dedicate herself to the campaign.

After that experience, Hader is not sure whether she’ll run for office again. But, wherever her path leads, she will be working to changing health outcomes, with a focus on secondary prevention—preventing bad health events and progression after diseases have been diagnosed.

She may have lost the election, but she learned a great deal on the campaign trail, and she hopes to put that knowledge to work to help people. “It would be really nice to be able to craft or identify a job that allows me to apply a lot of specific community insight I gained during the campaign,” she says.

— *By David Pickel*

HAND SURGEON WRITES A THRILLER FOR A GOOD CAUSE

Becoming a physician is a long process: four years of undergraduate work, four years of medical school, additional years of residency, and often a fellowship or two.

But even that long haul pales in comparison to the odyssey **Richard Brown, T'81, MD'85**, took from starting his first novel to finishing it. He published *Scalpel's Cut*, a medical thriller, last year—some 25 years after he first sat down to start writing it.

And now that it's finally out, he's turning the fruit of all that labor over to a good cause: 100 percent of the proceeds from sales and donations of the book go to Doctors Without Borders, the international relief organization that provides medical aid in regions disrupted by armed conflict, endemic disease, and other humanitarian emergencies. Thus far Brown has raised more than \$30,000 for the organization.

"I never intended to make my living writing books," says Brown, an orthopaedic hand surgeon based in La Jolla, California. "I'm fortunate to be in a position where I can do something like this. Doctors Without Borders accomplishes a lot of good in the world, and that is what we all aspire to do as physicians. This project has managed to raise some money for them, and that's what really matters."

Brown grew up in Atlanta and followed in the footsteps of an older sister who attended Duke. In medical school, a presentation about replantation surgery by James Urbaniak, MD, and Richard Goldner, MD, inspired him to go into hand surgery. After training at the University of California-San Diego and completing a fellowship at Massachusetts General Hospital, he went into practice in Southern California.

Brown has always liked to write. As an undergraduate at Duke, he wrote feature stories for the *Chronicle*, and he's a prolific author of essays and letters to the editor.

Early on, he had a novel in mind. Twenty-five years ago, he sat down and started writing. He didn't get far before the project was derailed by,



"Doctors Without Borders accomplishes a lot of good in the world, and that is what we all aspire to do as physicians. This project has managed to raise some money for them, and that's what really matters."

RICHARD BROWN

of all things, a knee injury.

"This was before laptops, so the only way to write was to sit at my desk," he says. "When I tore up my knee, I couldn't sit that way for long periods. I lost momentum, and didn't pick it up again for many years."

He finally returned to the book four or five years ago, and this time he pushed on through. "I did a hundred revisions, easily," he says. "It was a long process."

The novel's protagonist is an orthopaedic hand

surgeon who went to Duke, which sounds familiar, but he's not a carbon copy of the author; for one thing, he's Swedish. The plot centers on his efforts to unmask a nefarious group called the Cooperative, which is committing fraud on a massive scale at a hospital.

Scalpel's Cut is a thriller, but it's also an intimate look at medicine from the point of view of those who practice it.

"I wanted to share some of the unique experiences that happen in medicine in a way that might be interesting," he says. "In any profession there are joys and frustrations and some craziness, and the same is true of medicine. I thought I could give people some understanding of what doctors experience and how they think."

Brown has supported Doctors Without Borders since the early 2000s, when it began providing aid during the devastating conflict in the Darfur region of Sudan. As the book evolved, Brown realized he might be able to use it as a catalyst for giving.

"I thought, if I can get out in front of a bunch of doctors and shove this book in their face, they might be moved to give money to a cause they know is good," Brown says. "My original

1940s

Robert F. Lorenzen, MD'48, HS'49-'51, retired in 2000 from practicing ophthalmology and enjoys his time pursuing art, music, and traveling the world on cruise ships with his wife, Lucy. His varied activities keep him "busy and out of trouble." He and Lucy live in Paradise Valley, Arizona.

William McCall Jr., MD'49, remains active following retirement from a career as a specialist in internal medicine and allergy and immunology. He is involved with numerous non-profits in his community of Winston-Salem, North Carolina. He and his wife, Carolyn, have two children—**William Vaughn McCall, T'80, MD'84, HS'84-'88**, executive vice dean of the Medical College of Georgia; and **Edgar McCall**, a minister of First Presbyterian Church in Lancaster, South Carolina—and five grandchildren.

1950s

John Clifford Ayers, Jr., MD'54, is enjoying retirement from family practice with his wife, Lynesa.

L. Thompson Bowles, T'53, MD'57, PhD, is retired from his career as a thoracic surgeon. He serves meals at a lunch program for disadvantaged citizens, interviews applicants to the George Washington University School of Medicine and Health Sciences, and serves on a committee to support students in academic distress. He and his wife, **Judith, WC'55**, have three daughters—**Julia Louis-Dreyfus**, an Emmy Award-winning actress of *VEEP* and *Seinfeld* fame; **Amy Reyer, PhD**, a family consultant; and **Lauren Bowles**, an actress—and four grandchildren.

Stephen B. Karpman, MD'57, is a psychiatrist, lecturer, and author whose book *A Game Free Life* is available at karpmandramatriangle.com and has been translated into multiple languages. The book explores his "drama triangle" model of dysfunctional relationships. He teaches workshops around the world. He lives with his family in San Francisco, California.

Nathan A. Ridgeway, MD'57, retired in 2005 from the Quillen College of Medicine at East Tennessee State University, where he was a professor of medicine. He currently serves as medical director for Friends in Need Health Care Center. He and his wife, **Zelda**, live in Kingsport, Tennessee.

Charles E. Rackley, MD'58, retired as emeritus professor of medicine from Georgetown University School of Medicine after 59 years of academic practice. He specialized in cardiology, wrote 23 books and 375 publications, and served as chairman of the Department of Medicine at Georgetown. He and his wife, **Betsy**, have two children: **Colman Barnes Woodhall** and **Elizabeth Woodhall Rackley**.

Donald H. Tucker, T'55, MD'58, HS'59-'62, retired in 1998. He founded Physicians East PA, one of the largest internal medicine specialty practices in North Carolina, and in recognition of his service, a street was named in his honor: **Donald Tucker Way**. His wife, **Barbara, WC'54**, died in 2014 from breast cancer. They have four children who graduated from Duke: **Susan Weaver, T'83, MD'87; Don Jr., T'87; Mike, T'85; and Lynn, T'81**. Three grandchildren are also Duke graduates, and two granddaughters are currently attending Duke.

Harold A. Wilkinson, MD'59, PhD'62, retired from Harvard Medical School and Massachusetts General Hospital in 2017, 55 years after beginning his neurosurgery residency. He expects to remain active, including participating on the board of the Brain Injury Association of Massachusetts and serving as "official joke teller" of the Retired Men's Association. His wife, **Alice**, teaches piano. His son, **Art**, and his family live in Greensboro, North Carolina.

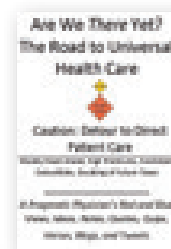
1960s

Robert Green, MD'60, retired in 2015 from his career as an orthopedic surgeon. He and his wife, **Elizabeth**, have three sons, all graduates of Duke: **Robert Jeffrey Green, BA'88, MD'93; David L. Green, BA'89; and Geoffrey F. Green, BA'95**. They have eight grandchildren and live in West Palm Beach, Florida.

Larry H. Parrott, MD'60, was elected elder emeritus by Bethesda Presbyterian Church in Camden, South Carolina. He retired from practicing pathology and lives with his wife, **Joy, BSN'60**, in Camden.

Philip Pearce, MD'60, HS'64-'67, retired in 2004 from a career in obstetrics and gynecology. He and his wife, **Ann**, live in Durham, North Carolina, and have two children, **Phil** and **Lisa**.

Edwin T. Preston, T'57, MD'60, HS'60-'62, is retired from his career practicing orthopaedic surgery and is enjoying family and church as well as his work with the Duke Medical Alumni Association. He and his wife, **Nancy**, live in Chapel Hill, North Carolina.



Richard L. Reece, T'56, MD'60, has published his 14th book, *Are We There Yet? The Road to Universal Health Care*. Its thesis is that universal care, if it occurs, will be half government and half market driven. Reece and his wife **Loretta**, a former Massachusetts General Hospital nurse, live in Old Lyme, Connecticut. They have two sons: **Carter**, who manages a fitness facility in New York City, and **Spencer**, an Episcopal priest who lives and practices in Madrid, Spain, and is an internationally acclaimed poet.

E. Darrell Jervey, MD'61, received the Active Humanitarian Service Award from the South Carolina Society of Ophthalmology in 2008 and the Humanitarian Service Award from the American Academy of Ophthalmology in 2008 for his mission work in Haiti from 1970-2009. He retired in 2012 from his ophthalmology practice, the Jervey Eye Group. He and wife, **Patricia**, live in Greenville, South Carolina, and have four children: **Kay, Elizabeth, Darrell III, and Margaret Alletta** (deceased).

Benjamin Orman, MD'62, is enjoying retirement in Houston, Texas, with his

goal was \$20,000. So it's gone well, and it's continuing."

Meanwhile, he's writing a sequel to *Scalpel's Cut*. When he finishes that one—not 25 years from now, but probably next year—he will donate money from sales and donations from it as well, although he's considering splitting the proceeds between Doctors Without Borders and the Touching Hands Project, which provides free hand surgery and therapy in under-served communities around the world.

"My hope is that a lot of people who donate through the books will continue to give," he says. "I'd like to think this is the stimulus for what I hope becomes habit of giving."

You can order a copy of *Scalpel's Cut* or donate to Doctors Without Borders at scalpelscut.com.

— By *Dave Hart*

CLASS NOTES

wife, Janet. They have three sons—Mark, Neil, and Brian—and two grandchildren, Catherine and John.

Chester C. Haworth, MD'63, is a physician and neurologist at Wake Forest Baptist Medical Center and Cornerstone Healthcare. He and his wife, Brenda, live in High Point, North Carolina, and have three children—Susan, Phillip, and Mary—and five grandchildren.

Lewis B. Holmes, MD'63, is completing the analyses of findings in long-term studies of genetic and environmental causes of birth defects. As emeritus chief of the Medical Genetics Unit of the Department of Pediatrics at MassGeneral Hospital for Children, he and his wife, Leslie, are raising money to establish a chair in genetics and teratology to provide salary support in perpetuity. They have three grown sons and seven grandchildren.

Donald T. Lucey, MD'63, was inducted into the Order of the Long Leaf Pine, the state of North Carolina's highest honor, in March 2017 and received a Certificate of Special Congressional Recognition in September 2017. After retiring as a practicing urologist in 2004, he continues to serve his community as development officer for Mustard Seed Community Health. He and his wife, Shirley, live in Greensboro, North Carolina, and have three children: Pete, Pam, and Steve.

Abe Walston II, MD'63, retired in 1999 from his career as an internist and cardiologist. He and his wife, Carol, live in Wilmington, North Carolina.

Donald Serafin, T'60, MD'64, practices plastic surgery at Womack Army Medical Center at Fort Bragg, North Carolina. He and his wife, Pat, live in Durham, North Carolina.

John Dobson, MD'64, HS'65-'70, retired from a career as an orthopedic hand surgeon, and now he and his wife, Eunice "Nici," enjoy the outdoors in Big Sky, Montana. They have three children: **Kelly, BA'87**, Meg, and John Jr.

Lee S. Harris, T'60, MD'64, HS'66, '67, '68, works part-time as an internal medicine specialist for Intercoastal Medical Group Practice. He and his wife, Janice, live

in Sarasota, Florida, and have five children and 15 grandchildren.

Mary R. Andriola, MD'65, was named one of the Best Doctors in America in 2008. She specializes in children's neurology and epilepsy as professor of neurology and pediatrics and director of child neurology and clinical neurophysiology at State University of New York at Stony Brook. She and her husband, Jordan, live in Setauket, New York, and enjoy watching their children become successful young adults.

William R. Bender, MD'65, retired from a career as a radiologist and now lives in Pensacola, Florida, with his wife, Virginia.

J. Kenneth Allen, MD'66, HS'67-'68, '70-'72, retired in July 2016 from Diagnostic Imaging Alliance of Louisville, where he served as a radiologist. He and his wife, Julie, live in Prospect, Kentucky.

Jane T. Gaede, MD'66, received the Janet Flowers Award for Volunteer Service from the Friends of the Orange County Public Library in Hillsborough, North Carolina, in 2017. She serves as a part-time anatomic pathologist at the Durham Veterans Affairs Medical Center, after retiring from Duke University in 2016. She lives in Durham, North Carolina.

Douglas H. McGregor, T'61, MD'66, is the director of surgical pathology and staff pathologist at Kansas City Veterans Affairs Medical Center and a professor in the Department of Pathology and Laboratory Medicine at the University of Kansas Medical Center. He and his wife, Mizuki, live in Kansas City, Missouri.

John Jameson Stewart Jr., MD'66, has been married to Cheryl Ann Vanderploeg-Stewart for 38 years, and they have raised five children. He retired from practicing ophthalmology at The Eye Institute of West Florida in St. Petersburg, Florida, in 1994. They live in Lakeway, Texas, and Cheryl, he says, is the best Dutch cook of Italian food in all of Texas.

Gerald L. Brown, MD'67, serves as staff psychiatrist for three veterans' outpatient clinics in Virginia. This work follows his retirement from the University of Virginia as professor emeritus and from the National

Institutes of Health, where he served as clinical director of the National Institute of Alcohol Abuse and Alcoholism. He has four children and twelve grandchildren from his first marriage, and three children from his second marriage. He and his wife, Sima, live in Free Union, Virginia.

Carl Eisenberg, MD'68, is president of the Wisconsin Marine Historical Society and a volunteer instructor at the Milwaukee Community Sailing Center. He retired from pediatrics in 2008 and lives in Mequon, Wisconsin.

Thomas F. Henley, MD'68, is a physician at Greensboro OB/GYN Associates. He has competed in eight National Senior Games and won the gold, silver, and bronze medals in discus for his age group in all eight competitions. In the 2017 North Carolina Senior Games, Henley won nine medals, three of them gold medals. He broke the record in the discus throw in the 75-79 age group by six feet and won the silver medal (another competitor broke Henley's new record to win gold). Henley and his wife, Sandra, live in Greensboro, North Carolina, and have three children and eight grandchildren.

David P. Henry, MD'68, HS'68-'70, has returned to North Carolina following retirement from Indiana University School of Medicine, where he is emeritus professor of medicine and pharmacology. He and his wife, Judith, spend the winter months in Chapel Hill and summer months in Morehead City. They have three grandchildren.

Rebecca Trent Kirkland, WC'64, MD'68, and her husband, John, moved from Houston, Texas, to their new home in Fearington Village, in Pittsboro, North Carolina, in 2016. At Duke, they participate in the Patient Advisory Council, which she started 10 years ago. She is retired from practicing pediatric endocrinology at Baylor College of Medicine, where she is professor emerita and senior associate dean emerita for medical education.

2013, the Bill & Melinda Gates Foundation offered him an opportunity to join its effort to eradicate polio worldwide as deputy director for polio research. He and his wife, Sharyn, live in Seattle, Washington.

John D. Shelburne, PhD'71, MD'72, HS'72-'76, is emeritus professor of pathology at Duke University and a physician consultant for the pathology lab at the Durham Veterans Affairs Medical Center. He and his wife, Katherine, live in Durham, North Carolina.

Douglas M. Shasby, T'67, MD'73, retired from practicing pulmonary and critical care at the University Of Iowa Carver College of Medicine in 2010. He and his wife, Sandra, live in Iowa City.

Dale R. Shaw, T'69, MD'73, HS'77, FACR, was inducted into the Order of the Long Leaf Pine, the state of North Carolina's highest honor, by Governor Roy Cooper in 2017. He is a partner in Charlotte Radiology and lives with his wife, **Nancy, WC'70, JD'73**, in Charlotte, North Carolina.

John M. Talmadge, MD'73, HS'75-'76, and his wife, Dana, have been married 42 years and have three children: Caitlin, a professor of political science at Georgetown and a fellow at Brookings & other places; Chelsea, an internal medicine physician in Dallas; and Jeff, a business specialist in reliability and root cause analysis with ARMS Reliability and a player/coach for the Austin Crows Australian Rules Football Club. Talmadge is emeritus director of the addiction psychiatry fellowship training program at the University of Texas Southwestern Medical Center, where he is clinical professor in psychiatry and addiction medicine. The couple has three grandchildren. His website is johntalmadge.com.



James W. Mold, MD'74, retired in 2014 from the University of Oklahoma Health Sciences Center as George Lynn Cross Emeritus Research Professor of Family and Preventive

1970s

John Modlin, MD'71, reckons he's one of the few graduates of his class still working. After he stepped down as emeritus professor of pediatrics and medicine at the Geisel School of Medicine at Dartmouth College in

HELPING PEOPLE FIND THE ANSWERS THEY NEED

It's been a long time, but **Jennifer Kherani, MD'08**, still gets emotional talking about the boy in the mirror.

After graduating from Colgate University and bouncing around among various jobs—sales, waiting tables—she found herself, at the suggestion of a family friend, joining a medical mission trip to the mountains of Guatemala. She worked with a mobile clinic and a surgical team, and among the patients she helped care for was a boy—a young man, actually, maybe 18 years old—who came in one day with a bandana tied across the lower half of his face. When he lowered it, he revealed a severely cleft lip and palate.

“Some of the kids down there with those conditions don't make it because they literally can't eat enough to survive, so in a way he was beating the odds,” says Kherani. “But he was so disfigured that I'm sure his quality of life was not great.”

In a makeshift operating room, the group's surgeon operated to repair the damage. Kherani kept watch as the boy came out of anesthesia.

“He went over and looked in this broken mirror,” she recalls. “And he just started crying. For me, it was one of those a-ha moments. I realized there is no greater purpose, nothing more you can do in this world, than to give that to somebody.”

The trip lit a fire in her for medicine. Upon her return, she enrolled in pre-med courses at Columbia and found work in a cardiac physiology research lab, where she met her husband-to-be, **Aftab Kherani, T'95, MD'99, HS'99-'06**. He was doing his residency at Duke when she enrolled in the School of Medicine.

“I love Duke for so many reasons,” she says. “You're enveloped in this environment that is so rich in whatever you want to pursue. You're encouraged to drive your own career, and Duke is alive with mentors who can help you get there.”

After earning her MD, she did residencies at Cornell and Columbia and ultimately became an emergency medicine physician.

Kherani loved helping patients, and she enjoyed the variety of cases that came through the door of the ER. But the experience also made evident how many people were falling



“For me, it was one of those a-ha moments. I realized there is no greater purpose, nothing more you can do in this world, than to give that to somebody.”

JENNIFER KHERANI

through the cracks.

“So many people did not know where to turn for answers,” she says. “One woman came in at two in the morning with a bag full of medications, and she said, ‘I don't know what I'm supposed to take or why.’ She had duplicate prescriptions, multiple bottles, and she just had no idea what she was supposed to do. Nobody was helping her coordinate her own care. This kind of thing happened all the time, and illustrated how broken the system was.”

A possible solution suggested itself during a conversation she had with Aftab and a friend, Julian Flannery, who was managing director for global research at Gerson Lehrman Group, which helps business people around the world connect with experts on a whole range of subjects.

“In the course of that conversation evolved the idea of a company that could do the same thing in medicine,” Kherani says. “Why couldn't

you start a company that could answer people's health questions, direct them to the right experts, and help them make informed decisions?”

It turns out you can. The Kheranis and Flannery launched Summus, which links people who have health care concerns with specialists who can offer expert guidance. The company now has a network of more than 4,000 physicians in every area of medicine.

In many cases, the clients are the patients themselves, but often they are people seeking guidance in caring for aging parents or other family members. Clients discuss their cases with consulting specialists at length by phone or video.

“Obviously, many aspects of health care can only be done directly,” says Kherani. “But some problems can be solved very well remotely, especially in situations where people lack good access to care or just don't know where to turn.”

Now that Summus is firmly established, Kherani has scaled back her direct involvement; she now splits time between Summus and Loxo Oncology, a pharmaceutical company that develops molecularly targeted therapies against cancer.

And she's as passionate about helping people now as she was back in the hills of Guatemala.

“We'll do whatever patients need to facilitate their health care,” says Kherani. “Our goal is to empower them, to educate them, so that they are completely in control of their health care in such a way that they're not lost.”

— **By Dave Hart**

CLASS NOTES

Medicine. He continues to serve as a consultant in the area of practice-based research and community engagement. Since retirement, he has completed his first book, *Achieving Your Personal Health Goals: A Patient's Guide*, in which he proposes a different way to think about health and health care, one that is both obvious and potentially revolutionary. He and his wife Sandy live near Chapel Hill, North Carolina.

Paul R. Lambert, MD'76, completed his tenth year on the American Board of Otolaryngology, including the most recent year as president. He is professor and chair of the Department of Otolaryngology-Head & Neck Surgery at Medical University of South Carolina, where he has been since 1999. He has three children—**Lara Lambert, T'02**; Paul Lambert; and **Leslie Lambert, T'05**—and three granddaughters. He lives in Charleston, South Carolina.

Christopher E. Smith, MD'77, retired from practicing orthopedic surgery at Emerge Ortho in February 2017. He and his wife, Diane, live in Burlington, North Carolina.

1980s

Eben Alexander III, MD'80, HS'87, has published his most recent book about the mind-body debate and the nature of consciousness. The book is titled *Living in a Mindful Universe: A Neurosurgeon's Journey into the Heart of Consciousness*. He lives in Charlottesville, Virginia.

Richard Olson, MD'80, has retired after 30 years of practicing surgery in Georgia. He will begin law school at the University of Georgia in Athens and intends to finish with a JD degree in 2021.

Reuven Porges, T'79, MD'83, chief executive officer of Skin and Cancer Associates, has partnered with a private equity firm to form a new group of physicians. He and his wife, Maria Rodriguez, live in Fort Lauderdale, Florida, and have four children and one grandchild.

Angela Calle, MD'88, is practicing family medicine at Maryland Primary Care Physicians. She lives in Annapolis, Maryland.

WHAT'S NEW?

We, and your **DukeMed classmates**, would love to hear what you've been up to. Please submit your latest news, activities, accomplishments, and other highlights for **Class Notes** via the link at medalumni.duke.edu or directly by email to dukemed@mc.duke.edu. We look forward to hearing from you!

1990s

Oded Herbsman, MD'93, is chief executive officer of Discover Health Medical Partners and vice chief of staff and vice chair of pediatrics at California Pacific Medical Center. He and his wife, Cheryl, have two children, Maya and Jonah. They live in San Rafael, California.

Andrew Kaplan, MD'93, is not currently practicing. He and his wife, Linda, live in Scituate, Massachusetts.

Timothy Lahey, MD'98, is an HIV and infectious disease physician at Dartmouth College in Hanover, New Hampshire. He teaches three courses at Dartmouth's Geisel School of Medicine and two at Dartmouth College. He directs five graduate programs at The Dartmouth Institute for Health Policy and Clinical Practice, where he recently started a new online Master of Public Health program. He studies immune responses to HIV and a new tuberculosis vaccine and has written about ethics and marginalized patients for *The New York Times*, *The Atlantic*, and others. He is faculty advisor for Dartmouth's chapter of the Albert Schweitzer Fellowship and chair of the clinical ethics program. His wife Jessica's book on education and parenting, *"The Gift of Failure,"* was a *New York Times* bestseller. They have two children, Ben, 19, and Finnegan, 14.

Wendalyn (King) Little, MD'98, is associate professor of pediatrics and emergency medicine and fellowship director of pediatrics and emergency medicine at Emory University and Children's Healthcare of Atlanta. She and her son, Nate, live in Atlanta, Georgia.

Richard A. Sater, PhD'90, MD'91, is a neurologist and director of the Multiple Sclerosis Center at Guilford Neurologic Associates. He and his wife, Pamela, have two children, Richie and Cassidy, and live in Greensboro, North Carolina.

2000s

Luke Hoagland, MD'08, is a practicing radiologist and partner at Radiology Imaging Associates. He and his wife, Monica, have two children, Clark and Naomi, and live in Centennial, Colorado.

Kia McLean Washington, MD'03, recently started as the director of research for the Division of Plastic Surgery and vice chair of diversity and inclusion for the Department of Surgery at the University of Colorado School of Medicine. She and her husband, Christopher, have two children, Parris and Gabriella.

Aaron Miller, MD'03, MSPH, is associate professor of pediatrics at St. Louis University, and Cardinal Glennon Children's Hospital. He lives in Maryland Heights, Missouri.



Jessica Lloyd, MD'10, and her husband, Matthew Lawless, welcomed twins Anika Catherine and Matthew Abram "Abe" Lawless in January 2018. The family lives in Eugene, Oregon, where Jessica works as a reconstructive urologist and Matthew is a business and commercial litigator.



Rajvi Mehta MD'17, has been named one of the 50 Most Impactful Social Innovators by the World Corporate Social Responsibility (World CSR) organization. Mehta founded the nonprofit Let's Be Well Red organization that aims to stop the iron-deficiency anemia health crisis in India through education, empowerment, and distribution of iron-rich GudNeSs bars. She was honored at the World CSR Day conference in Mumbai in February. Her organization's website is home.letsbewellred.org/

HOUSE STAFF NOTES

1940s

Victor B. Hollowell, MD, HS'49-'50, turned 96 years old in January 2018. He exercises every day, writes memoirs and short stories, and is heavily involved in his retirement community. He serves on various committees, presents Great Courses to his peers, and is the reigning chess champion and president of the chess club. He and his wife, Catherine, have three daughters: Victoria H. Dawson, Leslie Anne H. Davis, and Abigail H. Diebert; a son (deceased); and one grandson.

1950s

Luther W. Brady, MD, HS'51-'52, is a Distinguished University Professor in the Department of Radiation Oncology at Drexel University College of Medicine. Former chair of the Department of Radiation Oncology and Nuclear Medicine at Hahnemann University, he was honored by that institution with the establishment of the Luther W. Brady, MD, Professorship in Radiation Oncology. One of the world's most foremost oncologists, he has served as president of every major professional society in his field and been honored with many awards, including the American Medical Association's Distinguished Service Gold Medal. He lives in Philadelphia, Pennsylvania.

TUNE IN TO DEAN KLOTMAN'S PODCASTS

Dean Mary E. Klotman, MD, shares her perspective on important topics related to medical education, science and discovery, and patient care in her Viewpoint podcast series. Every month, she discusses timely issues including diversity in academic medicine, the importance of data science, and the Translating Duke Health initiative. Tune in to her latest podcast and catch up on previous episodes at



medschool.duke.edu/viewpoint

Episode 6 Why is it important to explore the early-life origins of health and disease?

Episode 7 What are Duke researchers doing to better understand Alzheimer's and other brain diseases?

Episode 8 Why is the study of the immune system so important, and what is the impact of that research?

DATES OF INTEREST

- | | |
|-----------------------|---|
| October 1 | Duke Neurosurgery and Engineering event
6:00-8:00 PM, San Francisco Bay Area |
| October 2 | MEDx Distinguished Lecture , Richard S. Stack, MD HS'79-'82
4:00 PM, Trent Semans Center for Health Education, Great Hall |
| October 2 | President Vincent Price in Charlotte
6:30-8:30 PM, The Mint Museum Uptown, Charlotte |
| October 5 | Doctor of Nursing Practice 10th Anniversary Reception
4:30-6:30 PM, School of Nursing |
| October 6 | Advancing Innovation + Discovery:
How Duke Health is Transforming Health Care
8:30-11:30 AM, Washington Duke Inn |
| October 12-13 | Duke Children's Over the Edge fundraiser
8:00 AM, 21c hotel, Durham |
| October 19-20 | Duke University Family Weekend |
| October 27 | Duke Eye Center Development Alumni Reception
7:00 PM, The Peninsula Hotel, Chicago, IL |
| October 27 | President Vincent Price event in Atlanta
6:30-8:30 PM, Fox Theater, Atlanta, GA |
| October 30 | Duke Health Regional Event
with the Schools of Medicine, Nursing, and Engineering
6:00-8:00 PM, Washington, DC |
| November 8-11 | Medical Alumni Weekend
Washington Duke Inn |
| December 12-13 | Duke Children's Radiothon, MIX 101.5 WRAL-FM
Duke Children's Hospital |
| March 9, 2019 | School of Medicine Families Day
9:00-2:00 PM, Trent Semans Center for Health Education |
| March 29, 2019 | Davison Club 50th Anniversary
6:00-9:00 PM, Washington Duke Inn |

For more details and other events please visit:

medschool.duke.edu/about-us/calendar
calendar.duke.edu/index

Tiffany J. Williams, MD, HS'52-'53, is emeritus professor of gynecology and obstetrics at the Mayo Clinic School of Medicine. Williams lives in Englewood, Florida.

John T. Eagan MD, FACP, HS'53-'58, '54, '58-'60, retired in 2015, and he and his wife, June, are staying busy in Birmingham, Alabama. They have four great-grandchildren, a granddaughter, and four grandsons.

Joseph Wells, HS'59, G'59, retired after teaching medical students for 40 years at Duke, Yale, the University of Maryland, and the University of Vermont. He and his wife of 62 years, Ann, have five children, 14 grandchildren, and three great-grandchildren. The couple lives in Essex Junction, Vermont.

1960s

Jesse N. McNeil, MD, HS'65, has taught Sunday school for more than 30 years. He retired from a career in psychiatry in 2003. He and his wife, Mary, enjoy spending time with their three children: Jesse, Rosemary, and Cynthia, who lives with them in Bulington, North Carolina.

1970s

Américo A. Gonzalvo, MD, HS'69-'73, retired in 2014 after 40 years practicing pathology and neuropathology at Tampa General Hospital. He has since walked the Camino de Santiago in Spain twice, covering 180 and 250 kilometers, respectively. He and his wife, Maria Isabel (Maribel), have been married for 50 years and have two children, John Paul and Joanna, and seven grandchildren. They live in Tampa, Florida.

Lewis H. Lipsius, MD, HS'71, continues an impressive streak of more than 40 years of service in the Marietta Rotary Club. He retired from practicing psychiatry in 2003, and he and his wife, Visitación, live in Marietta, Georgia. They have one daughter, Leslie Fortun Lipsius.

Calvin Ronald Peters, MD, HS'72-'75, is a professor of surgery at the University of Central Florida College of Medicine and founding president of the Center for Plastic and Reconstructive Surgery, which he established in 1980 in Orlando, Florida. In 2015, he received the prestigious President's Award from the American Society of Plastic Surgery. In 2003, Peters served as president of the Duke Medical Alumni Association. His wife, **Pamela Peters, JD'78**, is a former president of the Duke Law Alumni Association. Their son, Kendall Peters, MD, is the current president of the center that his father established.

John R. Wolfe, MD, HS'73, retired in October 2014 from a career in private practice specializing in internal medicine and rheumatology. He and his wife, Barbara, live in Winston-Salem, North Carolina.

David F. Boerner, MD, HS'77-'79, MBA'00, is a medical director for the North Carolina State Health Plan. He also works part-time as an internal medicine doctor in Raleigh, North Carolina. Boerner and his wife, Jean, have three children and five grandchildren.

Jeffrey H. Lawson, MD, HS'97-'02, has been appointed president and chief executive officer of the biotechnology and regenerative medicine firm Humacyte, located in Research Triangle Park in Durham. Lawson has worked with Humacyte since its founding in 2004 to support the science and preclinical and clinical testing of Humacyte's novel tissue engineered blood vessels, which are being developed for dialysis access and cardiovascular surgery. He was appointed chief medical officer of Humacyte in 2015.

John Powell Anderson, T'45, MD'49, died June 1, 2018. He was 91. After serving as an active-duty Navy doctor in Korea and at posts throughout the U.S., he joined Associated Physicians in Waynesboro, Virginia, and served as a small-town family doctor for many years. He was an early advocate for the importance of family practice as a medical specialty, and he served in leadership positions in the Virginia Academy of Family Physicians and hosted internship students from Duke University and University of Virginia Schools of Medicine. He served as an active-duty Army physician during the Persian Gulf War and was stationed in Germany in 1991 before opening his own practice in 1995. In retirement, he devoted himself to serving the needs of his community. He was a commander of the local Veterans of Foreign Wars and worked with literacy volunteers, Habitat for Humanity, refugee resettlement, homelessness ministry/WARM House, and Love INC.

James Michael Bacos, MD'53, died June 6, 2018. He was 91. He served in the military during the Second World War and afterward in Keflavik, Iceland, and at Wilford Hall Medical Facility at Lackland Air Force Base, Texas, where he served as chief of the cardiac lab. At Duke, he was an Alpha Omega Alpha Honorary Medical Society recipient and president of the Davison Club. He was professor of medicine and chief of cardiology at the Washington Hospital Center, where he built the first coronary care unit in the Washington, D.C., metropolitan area. He remained chief of the center for 20 years. He played the leading role in creating the city's first mobile coronary care unit and established the first cardiac catheterization lab in the metropolitan area. He was also assistant professor of medicine at George Washington School of Medicine and Health Science and was very active at Montgomery General Hospital in Olney, Maryland.

Stuart Osborne Bondurant Jr., MD'53, HS'56, died May 26, 2018. He was 88. He was president and dean of Albany Medical College, professor of medicine and dean of the University of North Carolina School of Medicine at Chapel Hill, and interim executive vice president and executive dean of Georgetown University Medical Center. He was a pioneer in medical research and a leader in medical education, and he co-founded the North Carolina Institute of Medicine and the North Carolina Biotechnology Center. He served as advisor to many federal agencies and served in leadership positions of numerous professional and scientific organizations. Among many honors, he received the Distinguished Service Medal of the UNC General Alumni Association, the Distinguished Alumnus Award from both the UNC School of Medicine and Duke University School of Medicine, the American Heart Association's Award of Merit and Citation for Distinguished Service to Research, and the Alfred Stengel Award from the American College of Physicians.

Charles Edward Buckley III, MD'54, HS'57-61, professor emeritus of medicine at Duke University School of Medicine, died June 29, 2018. He was 88. After receiving his medical degree, he served in the U.S. Navy before returning to Duke as a research fellow in the Department of Medicine and a research associate in the Department of Biochemistry. He completed his residency in internal medicine and in allergy and immunology and joined the Duke University School of Medicine faculty in 1960. He was a professor of medicine and associate professor of microbiology-immunology and served as director of the Clinical Immunology Laboratory. He trained dozens of residents and fellows in internal medicine, and in allergy and immunology, and he treated countless patients. He was one of the transformational physician-scientists who brought science to bedside teaching at Duke. He served as president of the Southeastern Allergy Association, president of the North Carolina Thoracic Society, and president of the North Carolina Lung Association.

Robert "Bob" Mayo Failing, MD'56, died Sept. 1, 2018. He was 89. He completed an internship and a residency in anatomic and clinical pathology at Los Angeles County General Hospital, moonlighting as an emergency room physician at St. Luke Hospital in Altadena, California, and as a deputy medical examiner for the County of Los Angeles. He joined Santa Barbara Cottage Hospital's pathology department in 1961 and worked there until he retired in 1996. He also served as principal forensic pathologist for the Santa Barbara County Sheriff/Coroner's Office, medical director of Tri-Counties Blood Bank, chief of laboratory services at Santa Ynez Valley and Pinecrest hospitals, and was a founding director of Medical Group Pathology Laboratory, Inc. He served the Los Padres Search and Rescue Team as team physician, director, and president, and he was an internationally known mountaineer whose many feats included reaching the highest points of all 50 states and six continents.

William D. Furst, T'46, M'49, HS'50, died May 1, 2018. He was 93. He served in the U.S. Navy's V12 program, a medically oriented undergraduate program at Duke University, and was later called to naval service in the Korean War at Quantico and Portsmouth, Virginia. After completing a pediatric residency at Boston Children's Hospital, he opened and maintained a pediatric practice in Odessa, Texas, for 40 years and was instrumental in improving the health care for children all over West Texas through his leadership in the American Medical Association, Texas Medical Association, and particularly through the Texas Perinatal Association. He and his wife, Patricia Ellen Ford, had five children. He enjoyed painting and was an avid reader and writer who always looked optimistically ahead. He loved discussing politics or anything of substance and often lamented that it was not necessary for people to be "disagreeable when they disagreed."

Aaron R. Levin, MBBCh, HS'64-'64, died April 17, 2018. He was 89. Born and raised in South Africa, he was a pioneer in the treatment of pediatric congenital heart disease. He developed the Pediatric Cardiac Catheterization Laboratory at the NewYork-Presbyterian/ Weill Cornell Medical Center, where he was a professor of pediatric cardiology. He was elected a Fellow of the American College of Cardiology for his innovative work and directed the laboratory for 29 years, lecturing nationally and internationally and authoring more than 80 publications. He devoted his professional life to research and the management of children with congenital heart disease, caring for many patients into their adulthood. After his tenure at Cornell, he continued as a clinical consultant in pediatric cardiology at Westchester Medical Center and was a professor at New York Medical College in Westchester.

Richard Allen Marshall, HS'56, died Nov. 23, 2017. He was 87. He completed a residency in internal medicine at the Oklahoma University (OU) Medical Center and a research fellowship at Harvard Medical School. His specialties were internal medicine and hematology. He served in numerous roles at the OU College of Medicine, Veterans Administration Hospital, Saint Francis Hospital, and Saint Anthony Hospital, and consulted at Cancer Care Associates of Tulsa and at Tulsa Spine Hospital. He taught at the OU College of Medicine in Oklahoma City and Tulsa from 1962 until his retirement and was awarded the Aesculapian Award for Clinical Teaching—an honor bestowed by OU medical students—in 1965, 1970, 1978, and 2001. During his later years, he participated in several church-sponsored medical missionary trips to Mexico and volunteered his services at Xavier Medical Clinic in Tulsa. He loved animals, OU football, pecan pie, reading non-fiction, colorful jokes, and plaid shirts.

John Linford Opdyke Jr., MD'60, died March 1, 2018. He was 83. The first in his family to attend college, he received a full tuition scholarship to Rollins College in Florida, where he joined the Delta Chi fraternity and was also a member of Phi Society, Key Society, Zeta Alpha Epsilon, and Phi Chi. At Duke University, he was named to the Alpha Omega Alpha Honor Medical Society and met his future wife, **Sue Gorfain, WC'61**. He served as an officer in the United States Air Force for two years at Vandenberg Air Force Base, California. Subsequently the couple moved to West Los Angeles, where he served as a family practitioner with dedication, compassion, and professionalism for thousands of patients for over five decades. He was an avid sportsman, excelling at paddle tennis, deep-sea fishing, and golf. He also surfed, enjoyed beach volleyball, ran 18 marathons, and was a dedicated cyclist.

Charles L. Rast Jr., MD, H'48-'50, H'52-'54, died February 27, 2018. He was 94. He received his medical degree at Johns Hopkins University School of Medicine and was a member of Phi Eta Sigma, Phi Beta Kappa, and Alpha Omega Alpha Honor Societies. He completed an internship at Johns Hopkins Hospital and a residency in internal medicine at Duke University. He interrupted a fellowship in hematology at Duke to join the U.S. Army Medical Corps, serving as a captain from 1950-1952, including one year as an internist with the 8225th Mobile Army Surgical Hospital in Korea. Afterward, he completed a fellowship in cardiovascular diseases at Duke University and practiced medicine as a cardiologist and internist in St. Petersburg, Florida, for more than 40 years. He was an active member of local and state medical societies. He served on local, regional, and state American Heart Association chapters, and was chief of staff at several local hospitals.

Robert Malone "Crusty" Rosemond, T'49, MD'53, HS'53, died July 21, 2018. He was 93. He served in the Naval Air Corps from 1942 to 1946. At Duke University, he met his wife, Sally, and he treasured his lifelong friendships as a member of the Kappa Alpha fraternity. After residencies at Emory University and the Atlanta VA Medical Center, he completed his cardiology fellowship at the Medical College of South Carolina. He maintained a private cardiology practice in Sanford, Florida, from 1958 until 2018, when he retired at age 93. As a Duke alumnus, he served as class agent, president of the Duke University Alumni Association, Davison Club, and Half Century Society. He was a member of the AOA medical honor society and received awards for distinguished leadership and volunteer service. He was a member of the Florida Medical Association, Seminole County Medical Society, and American Society of Echocardiography.

Ben M. Willwerth, T'64, M'67, died April 3, 2018. He was 75. He did his surgical residency at Case

Western Reserve University School of Medicine and was elected to the Alpha Omega Alpha Honor Medical Society. He excelled as a vascular and general surgeon until his retirement in 2004. He served as an assistant professor of surgery at the Pennsylvania School of Medicine and had a long career in surgical clinical practice in Elmira, New York. He was a long-standing member of the American College of Surgeons, the Society for Vascular Surgery, and the Eastern Vascular Society. He pioneered the use of laparoscopic surgical techniques and endovascular stents. His passions included playing golf and squash, collecting model trains, and building and flying remote controlled airplanes. His wife of more than 50 years, **Nancy Dianne Willwerth, BSN'65**, graduated from Duke University School of Nursing.

FACULTY

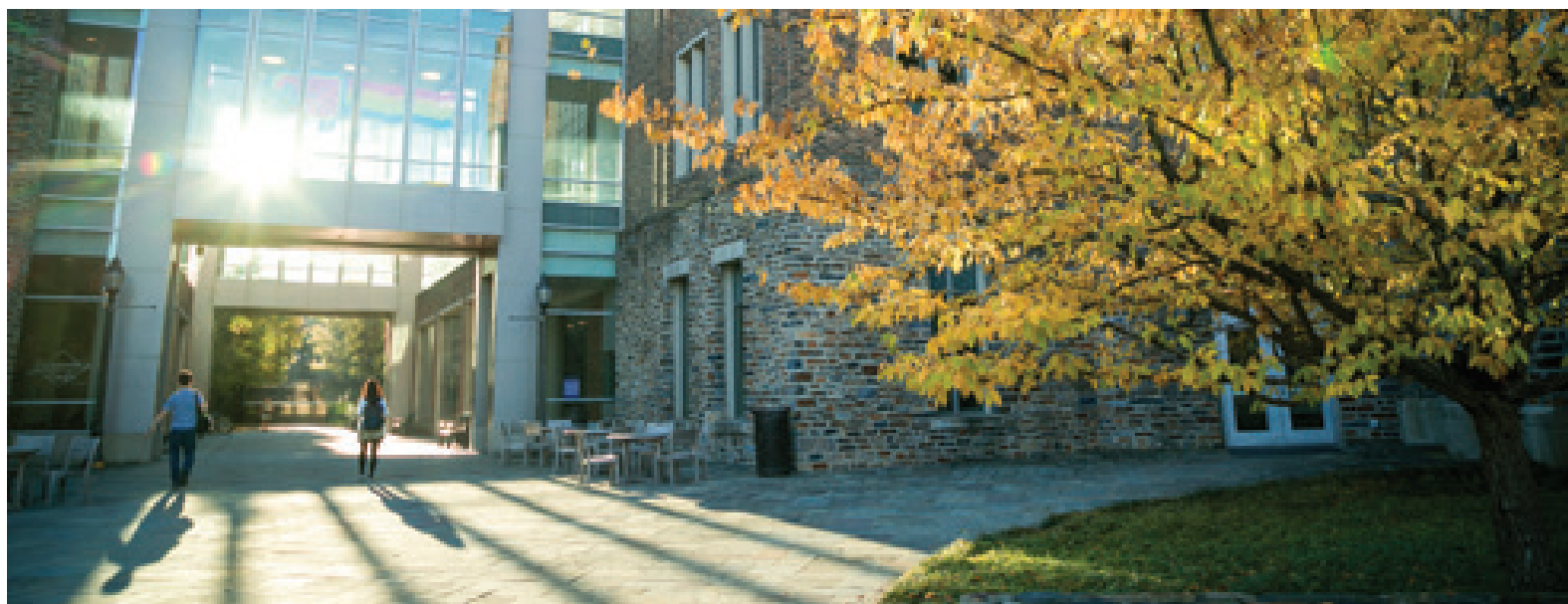
Andrew Clay Puckett Jr., associate dean emeritus for medical education at Duke University School of Medicine, died March 12, 2018. He was 81. He received a master's degree in theology at the Baptist Seminary in Wake Forest and a master of divinity degree at Duke Divinity School. He earned qualification as a hospital chaplain and a clinical pastoral care supervisor and received a PhD at the University of North Carolina at Chapel Hill. He worked as a chaplain in many settings, including the Medical College of Virginia, where he began working at the Massey Cancer Center and Pediatric Oncology program. In the early 1990s, he was recruited to join the staff of Duke University School of Medicine as an associate dean for medical education and given the goal of "humanizing medical education at Duke." He was responsible for creating the Duke University Program for Integrating Ethics and Human Values into Medical Education.

Harold Strauss, MD, former holder of the Edward S. Orgain Professorship in Cardiology and former professor of pharmacology in the Duke University

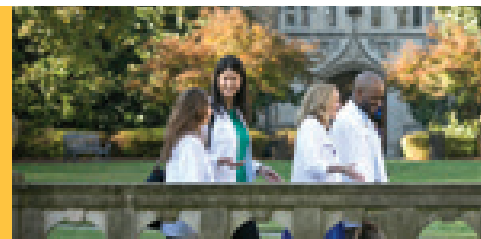
School of Medicine, died March 1, 2018. He was 78. He earned his medical degree from McGill University in Montreal and trained at Montreal's Jewish General Hospital, Columbia University's College of Physicians, Bronx Municipal Hospital Center, and New York's Presbyterian Hospital. He held many appointments at Duke University from 1972 until 1998, when he joined the University of Buffalo School of Medicine and Biomedical Sciences as chair of the Department of Physiology and Biophysics. During his career at Duke University, he served as director of the Specialized Center for Research in Congestive Heart Failure, director of the Specialized Center of Research in Ischemic Heart Disease, and director of the Cardiovascular Study Program for third-year medical students. He was a mentor to many trainees who have gone on to preside over major cardiovascular societies.

DONOR

Dudley Atkins Rauch, T'63, who established the first all-inclusive scholarships at Duke University School of Medicine, died July 26. He was 77. Born in Greenwich, Connecticut, he graduated from Duke University in 1963 with a degree in mathematics and earned an MBA from Harvard Business School in 1965. In 1980, he and a friend, Samuel Salen, MD, started Mobile Medical Imaging (MMI), later called Innoserv Technologies, Inc. Under Rauch's presidency, Innoserv became the country's largest servicer of imaging equipment before being sold to General Electric in 1998. He then turned to a life as a private investor, philanthropist, and board member of institutions including the Thacher School in Ojai, California, and the Los Angeles Philharmonic. He provided financial support for numerous institutions, including Trinity College and several research areas at Duke University. In 2013 Rauch established the Rauch Family Merit Scholarships at Duke University School of Medicine, and in 2017 he made an estate gift to fund the program in perpetuity.



Medical Alumni Weekend 2018
Come back to revisit, reconnect, rekindle
November 8-11, 2018, details on page 19



Blue Devils in Training

School of Medicine alumni, we'd love to share a picture of your future Blue Devils with your fellow alums.

Send us a photo of your young Blue Devil(s) wearing their Duke pride, and a few details (name, age, birth-date, etc.), and we'll run a selection in the next issue of *DukeMed Alumni News*.

The first five alumni who submit a photo will receive a Duke t-shirt.

Please email high-resolution photos (at least 1 MB) to dukemed@dm.duke.edu.

