

THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE AND HEALTH SCIENCES

Medicine + Health

FALL 2019

A BROADER
PERSPECTIVE
ON HEALTH CARE



CHOOSING AN MD/MPH

A NOTE FROM ROSS HALL



Dear Colleagues,

The decision by George Washington University (GW) President Thomas LeBlanc to name Barbara Lee Bass, MD, RESD '86, the new vice president for health affairs (VPHA) and dean of the School of Medicine and Health Sciences (SMHS) was greeted with enthusiasm by faculty, students, residents, staff, and alumni. Former president of the American College of Surgeons and chair of the Department of Surgery at Houston Methodist Hospital, Dr. Bass has established herself as one of the nation's leading academic surgeons. As a graduate of the GW surgery residency program and a former member of the GW surgery department, Dr. Bass is well-liked and highly respected by her faculty peers. She is remembered very fondly by the alumni whom I spoke with at the recent GW MD Alumni Reunion Weekend and who rotated on her team during their surgery clerkships. I also listened to many of the graduates thank her for her superb remarks at the 2019 MD Diploma Ceremony as they crossed the stage, accepted their diplomas from me, and shook her hand. Standing next to Dr. Bass on the stage at the ceremony, I noticed that she managed to maintain her broad smile without showing any signs of fatigue while congratulating each of the graduates. I believe that this was good preparation for becoming the next dean. She will be joining GW on Jan. 15, 2020, and I will continue to serve in the VPHA and dean positions until she arrives. Dr. Bass and I have already begun working on the transition, and I look forward to continuing to be available to her as she requests.

Speaking of our recent MD Alumni Reunion Weekend, I was thrilled that we had the largest turnout for the annual event. It was a special reunion for me because it was my last one as dean, and I will miss engaging with my fellow alumni (many of whom I taught along the way). In a moving ceremony held in GW's Corcoran School of the Arts and Design, we also unveiled the official portrait of another GW alumnus who served as VPHA and dean, John F. "Skip" Williams Jr., MD '79, EdD '96, RESD '83, MPH, who graduated from the MD program and the anesthesiology and critical care medicine residency. Skip's classmates from the MD Class of 1979 turned out in force and, as a class, had the highest percentage of donors as well as the highest total giving for their alumni class gift. Congratulations to Skip and the MD Class of 1979!

As I wrap up my final column in *Medicine + Health*, I want to thank Executive Editor Anne Banner, Managing Editor Thomas Kohout, Associate Editor Katherine Dvorak, Assistant Editor Ashley Rizzardo, and all the writers, photographers, and illustrators who create this award-winning magazine. My goal with *Medicine + Health* was to engage the reader and expand our outreach to alumni and friends. We've worked to show who we are as a school by presenting stories that demonstrate the breadth of the many exciting things happening at GW SMHS; providing insights into our amazing students, staff, faculty, and alumni; and always trying to reflect the powerful diversity of our community. Everything in this magazine ultimately ties back to our noble mission of education, advancing knowledge, and healing, as well as promoting a culture of excellence through inclusion, service, and advocacy to improve the health of our local, national, and global communities. This mission was my guiding star every day in this job as VPHA and dean. I am incredibly grateful and humbled to have had the opportunity to lead this great school in support of our collective efforts to enrich and improve the lives of those we serve. Thank you for your incredible support over the past nine years, and best wishes to Dr. Bass as she embarks on this exciting new chapter.

A handwritten signature in black ink, appearing to read "Jeffrey S. Akman". The signature is fluid and cursive, with a long horizontal line extending to the right.

JEFFREY S. AKMAN, MD '81, RESD '85
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MAKING THE ROUNDS



GW, Hoth Therapeutics Sign Sponsored Research Agreement

Biopharmaceutical company Hoth Therapeutics, Inc., which is focused on unique targeted therapeutics for patients suffering from conditions such as atopic dermatitis, has entered into a sponsored research agreement with the George Washington University (GW) to explore the use of Aprepitant for topical and/or systemic therapy to counter the dermatological related side-effects of Erlotinib therapy in cancer patients.

Erlotinib is a drug that is used to combat various cancers and has been known to cause varying degrees of skin rashes, lesions, hair loss, and nail changes in patients. The side effects can impact a patient's quality of life and even cause treatment interruption, jeopardizing the overall success of the therapy.

The research agreement intends to explore whether other chronic conditions that also display dermatitis may benefit from this novel therapeutic approach. Overseeing the collaboration is William B. Weglicki, MD, professor of biochemistry and molecular medicine and professor of medicine at the GW School of Medicine and Health Sciences. ■

Graduates Look to Bright Future

Over the weekend of May 18, hundreds of the George Washington University (GW) School of Medicine and Health Sciences (SMHS) graduates crossed the stage in Lisner Auditorium before cheering crowds of friends and families, taking the next step toward their future successes.

Health sciences program students received their diplomas on Saturday, hearing words of wisdom from Reamer L. Bushardt, PharmD, PA-C, senior associate dean for health sciences at SMHS, and many of their fellow graduates. The following day, it was the medical students' turn, whose keynote speaker, Barbara Lee Bass, MD, RESD '86, will take over as dean of SMHS in January 2020.

"I know there were times when you felt like this was a tough path you had chosen," Bass told the graduates. "But be sure, you have chosen a great path for a life's mission and just passed another great milestone."



In his charge to the health sciences graduates, Bushardt told them to be responsible for their own learning and personal growth.

"Learn to harness that knowledge and recognize your limitations. Embrace uncertainty and ambiguity in your careers. Serve the community around you; see what's missing and provide it, see what's inadequate and provide it, see what works and embrace it," he said. "Choose the path of leadership, and lead with the character and values you have lived here at GW." ■



White Coat Welcome

New students in the George Washington University School of Medicine and Health Sciences streamed onto campus over the summer to continue on the path to their career aspirations. GW welcomed the new classes to the MD program, health sciences programs, residency programs, and the Institute for Biomedical Sciences with white coat ceremonies, orientation activities, and service projects. ■



SMHS Received 2019 Partnership Award from Virginia DOE

The George Washington University (GW) School of Medicine and Health Sciences (SMHS) was selected by the Commonwealth of Virginia Department of Education (DOE) as a recipient of the 2019 Creating Excellence Business & Industry Partnership Award for Region 4.

The awards are presented annually to recognize exemplary programs and partnerships that promote excellence in career and technical education. SMHS was nominated for this award by the Alexandria City Public Schools for their partnership on the Health Sciences Academy at T.C. Williams High School, which was endorsed by the Commonwealth of Virginia as a Governor's Academy.

The program prepares students for targeted careers, raising student aspirations, attracting more students to postsecondary education in preparation for technical careers, and meeting the workforce needs of existing business and industry. ■



MD Student Selected for NIH Medical Research Scholars Program

Dara Baker, third-year MD student at the George Washington University School of Medicine and Health Sciences (SMHS), was named as a fellow in the National Institutes of Health's (NIH) 2019-20 Medical Research Scholars Program.

Baker is one of only 50 students chosen for the prestigious research training program, which allows students to take a year off from university studies to conduct basic, clinical, or translational research on the NIH campus in Bethesda, Maryland.

During her research year, Baker is working in the National Eye Institute at NIH. Observing an eye surgery in her third year at SMHS really piqued her interest in the field, she said.

"What I love about the research in this field is its investigation in both local and systemic pathways of disease. Ophthalmology research encompasses molecular biology, bioinformatics, technology, biophysics, and many other overlapping fields of interest for me," she said. ■

GW Launches Doctor of Health Sciences Program in Leadership in Clinical Practice and Education

A new Doctor of Health Sciences Program in Leadership in Clinical Practice and Education offered by the George Washington University School of Medicine and Health Sciences (SMHS) promises to enhance competencies and leadership skills in both education and clinical practice.

The program "addresses the complexity of the current practice environment, as well as the need for increased credentialing of health care educators," said Joyce Maring, EdD, DPT, program director and chair and associate professor in the Department of Health, Human Function, and Rehabilitation Sciences at SMHS.

The program prepares professionals from a range of practice areas who seek to build competencies in advanced professional leadership, whether that be in the clinical or academic environment. ■

GW Launches Correctional Health Administration Degree Program

The George Washington University (GW) is offering a first-of-its-kind online Master of Science in Health Sciences (MSHS) in Correctional Health Administration. This program is designed to prepare graduates to lead health care initiatives for incarcerated populations in U.S. jails or prisons.

Newton E. Kendig, MD, clinical professor of medicine at the GW School of Medicine and Health Sciences, brings 25 years of experience as a correctional health care administrator to his role as program director for the MSHS in Correctional Health Administration.

“Serving patients in a correctional facility comes with a unique set of challenges,” said Kendig. “Our program was carefully designed to create health care leaders who know how to meet the needs of diverse patients while balancing a budget and managing a team of correctional health care professionals.”

Classes started in fall 2019, with the program offering both graduate



certificate and master’s degree curricula built on serving the unique health care needs of incarcerated patient populations, improving health outcomes, and leading correctional health care teams. ■

Concentrating on Nutrition

The George Washington University School of Medicine and Health Sciences has added a nutrition concentration for students enrolled in the Master of Science in Health Sciences (MSHS) in Integrative Medicine.

Eating an unhealthy diet is the main contributor to the global burden of disease, according to the World Health Organization. Nutrition is key to the prevention of chronic diseases, such as diabetes, obesity, and cardiovascular disease. However, surveys routinely report that these health care providers feel unprepared to counsel their patients on nutrition. The MSHS in Integrative Medicine with a concentration in nutrition was designed to fill this knowledge gap and help providers and those in health-related professions obtain mastery of nutrition and nutrition counseling.

The course prepares students to design and lead outcomes research – a critical need for the field. Students also have the opportunity to develop a business plan focused on delivery of integrative medicine and nutrition with the help of industry experts. ■

GW and Budapest’s Semmelweis University Partner on Academic and Research Initiatives

A new five-year partnership between the George Washington University (GW) and Semmelweis University in Budapest, Hungary, will lead to collaborations on academic and research initiatives aimed at developing exchange programs and interprofessional education for faculty and students at GW.

The goals of the partnership include harmonizing research plans and creating joint grant submissions. The collaboration also includes conducting faculty and student exchange programs. In addition, GW lecturers will go to Semmelweis University to train professors to enhance their performance in online and blended education, as well as clinical simulations. GW will also integrate Semmelweis University into the GW Collaboratory, which is a mostly virtual environment where stakeholders work and communicate to achieve an understanding of complex health-related issues, design innovations and solutions, participate as collaborators, and improve health and health care. ■



GW Cancer Center Chosen as First Site for Cancer Clinical Trial

Under the leadership of Vishal A. Patel, MD, director of the Cutaneous Oncology Program at the George Washington University (GW) Cancer Center, GW was selected as the first global site of a clinical trial for patients with high-risk cutaneous squamous cell carcinoma.

The study, sponsored by biotechnology company Regeneron in collaboration with multinational pharmaceutical firm Sanofi, will compare disease-free survival of patients treated with adjuvant cemiplimab, versus those treated with placebo after surgery and radiation therapy.

The phase III trial is intended to investigate the drug's safety and effectiveness in preventing recurrence and metastasis in high-risk cutaneous squamous cell carcinoma.

Cemiplimab was approved by the U.S. Food and Drug Administration in 2018 to treat patients with metastatic cutaneous squamous cell carcinoma, or locally advanced cutaneous squamous cell carcinoma, who are



not candidates for curative surgery or curative radiation. The immunotherapy treatment is a fully human, monoclonal antibody targeting the immune checkpoint receptor PD-1 (programmed cell death protein-1) and was the first treatment approved and available for advanced cutaneous squamous cell carcinoma in the United States. ■



Exploring Innovative Patient-Centered Kidney Care

During summer 2019, the George Washington University School of Medicine and Health Sciences (SMHS) joined the American Association of Kidney Patients (AAKP) in co-hosting the Inaugural Global Innovations in Patient-Centered Kidney Care Summit.

Summit organizers sought to put policy insight in the context of science and innovative practical solutions, identify challenges, discuss solutions,

and identify the research needed to inform and evaluate policies to improve kidney health.

There are more than 815 million people with chronic kidney disease around the world, said Dominic Raj, MD, chief of the Division of Kidney Diseases and Hypertension and professor of medicine at SMHS, who helped put together the three-day conference. ■

GW Health Care Quality Program Receives CAHME Certification

The Health Care Quality Program at the George Washington University (GW) School of Medicine and Health Sciences is among the first four programs to receive national certification by the Commission on Accreditation of Healthcare Management Education (CAHME).

Earning the certification is an important milestone for the program. CAHME is currently developing accreditation standards that schools can apply for in the coming years. The Health Care Quality Program at GW was among 10 health care quality and safety programs across North America chosen to support the effort.

The Health Care Quality Program at GW was developed to meet an emerging demand for quality and patient safety specialists who have the capacity and competence to grow and sustain a culture of continuous improvement at all levels and within every sector of the health care delivery system. ■

MAKING THE ROUNDS

Eduardo M. Sotomayor, MD, Installed as Inaugural Dr. Cyrus Katzen Family Director

With his formal installation as the inaugural Dr. Cyrus Katzen Family Director of the George Washington University (GW) Cancer Center, Eduardo M. Sotomayor, MD, joined an elite group of endowed professors, chairs, and directors throughout the GW School of Medicine and Health Sciences.

"I am truly honored and humbled to serve as the inaugural Dr. Cyrus Katzen Family Director," Sotomayor said. The recognition, he added, "is an acknowledgement of the many people who influenced and guided me along an exciting journey that took a boy from a small town along the coast of Peru to America, the greatest country, which adopted me and allowed me to fulfill my personal and professional dreams."

Sotomayor, a research leader in the study of immunotherapy of B-cell

malignancies, came to GW just four years ago to serve as the director of the GW Cancer Center. In those years, Sotomayor has unified GW's cancer research and clinical care, by advancing research innovation, personalizing cancer care, and supporting cancer policy development. His overarching goal for the GW Cancer Center is to earn designation as a National Cancer Institute comprehensive cancer center.

"We're here to continue to build upon the important legacy my father, Dr. Cy Katzen, has established here at GW and in the Washington, D.C., region in the area of cancer research and patient-related cancer care," said Jay Katzen, MD '72, BA '67. The two-time GW alumnus and director of the Cyrus Katzen Foundation recalled his family's extensive ties to GW.



The Katzen family's support over the past two decades has been critical to cancer care at GW and in Washington, D.C. In 2008, Cyrus and Myrtle Katzen made a \$10 million gift to establish The Dr. Cyrus and Myrtle Katzen Cancer Research Center.

The directorship will support basic science and translational research, new treatment protocols, academic needs for medical students and clinicians, honoraria for visiting scholars, pilot research grants for residents and fellows, and equipment needs. ■

GW Legacy
CHALLENGE
2019

Participate in the 2019 GW Legacy Challenge and give 110% to GW!

The 2019 GW Legacy Challenge provides an immediate cash match for donors who document new or increased planned gift commitments to the School of Medicine and Health Sciences, such as gifts by will, trust, or IRA beneficiary designation. As a planned giving donor, you can direct matching funds to your area of interest (equal to 10% of the value of your planned gift, up to \$10,000).

The GW Legacy Challenge will end on either December 31 or when the unrestricted matching funds have been depleted, whichever comes first. More than half of the matching funds have already been distributed, so don't wait to make an immediate impact.



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School of Medicine
& Health Sciences

THE GEORGE WASHINGTON UNIVERSITY

Return on Investment to Accelerate Research Growth

The George Washington University (GW) has sold a portion of its royalty rights for a drug originally developed at the School of Medicine and Health Sciences (SMHS), officials announced in August 2019. The move allows GW to reinvest significant funds into strategic priorities in academics, research, and innovation, accelerating its growth as a preeminent research university.

The first and only FDA-approved drug of its kind, GIAPREZA™ is used to increase dangerously low blood pressure in life-threatening situations and has the potential to benefit hundreds of thousands of patients each year in the United States.

"This is an extraordinary example of GW research and innovation at its best," said GW President Thomas LeBlanc. "A treatment developed here will improve clinical care and save lives, while at the same time provide resources for our university to reinvest in research for the next big discovery. Our impact on society will only continue to grow."

The development of GIAPREZA™ began several years ago. With funding from the university, a team at SMHS conducted a clinical trial at GW testing the effectiveness of a peptide hormone, angiotensin II, on blood pressure.

In 2014, the university entered into a license agreement with La Jolla Pharmaceutical Company for GW's intellectual property rights, allowing the company to complete the FDA approval process and bring the drug to market. The FDA approved GIAPREZA™ in 2017.

The university and faculty, through GW's Technology Commercialization Office (TCO), often work together to bring research to market. TCO helps researchers secure intellectual property licenses, patents and technology commercialization partnerships, among other assistance. Over the past five years, patents filed on GW inventions have doubled, GW-licensed startups secured more than \$200 million in outside funding, and licensing income to GW has increased dramatically. ■

Agree to Lead Fundraising for GW Clinical Enterprise

George Washington University (GW) selected Jonathan Agree to serve as the new associate vice president of health and medicine.

Agree joined GW from the Sidney Kimmel Cancer Center and Clinical Programs at Thomas Jefferson University Hospitals, where he was vice president of development. In this role, Agree oversaw a team that raised more than \$85 million. Most recently, he closed the second largest gift to the cancer center supporting the launch of the Philadelphia Prostate Cancer Biome Project.

In his role at GW, Agree oversees the fundraising teams for the health and medicine enterprises at GW, including the School of Medicine and Health Sciences, the School of Nursing, the GW Medical Faculty Associates, and the Milken Institute School of Public Health at GW. ■



Rodham Institute Celebrates Art of Medicine and Science

For most people, the link between the arts and health is a crooked line, but take a closer look and you can find many examples of the arts playing a role in health and well-being. This idea, "Incorporating the Arts to Improve the Health and Wellbeing of Washington, D.C.," is what brought out community leaders and clinicians to the 6th Annual Rodham Institute Summit.

"One of the reasons we decided to choose 'Incorporating the Arts to Improve the Health and Wellbeing of Washington, D.C.' as the theme of this year's summit is that the arts have really been the glue that binds our society together. The arts are really who we are as human beings," explained Jehan "Gigi" El-Bayoumi, MD, RESD '88, professor of medicine at the George Washington University School of Medicine and Health Sciences and founding director of the Rodham Institute.

The 2019 event was held in the Southeast Tennis and Learning Center and live-streamed by online health resource publication BlackDoctor.org. More than a dozen members of local organizations kicked off the daylong summit, with each giving brief presentations or performances on how they are incorporating music, dance, art, and storytelling into their community health and engagement efforts. ■

There's No Place Like Home

Resident Esosa Imasuen, MD, Says Her Career Was Molded by the Places She's Lived and Worked

BY KATHERINE DVORAK

A home is often defined simply as a place where one lives, but for Esosa Imasuen, MD, the word paints a more diverse picture. For her, home is the people, cultures, and experiences that have shaped her and led her to where she is today: in residency at the George Washington University (GW).

Imasuen, a third-year internal medicine resident at the GW School of Medicine and Health Sciences, sees a home in her birthplace, the United States, and in Nigeria, where she spent her early years — and wants to ensure her work spans the miles between those countries.

“I’ve spent about equal amounts of time in the United States and in Nigeria. My childhood memories are in Nigeria, and thanks to my mother I had a great childhood. I am very fond of Nigerian music and food, and the resilient and creative nature of the people. Nigeria is very vibrant, albeit chaotic, and there’s just something about it that’s special,” she says. “And when I am here in the United States, I am equally at home too.”

So far in her residency at GW, Imasuen says even when the work gets tough, she remembers the impact she’s making on patients’ lives and leans on the support of her program mentors and colleagues to motivate her to keep going.

“I am so blessed to be in this program because I feel at home here. I’ve been able to make good friends, and whenever I am struggling there’s always someone to help me. It really is a family,” she says. “It is exactly what we were told to look for in a residency, and I am lucky to have found that.”

She adds that she’s also happy to be closer to Maryland, where she was raised and where her “always supportive” mother and aunts still live.

Although Imasuen has decided to practice primarily in the States, she wants to make an impact on how primary care



works in Nigeria as well, especially through improvements to the continuity of care offered there. Nigeria’s primary care system is different from America’s; the average Nigerian patient does not see the same provider from year to year, and might not even go to the same practice each year. Because of that, Nigerians typically do not have one designated provider who knows their medical history. Imasuen says she wants to improve that.

“Last year, through the aid of the Global Health Elective Grant, I was able to return for a second rotation at a Nigerian hospital in Lagos. On these trips, I take a little black book in which I write down areas [in which] I could help with quality improvement or things I can do to advance the system. I also jot down pearls of wisdom I have learned from patients,” she says. “I am still trying to figure out my specific role, but I have an idea of where I can fit in.”

Imasuen adds that she has always believed in diversity “in many shapes and forms.”

“Being able to take different things from different cultures has always been something my mom raised me to do, which has also enhanced the way I practice medicine,” she says. “So I am not surprised at my desire to practice both in Nigeria and in the United States.” ■

Bio Banking

Major NIH Grant Sustains the Largest HIV Malignancy Specimen Bank

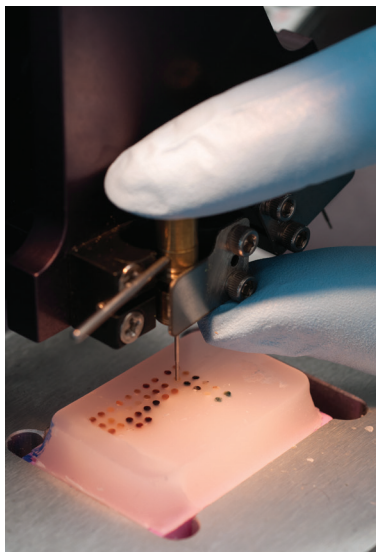
BY ASHLEY RIZZARDO

HIV/AIDS currently affects nearly 38 million people worldwide according to the World Health Organization. Infection with HIV is associated with a wide range of long-term health complications, including the development of cancer, which is a major cause of death among individuals living with HIV. The AIDS and Cancer Specimen Resource (ACSR), the largest collection of annotated HIV malignancy specimens globally available to researchers, has received renewed grant funding, with the George Washington University (GW) serving as the primary site for the next five years. The renewal comes following a \$22 million grant from the National Institutes of Health.

The ACSR was established in 1994 through a cooperative agreement with the National Cancer Institute (NCI) and is overseen by principal investigators from the two legacy sites, GW and the University of California, San Francisco. The ACSR also includes consortia at Baylor Medical College; Mayo Clinic in Scottsdale, Arizona; and Stellenbosch University in Cape Town, South Africa.

“Through this grant, we are working to acquire, store, and equitably distribute tumor tissues and biological fluids

from individuals with HIV-associated malignancies to meet the biospecimen needs of researchers studying HIV-associated malignancies,” says Sylvia Silver, DA, director of the GW Biorepository and professor of microbiology, immunology, and tropical medicine at the GW School of Medicine and Health Sciences.



As part of the award, Silver, one of the principal investigators on the project, will serve as the director of the AIDS Malignancy Clinical Trials Consortium (AMC) Biorepositories. The AMC, which is funded by the NCI, engages more than 250 clinicians and conducts clinical trials in the United States, sub-Saharan Africa, and Latin America. Currently, the AMC biorepositories are located at GW for U.S. domestic trials and at Stellenbosch University for African trials.

During the grant cycle, Silver will assist NCI in the selection of a new ACSR site in Latin America to support AMC clinical trials in the region. In early 2014, Silver worked closely with her South African counterparts to provide quality management expertise and advice on best practices as Stellenbosch University prepared to launch the sub-Saharan African biorepository.

The GW Biorepository has served as a comprehensive, state-of-the-art resource for biospecimen processing, storage, and disbursement, designed to help today’s leading investigators facilitate their research. This year, the GW Biorepository earned designation as a core facility and accreditation by the College of American Pathologists.

The GW Biorepository is one of seven core facilities — along with the Biostatistics Center, Flow Cytometry Core Facility, GW Biomarker Discovery and Analysis Core Facility, McCormick Genomic and Proteomic Center, Nanofabrication and Imaging Center, and the Research Pathology Core Lab — throughout GW that offers a range of services, including cutting-edge technologies and high-end instrumentation coupled with research technical support for university investigators. ■

HEALTHY JOBS

GW Health Sciences Provides Critical Skills for Successful Careers

BY KATHERINE DVORAK

Health care is a constantly changing industry, and many advances are moving the field in directions previously unimagined. Amid these changes, the George Washington University (GW) School of Medicine and Health Sciences (SMHS) is focusing on filling workforce gaps and helping health care professionals develop skills that will drive their organization forward and continuously improve health care.

“We are constantly responding to the workforce needs and addressing gaps in health care and translational science fields,” says Reamer Bushardt, PharmD, PA-C, senior associate dean for health sciences at SMHS. “GW is a global leader in training health and research professionals who are on the cutting edge of their disciplines.”

GW’s health sciences, a vibrant division within SMHS, is well known for the academic programs it offers to students interested in becoming physician assistants (PAs), biomedical laboratory scientists, and physical therapists, but a wide array of additional programs within the division focus on giving working professionals a stronger skill set and the specialty training they need to advance in their career and evolve with the health care industry.

Bushardt says health sciences faculty and staff work closely with national professional associations and large health care employers, the types of organizations that best understand current and evolving workforce needs.

One such group SMHS has a close relationship with is the American Academy of Physician Assistants (AAPA). Through the AAPA Center for Healthcare Leadership and Management (CHLM) Degree Pathways Program, SMHS is able to help PAs advance their careers with programs offered at discounted rates in clinical operations and management, clinical and translational research, health care quality, and integrative medicine. SMHS faculty members also regularly collaborate with regional government officials and economic development agencies to understand workforce priorities and skill gaps in the community.



“Developing different trajectories for a profession, or building on the future of health care professions, can help practitioners get ahead of the curve and understand where the industry is going,” says Leslie Davidson, PhD, chair of the Department of Clinical Research and Leadership and associate professor of clinical research and leadership at SMHS.

Davidson says any organization should have workforce development as a top priority, but especially universities. “With technology advancing so rapidly, and with the need for big data and analysis of information, there’s a different type of worker needed with a different type of skill set. Universities can ensure these competencies are achieved — and we are primed here at GW to do that.”

In the programs offered at SMHS, health professionals can make as big or as little a commitment to their development as they want. They can do something as simple as listen to a podcast, attend a webinar, or take part in a workshop, or take the bigger step of earning a certificate or participating in a master’s or doctoral program.

These kinds of offerings don't just give people in the health care workforce the tools to move forward in their career, Davidson says, they're also essential in making sure the industry can meet the needs of its community locally, nationally, and globally. "To have different stakeholders all have their hand in the development process is really critical for it to be successful," she says, "and we are committed to this approach for developing curricula at GW."

SMHS faculty in the health sciences are also involved in workforce development programming through the Clinical and Translational Science Institute at Children's National (CTSI-CN). The CTSI-CN was established through the Clinical and Translational Science Award, given to 60 major U.S. research institutions by the National Institutes of Health (NIH). GW and Children's National originally earned the award in 2010, and in 2016 the partners received a five-year extension.

Translational workforce development is a vital area in the partnership, which has included creating workshops, courses, programs, individualized career development activities, and other on-demand training to support the clinical and translational workforce.

"With technology advancing so rapidly, and with the need for big data and analysis of information, there's a different type of worker needed with a different type of skill set. Universities can ensure these competencies are achieved – and we are primed here at GW to do that."

—Leslie Davidson, PhD

"Many individuals within our community must come together to accelerate clinical and translational science, including scientific investigators, research staff, trainees, regulators, and the public," says Bushardt, who also serves as director of translational workforce development for the CTSI-CN. "Our translational workforce development programs bring these individuals together, support their development into teams, and provide the necessary skills to translate knowledge into interventions and health services that make a positive difference in the lives of patients and families."

An area of interest that students, clinicians, researchers, and fellows want addressed in their training is biostatistics and bioinformatics. They are interested in obtaining hands-on approaches to analyzing data, says Samar Nasser, PhD, MPH, PA-C, associate professor of clinical research and leadership and director of the Clinical and Translational Research Program. To meet that need, workshops were designed and



implemented with subject matter experts in biostatistics, health informatics, and artificial intelligence.

"We held these workshops either at Gelman or Himmelfarb Library, and we'd show the trainees how to analyze their data with the help of statisticians from GW and Children's National. In the morning, attendees learned how to input their data into an analysis program and by the afternoon were actually running their data and analyzing the results," Nasser says. By the end of the day, she adds, attendees were able to go back to their offices and know how to analyze their data on their own to move their research projects forward.

Another workshop focused on informatics and artificial intelligence, including how advanced analytical techniques can be applied to clinical research. Three informatics specialists were called in to help workshop attendees apply big data to their work. "These workshops were very successful, and students and trainees have asked for more, so we're hoping to do another," Nasser says. "Considering new applications like natural language processing, for example, can lead to innovative thinking and help expand the potential impact of the research our trainees are conducting.

"We're all about being hands-on with the training and the professional development we provide. We want to make sure that it's translational and can take people to the next level in their work," she explains.

Even at the most basic level, leaders are eyeing the health care marketplace and ensuring that when students leave GW they are ready to fill current workforce needs.

"We are rapidly adapting and adopting curriculum and program offerings," Bushardt says, "to ensure our graduates are competitive and prepared for a dynamic health care workforce."

He adds that, much in line with GW's new common purpose statement — "Only at GW, we are changing the world one life at a time" — SMHS is changing the world through individualized workforce development, one student at a time. ■

SHAPING THE FUTURE

New Chair Antonia R. Sepulveda, MD, PhD, Looks to Advance Pathology Through Innovation

BY ASHLEY RIZZARDO

To excel in today's competitive environment, the pathology department at an academic medical center must be on the cutting edge of clinical care and research, according to Antonia R. Sepulveda, MD, PhD, the new chair of the Department of Pathology at the George Washington University (GW) School of Medicine and Health Sciences (SMHS). "It must distinguish itself through innovation, which needs to be powered by a strong research program," she says.

Sepulveda, who comes to GW from Columbia University Irving Medical Center in New York, where she served as vice chair for translational research and director of the Division of Gastrointestinal Pancreas and Liver Pathology in the Department of Pathology and Cell Biology, is eager to pair her experience and vision for the Department of Pathology with GW's culture of collaboration to establish pathology as a vital element of the school's mission.

"I want to promote a culture of scholarly achievements within the department," says Sepulveda, who will also serve as the Ralph E. Loewy Professor of Oncology at SMHS and as chief of pathology service and clinical laboratory director at GW Hospital. "My ultimate goal is to elevate the role of the department globally and increase its preeminence at the national level."

Sepulveda, an expert in gastrointestinal pathology and molecular diagnostic pathology of cancer, plans to use her background as a clinician-scientist to inform her approach when it comes to the direction of the department. "I believe in the synergism between clinical and research experiences," she says. "Clinical observations can inform and launch research questions, and in turn the research may

bring advancement and innovation that can improve disease outcomes and the lives of patients."

Her plans for the department include bringing cutting-edge genomic and molecular diagnostic services to GW. The laboratory will offer innovative genomic testing, such as next-generation sequencing, to support personalized or precision medicine initiatives and novel cancer therapies.

She also wants to lead her team to develop a program in digital and computational pathology, which are technologies that are revolutionizing and shaping the field of pathology, she says. These and other new initiatives in pathology at GW will contribute to supporting outstanding clinical services and will fuel translational and clinical research both within the department and as collaborative transdisciplinary research.

Throughout her career, Sepulveda has made a point of mentoring young trainees and helping to foster the future of the discipline of pathology, having directed gastrointestinal pathology and surgical pathology fellowship programs at the University of Pittsburgh, the University of Pennsylvania, and Columbia University. As a leader in the field, and now the head of her own department, she wants to create an environment that showcases the many fulfilling opportunities for professionals in pathology and laboratory medicine, and to encourage medical students to explore the field of pathology.

"It's very important to me to help the next generation of pathologists find their way to a bright future in the field," Sepulveda says. "In the GW pathology department, I hope we will inspire our students and trainees to actively contribute and ensure the growth and visibility of pathology as a discipline and medical specialty."

“It’s very important to me to help the next generation of pathologists find their way to a bright future in the field. ... I hope we will inspire our students and trainees to actively contribute and ensure the growth and visibility of pathology as a discipline and medical specialty.”

—Antonia R. Sepulveda, MD, PhD



Her own career trajectory, she explains, was influenced by working with mentors Janet Butel, PhD, a prominent molecular virologist, and Milton Finegold, MD, a national figure in the pathology of liver disease, on a project focused on liver cancer development. She says their combined mentorship, emphasizing the power of molecular studies and pathological and morphological observations in human disease, greatly influenced her decision to pursue residency training in anatomic pathology.

Mentors continued to have a role in Sepulveda’s path as she did her PhD work in the laboratory of Michael Lieberman, MD, PhD, at Baylor College of Medicine, furthering her knowledge of molecular biology in the context of human disease. Her work with David Graham, MD, an internationally recognized figure in Helicobacter diseases, steered her research interest toward gastrointestinal cancers and pre-cancer lesions.

“The field of pathology and laboratory medicine offers enormous opportunities to advance our understanding of disease processes, namely leveraging molecular analysis tools, such as genomics and transcriptomics, ultimately resulting

in clinically relevant diagnostic, prognostic, and predictive biomarkers,” she says. “[For me,] pathology presented a fascinating opportunity to learn about biological processes and disease in a very visual, sometimes artsy way.

“The specialty of pathology and laboratory medicine is highly data driven,” she continues, “with increasing use of digital platforms offering a data-rich trove available to be mined using computational tools. A number of algorithms are being developed for diagnosis and biomarkers that will significantly change the way we practice pathology over time.”

The emerging field of digital and computational pathology offers enormous opportunities to apply the latest advances in data science and artificial intelligence.

She maintains that while pathology is a specialty within medicine, it is itself very subspecialized and can provide for many different interests, including tissue-based pathology diagnostics, clinical laboratory pathology, direct patient care by specialists in apheresis and transfusion medicine, and basic translational and clinical research. And, Sepulveda adds, this is a vibrant medical specialty in constant evolution. ■

Taking the Reins

Barbara Lee Bass
Named Vice President
for Health Affairs and
Dean of SMHS



As the George Washington University (GW) School of Medicine and Health Sciences (SMHS) enters a new decade in 2020, it will do so with its first-ever female vice president for health affairs and dean at the helm.

Barbara Lee Bass, MD, RESD '86, a widely respected academic medicine leader, surgeon, and researcher who completed her residency and served on the faculty at GW, begins her role leading SMHS on Jan. 15. She will bring her pioneering innovation in academic surgery and her commitment to teaching the next generation of physicians to a place she knows well.

"I am thrilled to return to GW, where I became a surgeon and began my career in academic surgery," says Bass. "GW is an institution made up of individuals committed to doing the right thing for patients, always. This focus drives our core missions: developing the physicians and health care providers and leaders of the future, driving forward in scientific discovery with the aim of translation to clinical deliverables, and working with energy and passion to improve the health of the citizens and communities we serve.

"I so look forward to joining these committed individuals to propel GW as a dynamic future-driven health care system, learning continuously from all we do," she adds.

In her new role, Bass will be responsible for leading SMHS' academic, clinical, and research missions and providing strategic direction on all aspects of GW's medical enterprise, including the university's relationships with the GW Medical Faculty Associates and GW Hospital.

Bass previously served as chair of the Department of Surgery at Houston Methodist Hospital (HMH) in Houston, Texas, and held numerous positions with its affiliated universities and institutes.

"Dr. Bass has shown a remarkable commitment to academic medicine and health care throughout her accomplished career. She is a devoted physician, educator, and researcher with an inspiring vision for the School of Medicine and Health Sciences and the university's medical enterprise," says GW President Thomas LeBlanc.

Bass started at HMH in 2005. There, she created its surgery department from the ground up, recruiting internationally acclaimed faculty; building high-quality clinical, residency, and fellowship programs; and creating robust interdisciplinary research teams.

Bass also served as chair of the surgery department in the Houston Methodist Specialty Physician Group and has contributed to the development of the organization's partnership with the hospital system it serves, helping align the entities' academic, clinical, and research missions. Most recently, she held the John F. Jr. and Carolyn Bookout Distinguished Presidential Chair and was a professor of

surgery at Weill Cornell Medical College and the Houston Methodist Institute for Academic Medicine; adjunct professor of surgery at Texas A&M College of Medicine; and full member of the Houston Methodist Research Institute.

Completing her residency in general surgery at GW, Bass expanded her training with a research fellowship at the Walter Reed Army Institute of Research while serving as a captain in the U.S. Army Medical Corps, which launched her research career. After graduating, she joined the GW faculty as a general surgeon and surgeon-scientist at the Washington DC Veterans Affairs Medical Center.

"I so look forward to joining these committed individuals to propel GW as a dynamic future-driven health care system, learning continuously from all we do."

—Barbara Lee Bass, MD, RESD '86

Throughout her career, Bass mentored medical students, surgical residents, research fellows, and fellow faculty members, and she directly contributed to the training of more than 250 surgical residents. At HMH, she developed a highly rated clinical rotation for medical students and led the creation of Accreditation Council for Graduate Medical Education-accredited training programs in general surgery and other surgical fellowships.

Although she is proud of the accomplishments and contributions of her faculty and residents at HMH, Bass says she has been "very gratified" to have served as the founder and executive director of the Houston Methodist Institute for Technology, Innovation, and Education, a state-of-the-art education and research center that has hosted more than 55,000 health care providers in practice for training courses.

As a researcher, Bass names her current interests as computational surgery, health services research, and outcomes sciences and clinical trials in surgical oncology, following two decades of bench research in gastrointestinal biology. For more than 25 years, her research has been funded by the National Institutes of Health (NIH), the National Science Foundation, the VA Health Services Research and Development Service program, and the European Union, among others.

She has published more than 170 peer-reviewed manuscripts, and numerous monographs, chapters, and books. She also served on NIH review boards and on the editorial boards of the *Annals of Surgery* and the *Journal of the American College of Surgeons*. ■

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A BROADER PERSPECTIVE ON HEALTH CARE

Dual-Degree
MD/MPH Program
Helps Students
Link Patient Care
to the Community

Inside the walls of a hospital or clinic, physicians only get a glimpse of their patients' lives, and for MD/MPH student Ciara Brown that's not enough. She wants to know about their lives outside the four walls, about the world in which they spend their days – the relationships between communities and the health of their residents.

“In the past few years of medical school, I've definitely learned a lot about how to treat your patients when they're with you face to face,” says the George Washington University (GW) School of Medicine and Health Sciences (SMHS) student. “But so much of our lives are lived outside those spaces, and I want to ensure my patients are healthy when they are not in the doctor's office.”

That's why Brown chose to get not only her MD degree at SMHS, but also a master's degree in public health through a revamped dual-degree MD/MPH program offered by SMHS and the Milken Institute School of Public Health at GW (Milken SPH). Under the recently updated program, students can earn both degrees in just five years thanks to public health offerings built into the MD curriculum.

Brown has already finished her first three years of medical school and now is deep into her public health education. The dual-degree program offers students flexibility in how they pursue their education. For Brown, the best path was taking the summer, fall, and spring semesters between her third and fourth years of medical school for the public health classes. She'll then return to medical school with the Class of 2021 to finish out her fourth year.

For a long time, GW has offered students the ability to get a dual MD/MPH, but changes to the requirements for public health degrees about eight years ago made the process more difficult, lowering enrollment in the MD/MPH program, says Lawrence “Bopper” Deyton, MD '85, MSPH, senior associate dean for clinical public health, Murdock



Head Professor of Medicine and Health Policy, and professor of medicine at SMHS.

However, expanded content in public health, population health, health system science, and policy as part of the MD curriculum allows for cross-crediting with public health degree requirements, streamlining the process.

“This applies to any medical discipline a student may want to pursue, be it pediatrics, OB-GYN, pathology, or surgery. This is for that student who wants to make the public health aspects of their scope of practice a prominent feature of their career,” Deyton says. “You look at the former students who did the combined MD/MPH before, and they are clinicians who are out there leading health systems, leading hospitals, leading health departments, and doing extraordinary research in public health and policy.”

GW medical students receive 15 credits toward an MPH based on the expanded public health content. “That



MD students can complete an MPH with one additional year of training in any of the following residential MPH programs:

- Community Oriented Primary Care
- Environmental Health Science and Policy
- Epidemiology
- Global Environmental Health
- Global Health Epidemiology and Disease Control
- Global Health Policy
- Global Health Program Design, Monitoring, and Evaluation
- Health Policy
- Health Promotion
- Maternal and Child Health
- Public Health Communication and Marketing

content includes the new Patients, Populations, and Systems courses and the clinical public health summit experiences, among other offerings, which leaves only 30 credits needed at Milken SPH for the MPH, rather than the usual 45 credits,” says Karla Bartholomew, PhD, JD, MPH, PA, program and development officer for clinical public health and director of the dual-degree MD/MPH program.

If students don’t want to take the full step toward an MPH degree, there is also a graduate certificate in public health, which offers similar cross-crediting. “While it would typically require 15 credits for the certificate, medical students receive cross-crediting for five credits, and only need 10 credits through Milken SPH, which can be completed within the four years of the MD program,” says Bartholomew.

“You look at the former students who did the combined MD/MPH before, and they are clinicians who are out there leading health systems, leading hospitals, leading health departments, and doing extraordinary research in public health and policy.”

—Lawrence “Bopper” Deyton, MD ’85, MSPH

Penciling In Another Degree

Megan Fuerst always knew she’d pursue an MPH in addition to her MD degree. The only question was, “when?”

“I could have done it before medical school, during medical school, or after as part of a residency program. I decided I wanted to do it during medical school because I really have enjoyed living in Washington, D.C., and I have grown to care a lot about public health and community health here,” she says.

Fuerst has worked as a director at the GW Healing Clinic, a free clinic run by SMHS students, and has also been involved in a program through the American College of Obstetricians and Gynecologists teaching sexual health to middle and high school students. “I love family planning, reproductive health, and women’s health, and so I’m excited to have a chance to evaluate the program and evaluate the needs here,” she adds.

Fuerst is taking the bulk of her public health classes in the fall and spring after having completed some core courses during the summer between her first and second years of medical school.

Some students have even opted to take their public health courses after their fourth year, says Bartholomew. “This really opens the doors to a wide array of career paths for students that they might not otherwise have thought possible.”

Putting it in Practice

SMHS alumnus Sunil Budhrani, MD/MPH '99, chief executive officer of Innovation Health, a health insurance plan created through a partnership between Inova and Aetna, knows how much of an impact an MD/MPH dual degree can have on a career.

He spent the early part of his working life in emergency departments in Boston, New York, Florida, and the Washington, D.C., area. With his management acumen and his MPH, Budhrani says, he was empowered to climb the ER leadership ladder at an early age.

"I believe the two degrees, and my passion for medicine, helped me get to a place of clinical leadership at a rapid pace," he says. The degrees also led him down an entrepreneurial track; Budhrani moved back to D.C. in the early 2000s and started one of the first multistate urgent care systems in the region. He then sold that venture and, with the help of another GW colleague, started a new company called CareClix Telemedicine, which offers global telehealth software solutions to help doctors see patients virtually.

"The foundation of the MD/MPH allowed me to do things in leadership roles in emergency medicine, start companies that I was able to exit successfully, and then go on and be an adviser for the Affordable Care Act (ACA) population health endeavors," he says. His role in assisting with the insurance models in the ACA led him to pursue his current position at Innovation Health.

"All of these parts of my career built upon each other to help me achieve what I have today," he says. "And much of it started at GW."

Budhrani adds that public health and population science are very much in the spotlight today. "Our medical system has been created to deal with a one-on-one reactive type of care, which is extremely important; however, there needs to be additional focus on how we manage large populations of patients as well," he says.

Bartholomew says faculty at SMHS are seeing not just a receptiveness on the part of students toward more public health in the curriculum offered, "but there is also an expectation that this will be part of their education in the MD program."

Going for Two

The SMHS Physician Assistant Studies program also has a dual degree offering, which was launched in the late 1980s, becoming the first PA/MPH program in the nation at the time.

The program averages about 14 students in each cohort, according to Howard Straker, EdD, MPH, PA-C, director of the PA/MPH program and assistant professor of physician assistant studies at SMHS. Students complete their public



health course work in their first year at GW and spend their last two years in the PA program curriculum.

"The program is geared toward students who want to be clinicians who have the insights into the health of populations," Straker explains. "Many have had previous experience working with underserved communities, public health settings, or research prior to applying. Some of the students intend to use their public health knowledge and skills to help them be better clinicians, while others intend to create careers where they are both clinicians and public health practitioners."

Bartholomew adds that having two degrees allows students to take their career one step further, no matter what they choose to do.

"Given the changing health care landscape, given what we know of both worsening disparities and a growing awareness of influences on health that extend beyond the clinical setting, it makes ultimate sense to better prepare our clinicians to effectively address those issues by capitalizing on the strengths we have at GW," Bartholomew says.

Brown, who will complete the public health portion of her training at the end of the academic year, adds that she knows she has made the right decision in taking the time and investing the added tuition to pursue the dual degree.

"It's been a phenomenal last three years; it's amazing how fast time goes by," she says. "And to look back three years ago and realize how far I've come is incredible." ■

Homing in on Health Equity

New Educational Series Sets Faculty Up for Success

BY KATHERINE DVORAK

Health is commonly considered a fundamental human right. So is freedom from inequities due to differential access to quality care. That's why health equity has been a key element of the George Washington University (GW) School of Medicine and Health Sciences' (SMHS) strategic goals for many years. Now, a five-month series aims to further health equity education among educators and health care providers while also fostering a shared understanding of the issues.

"We want to set people up for success and give them the tools to facilitate discussions on how we talk about race, power, and privilege in the classroom in a way that has both educators and students feeling safe and feeling included in the discussion," says Maranda Ward, EdD, MPH, assistant professor of clinical research and leadership at SMHS, the creative mind behind the series.

The Department of Clinical Research and Leadership is sponsoring the five-month series, which began in September and will continue through January 2020.

The series, Ward says, will help attendees understand the importance of teaching about the social, environmental, and structural factors that threaten health equity; create inclusive policies and practices to address the challenges of health equity; and seek out equitable and sustainable institutional and community partnerships to advance health equity.

The idea for the series, Ward says, stemmed from a desire in the health sciences division of SMHS to create recommendations for faculty on addressing health equity in the classroom.

"It's not enough to create recommendations for the curriculum if the faculty and staff don't feel comfortable and confident with these topics," she says. "We want to make sure faculty are empowered to be proactive in these discussions."

Ward says the series is open to the GW community and the public, and adds that the series is streamed through WebEx; sessions are archived online.

Topics addressed include health disparities within and across important U.S. populations; root causes of health disparities in teaching and research; and how to talk about



race, power, and privilege in the classroom.

"I created an external review committee of professionals and they weighed in on priority areas," Ward says about how the topics were chosen. "We knew that when we're talking about disparities, we need to talk about key populations to ensure people have the data around disproportionate health outcomes in U.S. populations. We also knew it would be important to show faculty and staff how to facilitate these discussions. You can have all the data you want, but you have to be comfortable talking about these issues."

Speakers for the series include Ward; Abby Charles, MPH, senior program manager at the Institute for Public Health Innovation; Karey M. Sutton, PhD, director of the American Association of Medical Colleges Health Equity Research Workforce; and Howard Straker, EdD, MPH, PA-C, director of the PA/MPH program and assistant professor of physician assistant studies at SMHS.

Ward adds that the January session will be longer in order to have more hands-on activities and discussions, ensuring attendees are able to take what they learned and the resources offered and put them into practice.

That session will also include "voice equity," Ward says, through a panel discussion featuring community members who will talk about the work they are conducting related to health equity and projects happening on the ground where they live.

"Community partnerships are extremely important when it comes to health equity," she says. "There are a lot of ways to talk about academic community partnerships. You can't do this alone."

Her goal for the series is for SMHS faculty to have a "renewed sense of urgency around understanding why this is important and having the agency and capacity to act, and enact change." ■



GW Researchers Receive \$7.8 Million to Establish Rare Disease Network for Myasthenia Gravis

BY LISA ANDERSON

A George Washington University (GW) research team led by Henry Kaminski, MD, chair of the Department of Neurology and Meta Amalia Neumann Professor of Neurology at the GW School of Medicine and Health Sciences (SMHS), recently received a \$7.8 million award from the National Institutes of Health (NIH) to establish a rare disease network for myasthenia gravis. The network, which will join 24 existing NIH Rare Diseases Clinical Research Networks, will include basic and clinical investigators, patient advocacy groups, and biotechnology and pharmaceutical companies working together to enhance therapeutic development for this rare disease.

Kaminski, a renowned expert in myasthenia gravis who has devoted decades of study to the disease, is joined on the team by fellow investigators Linda Kusner, PhD, associate research professor of pharmacology and physiology at SMHS, and Alison Hall, PhD, associate dean for research workforce development at SMHS.

“Myasthenia gravis is a chronic autoimmune disease that affects how well the nerves and muscles communicate with each other. Often patients experience extreme weakness, struggle with their vision, and are even hospitalized because of difficulty breathing,” says Kaminski. “This grant will give the researcher community the needed infrastructure to study this rare disease in order to develop new therapies.”

The grant will fund research into the underlying pathophysiology of the disease. The different subtypes of myasthenia gravis are not well understood, there are no known biomarkers, and few research labs are studying the disease. Upward of 30% of patients are treatment resistant, and all suffer from undesirable or dangerous adverse treatment side effects. The research team will focus on the differences between ocular myasthenia and general myasthenia — subtypes that produce different antibodies that begin attacking nerve and muscle communication — and individualized treatments for the 10% of myasthenia gravis patients who develop tumors triggered by the disease. Additionally, the researchers will identify and collect biospecimens for future study and follow myasthenia gravis patients in order to identify biomarkers.

To increase the research into myasthenia gravis, the grant also will support a career enhancement component featuring training and education opportunities for scientists, physicians, and the lay public. These opportunities will not only increase the pool of young investigators focusing their careers on rare diseases, specifically myasthenia gravis, but also improve awareness of the unique needs of myasthenia gravis patients.

“The grant is not just a single project, but the establishment of a resource that will drive research for many years,” says Kaminski. “Other rare disease networks funded in the last 10 years have advanced treatments for these disorders that otherwise would have been impossible.” ■

A SECOND ACT

Sanjay Maggirwar, PhD, MBA, Chair of Microbiology, Immunology, and Tropical Medicine, Hopes to Lead Department in Novel Directions

BY KATHERINE DVORAK

After serving as vice chair for the Microbiology Department at Rochester University for many years, Sanjay Maggirwar, PhD, MBA, knew it was time to consider moving into a full chair job, to at least test the waters of what was possible, but he didn't want to go just anywhere.

The George Washington University (GW) School of Medicine and Health Sciences (SMHS) was the only institution to which he applied.

Sitting in his office in Ross Hall mere weeks into his tenure as chair of the Department of Microbiology, Immunology, and Tropical Medicine (MITM) at SMHS, Maggirwar seemed confident and comfortable in his decision. He was drawn to GW, he says, for many reasons, but two in particular stood out: The DC Center for AIDS Research (DC CFAR) and the school's work in HIV/AIDS.

"The CFAR here is much older and much bigger in scope and size than at Rochester, and I was involved with the CFAR there for almost 10 years. I strongly believe in the philosophy behind the center," Maggirwar says. "Also, as an HIV researcher, I wanted to come to a city that would offer a lot of research opportunities in that field."

His main research focus is on the inflammatory secondary complications of HIV infection experienced by those living longer with the disease. One of his major research projects looks at the inflammatory mechanisms associated with HIV-1 dementia. He also leads research projects looking at platelet-mediated neuroinflammatory responses to HIV and accelerated vascular aging in those undergoing combination antiretroviral therapy.

However, Maggirwar's career trajectory could have looked much different had he followed his first passion, acting. It's clear that the theater was a place where his easy laugh and penchant for storytelling could shine.

"My path ... it's very unique. I never planned or had a dream to become a professor. Never. I was not a scholar in college, I was not studious, I was lucky to go to the next year," he says with a broad smile and quick laugh. "My interest was in theater, and so I was very active on stage and involved with the professional theater for quite a long time in India."

Eventually, however, Maggirwar's father sat him down and asked him what he really wanted to do with his life. "I needed that talk," he recalls, "and I started studying very seriously and my path started to become clearer."

He earned his master's degree and then an MBA, which led him to a job at a pharmaceutical company in production planning and control. Soon Maggirwar was spending most of his time in the quality control labs and conducting part-time research there in the evenings. One thing led to another, and he found himself with a PhD and on a path to medical research. "Since then I've never looked back, and I really enjoy what I do now," he says.

Now at GW, Maggirwar is excited to make his mark on the MITM Department, starting with contributing to graduate education. He's seeking to bring National Institutes of Health T-32 grants to GW, which support research training for groups of pre- and postdoctoral fellows.

"It's a wonderful tool to recruit good graduate students into our program. So one focus is to enhance our footprint, both the number of students and quality of students who come here," he says. "It would be the first T-32 at SMHS, and I would love to make that happen."

He adds that he would like to shape the research in the department and take it in novel directions, including enhancing collaborations within the department and with the basic science departments.

"I'd also like to enhance our immunology footprint, as well as the virology component. We have really good researchers here, HIV researchers, but if we can get somebody with a background in flu research, that would be great, or in human immunology — those are the ideas I would like to think of for recruiting new faculty members," he says.

Maggirwar says that even while pursuing his research career, he continued to dabble in the theater, including putting on shows in Rochester. However, with the opportunities and excitement of his new position ahead of him, he won't be on stage anytime soon.

That doesn't mean he won't be in the audience, though, taking in everything this city has to offer. ■



Celebrating 25 YEARS of Medical Diplomacy



BY THOMAS KOHOUT

January 2019 marked the start of the 25th anniversary year for the George Washington University (GW) School of Medicine and Health Sciences' (SMHS) Office of International Medicine Programs (IMP). Since 1994, IMP's academic and clinical exchanges have left an indelible mark on the more than 12,000 GW and international faculty, staff, residents, fellows, and students.

"IMP has transformed lives and improved health care delivery around the world through medical education, training, research, and service," says Huda Ayas, EdD '06, MBA '98, MHSA '93, associate dean for international medicine and founding executive director of IMP. "We've gone from working with one country to more than 50 around the world. If you look around, this is really a unique program."

IMP's roots lie in a partnership that formed between GW and King Faisal Specialist Hospital and Research Center in Riyadh, Saudi Arabia, in 1993. At the time, Ayas assisted with a needs assessment that identified a list of issues at the hospital, including shortage of physicians, and developed physician training programs to help bridge the shortfall. IMP also invited Saudi students to enroll in GW's dual-degree BA/MD program, recalls Ayas.

From that initial project, IMP has grown to feature highly successful international MD, residency, and fellowship programs. IMP also offers a medical research fellowship program, an international observership program, continuing medical education for international faculty, and international clinical rotations for GW medical students.

“We’re looking at all of our accomplishments and successes over the past 25 years, and we are looking for ways to strengthen those areas,” Ayas says, adding that she is preparing for the next steps for the program.

“Research, patient care, education, and humanitarian aid; those are what IMP does well,” says Ayas, “and we’re only going to build on that in the future.”

Medical diplomacy and bridge building have been hallmarks of IMP since the program’s earliest days. Through an exchange of faculty, students, and knowledge, IMP has sought to broaden perspectives and change people’s opinions about the world around them.

Not long ago, Jeffrey S. Akman, MD ’81, RESD ’85, vice president for health affairs, Walter A. Bloedorn Professor of Administrative Medicine, and dean of SMHS, approached Ayas about leveraging the extensive network of academic and clinical contacts the program has developed over the years to enhance the school’s international collaborative research ambitions.

With that mandate, IMP launched the Global Research Initiative in an effort to elevate GW’s international research profile and portfolio by partnering with internal and external stakeholders, facilitating scientific summits, and developing education and training platforms for students and scholars.

The efforts led to scientific meetings in Brazil, Thailand, and Spain. Ayas adds that IMP submitted a proposal to conduct a fourth scientific meeting at King Saud University in Saudi Arabia later in the 2019–20 academic year.

“This is really where we see the future growth for the Global Research Initiative, making contributions to GW and society by promoting international scientific collaborations and exposing researchers to their international counterparts, creating research training platforms for students,” says Ayas.

In support of those expanded research ambitions, Fernando Vidal-Vanaclocha, MD, PhD, recently joined SMHS as an adjunct professor of biochemistry and molecular medicine and a research director with IMP. He will assist with the development and coordination of international scientific meetings, in addition to enhancing GW research collaborations with international medical and research institutions for the Global Research Initiative.

Tackling the Human Side

Humanitarian efforts are another area Ayas hopes to grow in the program. For the past 15 years, IMP has partnered with Project Medishare, a nonprofit health organization, to organize biannual interdisciplinary trips to Haiti. Faculty and students from SMHS, the GW School of Nursing, and the Milken Institute School of Public Health at GW travel to the town of Thomonde to provide care in one of the world’s most resource-poor settings.

The trips, led by Jack Summer, MD, RESD ’81, a former associate clinical professor of medicine at SMHS, along with infectious disease specialist Marc Siegel, MD, associate professor of medicine at SMHS, offer much needed care for residents as well as invaluable experience diagnosing and treating diseases of poverty.

Now, IMP staff are exploring additional sites to develop a sustained effort of humanitarian support. “We are looking for more communities where we can have an impact, possibly one in Uganda and hopefully one in Mexico,” says Ayas. “Similar to our work in Haiti, we want to start sending students and faculty to [new places] to have a sustained impact on that community working with the local health care agents.”

To help advance those goals, Ayas is tapping into GW’s extensive alumni base. The site in Uganda, for instance, was part of an NGO, Omni Med, started by Ed O’Neil, MD ’87.

The most important factor, she explains, is finding the right partners who can help identify needs and build capacity over the long term to make a sustained difference.

Breaking Down the Barriers

Developing scholarships for SMHS students looking for international experiences is another area of emphasis for IMP. Often students choose not to participate in an international rotation for financial reasons.

“We are working to eliminate that barrier,” says Ayas. “We don’t want any SMHS student to rule out an international learning experience because of financial considerations. Money should never be a reason a student decides he or she can’t study abroad.”

To that end, in academic year 2018-19 IMP distributed nearly \$67,000 in scholarships to support 26 SMHS students through the Leonard C. Akman Scholarship, the Max Kade Scholarship, the Haiti Medical Mission Scholarship, and the IMP Scholarships, formerly the International Clinical Electives Program scholarship.

“We’re changing lives by providing opportunities to students and professionals that they otherwise would never have,” Ayas says.

She adds that she is most proud of the fact that students who have participated in IMP offerings have gained a broader view of the world and have continued to seek out international exchange and humanitarian opportunities, and that the international students who have graduated from the program have gone on to make a positive impact at home.

“We want to continue to accomplish that,” she says, “to develop high-impact programming to help people improve their health care systems and change people’s lives for the better.” ■

The Crossroads of Medicine and Public Health

BY ASHLEY RIZZARDO



Postpartum hemorrhage — in which a woman experiences heavy bleeding after giving birth — is a rare but serious condition that, if not treated quickly, can result in shock and death. According to the American College of Obstetricians and Gynecologists (ACOG), postpartum hemorrhage accounts for about 10% of maternal mortalities. With the aid of a National Institutes of Health (NIH) career development grant, Homa Ahmadzia, MD, assistant professor of obstetrics and gynecology at the George Washington University School of Medicine and Health Sciences (SMHS), hopes to further minimize the chance of bleeding to ensure even more successful, healthy births.

The measure of postpartum hemorrhage, as well as how one defines it, has changed over time, according to Ahmadzia. “In the last two or three years the measurement changed from 500 milliliters from standard delivery and one liter from a C-section. Now it is one liter across the board.”

Ahmadzia’s project is twofold. The first component is a statistical approach, attempting to optimize the prediction of who exactly is at risk for hemorrhage. “Clinically as OB-GYNs, we think of certain things, but they don’t always correlate with the outcome,” she says. “I’ve accessed and acquired different large data sets to pull all of the data together. First, I used traditional statistical modeling techniques to optimize prediction, and next I plan to use some machine-learning methods to look at these big data sets to hopefully optimize that prediction.”

The second component involves optimizing the dosage of a preventive drug called tranexamic acid (TXA). Since the 1950s, the drug has been used to help reduce bleeding in dental procedures for patients with bleeding disorders, such as hemophilia. TXA also has been used in other surgical fields, such as transplant and cardiac surgery.

“In obstetrics there’s always a concern that if you give a drug to reduce bleeding that stabilizes the body’s ability to not bleed out, a pregnant woman could be susceptible to blood clots,” Ahmadzia explains. “The dose finding study that I am doing is trying to optimize the safest, lowest dose to prevent severe bleeding.”

In a large randomized international study called the WOMAN Trial, TXA reduced the chance of mortality from bleeding by 30%, especially if given early in the hemorrhage. The next logical question addresses prevention.

Over the course of Ahmadzia’s study, she and her team will administer three different doses to scheduled C-section mothers in low, medium, and high doses, with the maximum

dose being no higher than what was administered in the WOMAN Trial.

“As for current preventative measures, the standard of care is oxytocin, given typically through IVs and sometimes through injection through the muscle,” she explains. “This is common practice in the United States. However, that’s the only intervention tool; there’s no other standard preventative medical therapy.”

Ahmadzia says that now is a great time to conduct a project such as this one because of recent pushes from ACOG and the state of California identifying hemorrhage and blood pressure as key issues to tackle. She references a group in California providing resources toward investigating how physicians can reduce hemorrhage through identification and prevention, and also treatment.

“We don’t 100% know if this will reduce transfusions at delivery, but it can reduce bleeding,” says Ahmadzia. “It could also reduce length of stay and improve the mother’s ability to care for her neonate. And it could reduce how many other medicines we give them. There are a lot of direct benefits for patients.”

The study is made possible by a K23 grant from NIH. The K23 is a mentored career development award geared toward ensuring that a researcher has the right mentor team supporting him or her and early footing to continue as a clinician-scientist. “The NIH puts as much emphasis on the project idea and the content proposal as they do on the person applying and what they hope to do with that award to further their career,” Ahmadzia says.

In addition to the external support and that of her mentors, particularly Naomi Luban, MD, and Johannes van den Anker, MD, both in the Department of Pediatrics at SMHS, she says she is appreciative of the internal support, noting the encouragement from Nancy Gaba, MD, Oscar I. and Mildred S. Dodek and Joan B. and Oscar I. Dodek Jr. Professor of Obstetrics and Gynecology, and chair of the Department of Obstetrics and Gynecology at SMHS. “Dr. Gaba is instrumental in supporting clinician-scientists and research interests. ... if your institution and your department don’t support you, this can be very difficult.”

Looking forward, Ahmadzia was inspired by a recent encounter with Ian Roberts, MD, who is the senior investigator from the WOMAN Trial, to develop a multisite clinical study. Using the high patient volume and diverse patient demographics from hospitals throughout the D.C. metro area, she will pursue the important next step of determining whether the intervention works on a wider scale. ■

FACULTY NEWS

Faculty Focus

Members of the George Washington University (GW) School of Medicine and Health Sciences (SMHS) faculty gathered Sept. 19, 2019, to be honored for their years of service, commitment to the institution, and great achievements made while working at SMHS.

Jeffrey S. Akman, MD '81, RESD '85, vice president for health affairs, Walter A. Bloedorn Professor of Administrative Medicine, and dean of SMHS, recognized Ray Lucas, MD, senior associate dean for faculty affairs and health affairs, who is stepping down from his position. Akman thanked Lucas and recognized his "outstanding leadership and service" in the role.

Recognition was given to SMHS Emeriti faculty, promoted and tenured faculty, faculty celebrating more than five years of service, as well as faculty members who were honored with distinguished awards focused on great research, service, and education.

Robert H. Miller, vice president for research at GW and senior associate dean for research at SMHS, presented the first three awards, which included the Early Career Research Achievement Award, presented to Colin Young, PhD, assistant professor of pharmacology and physiology (1); the Elaine H. Snyder Cancer Research Award, earned by Lopa Mishra, MD, director of the Center for Translational Medicine and professor of surgery (2); and the Distinguished Researcher Award, presented to Raja Mazumder, PhD, professor of biochemistry and molecular medicine (3).

Yolanda Haywood, MD, RESD '87, BA '81, senior associate dean for diversity and inclusion and associate dean for student affairs, presented the Diversity and Inclusion Award to Denice



Cora-Bramble, MD, MBA, BS '76, professor of pediatrics (4).

Akman presented the Distinguished Service Award to Katalin Roth, MD, professor of medicine (5).

The final three awards, the Distinguished Teacher Awards, which this year were expanded to include all faculty in SMHS, were presented by Ellen Goldman, EdD, MBA, associate dean for faculty and organizational



development. Awards went to Nick Shworak, MD, PhD, associate professor of pharmacology and physiology, for Basic Sciences (6); Holly Jonely, ScD, MPT, associate director of the Physical Therapy Program and assistant professor of health, human function, and rehabilitation sciences, for Health Sciences (7); and Dewesh Agrawal, MD, professor of pediatrics, for Clinical Sciences (8). ■



Global Brainsurgery Initiative

Bringing surgical expertise abroad is the goal of the Global Brainsurgery Initiative, an organization co-created by Walter Jean, MD, professor of neurological surgery at the George Washington University (GW) School of Medicine and Health Sciences; Hasan Syed, MD, a neurosurgeon with the University of Virginia Health

System; and Daniel Roque Felbaum, MD, an endovascular neurosurgeon at Georgetown University.

In the summer of 2019, Jean and six other neurosurgeons traveled to Panama to perform complex neurosurgical procedures and to help educate physicians in the country on neurosurgical techniques. “We’ve had

enthusiastic reactions to this from both patients and trainees,” Jean said. “They really value the care and training we are able to provide.”

The team performed 13 complex brain operations while in the country, and even had the opportunity to sit down with Panama’s first lady, Yazmín Colón de Cortizo, a double GW alumna who earned her master’s degree in 1984 and her bachelor’s degree in 1981. Jean said the group spoke with her about the state of health care in Panama.

The Global Brainsurgery Initiative also is starting to grow, Jean added. A previous trip to Vietnam was a success, and he is hopeful teams will be able to train and conduct operations in other countries in the future. The organization has support from the Foundation for International Education in Neurological Surgery, as well as financial backing from virtual reality technology company Surgical Theater. ■

Harwood Co-Authors Paper Selected as John M. Eisenberg Article-of-the-Year

Kenneth Harwood, PhD, PT, director of the Health Care Quality Program, research director for the Physical Therapy Program, and associate professor of clinical research and leadership at the George Washington University School of Medicine and Health Sciences, was a co-author on a paper that received the 2019 John M. Eisenberg Article-of-the-Year award from Health Services Research.

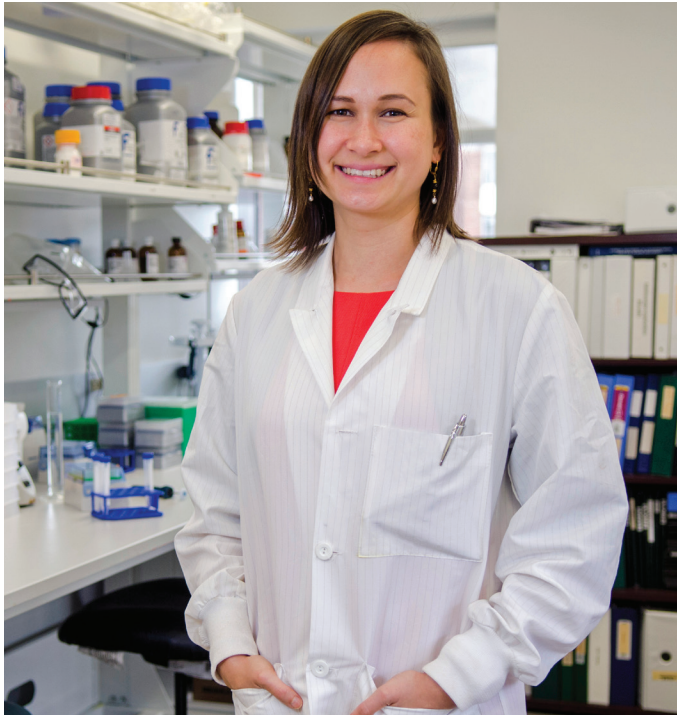
The paper, titled “Physical therapy as the first point of care to treat low back pain: An instrumental variables approach to estimate impact on opioid prescription, health care utilization and costs,” compared differences in opioid

prescriptions, health care utilization, and costs among patients with low back pain who saw a physical therapist at the first point of care. The research team found there was lower utilization of high-cost medical services, as well as lower opioid use, when patients saw a physical therapist first.

The annual award was established in 2003 and recognizes excellent and original research among articles published in the Health Services Research journal. Awardees are selected by the co-editors-in-chief, the senior associate editors, and the publisher based on the overall quality of the article and its relevance to policy



areas that Eisenberg worked in or promoted during his tenure as director of the Agency for Healthcare Research and Quality. ■



Aileen Chang, MD, MSPH, Among Finalists for CureAccelerator Live!

George Washington University (GW) researcher Aileen Chang, MD, MSPH, was chosen as a finalist for CureAccelerator Live! for the Developing World, a philanthropic pitch competition to find the next breakthrough clinical repurposing treatment.

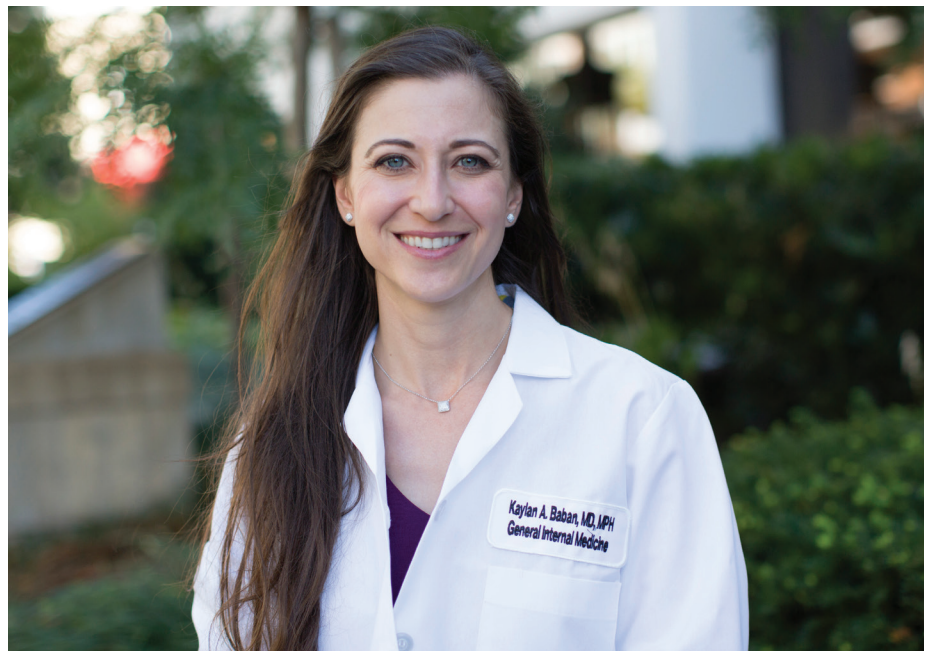
Chang, an assistant professor of medicine and of microbiology, immunology, and tropical medicine at the GW School of Medicine and Health Sciences, delivered her pitch, "Repurposing a Flu Treatment for Severe Dengue Patients in Colombia," at the May event. CureAccelerator Live! is hosted by Cures Within Reach, a philanthropic leader in drug, device, and nutraceutical repurposing research.

Chang is recommending further investigation of the medication Zanamivir, which has been approved by the U.S. Food and Drug Administration to treat Influenza A and B. The treatment has been shown to decrease vascular leakage caused by dengue, which is the primary cause of death in severe infections. ■

Kaylan Baban, MD, MPH, Named New Chief Wellness Officer

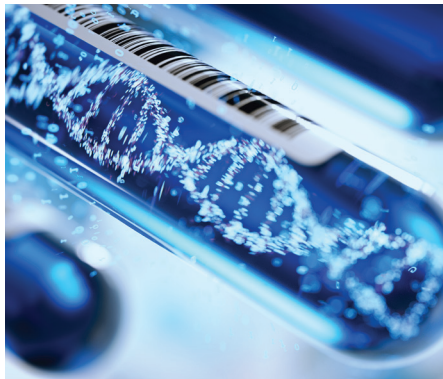
Burnout is more prevalent among health care and health sciences workers, professionals, and trainees than among the general U.S. population, and to help tackle the growing issue Kaylan A. Baban, MD, MPH, has assumed the role of chief wellness officer for the George Washington University (GW) clinical enterprise.

As chief wellness officer, Baban will lead the GWell Center for Healthcare Professionals, which aims to promote a broad concept of health and wellness for all members of the GW medical enterprise. Created on the basis of feedback from a wellness task force, the center's mission is to promote a culture of wellness as the foundation of professional excellence, support skills development for personal and professional wellness, and provide leadership to identify and minimize structural stressors.



"There is a need nationally for initiatives that support those working in health care in all capacities, whether administration, building services, or direct patient care," said Baban, who is also the director of the Lifestyle Medicine Program at the GW Medical Faculty Associates and assistant professor of

medicine at the GW School of Medicine and Health Sciences. "There is recognition from leadership that this is a national challenge, and a proactive culture of wellness is necessary to be the best institution that we can be, the best place for us to work, and the best place to receive your health care." ■



GW Researcher Investigates Role of BRCA1 in DNA Repair

A research team led by Yanfen Hu, PhD, professor of anatomy and cell biology at the George Washington University (GW) School of Medicine and Health Sciences and a member of the GW Cancer Center, is studying the role of the tumor suppressor BRCA1 in the homologous recombination pathway of DNA double-strand break repair.

“Our work seeks to validate a previously unrecognized role of BRCA1 in licensing the commitment step in homologous recombination [a type of high-quality repair machinery that faithfully repairs DNA double-strand breaks],” said Hu. “This challenges the current view of BRCA1 as merely a scaffolding protein.”

Based on preliminary data, the team hypothesizes that BRCA1 modifications are part of a licensing mechanism that senses the damage, but manages to time the repair to that window of high-quality repair. Interestingly, both nuclease recruitment and inhibition are part of the timing control strategy. They also propose that BRCA1 homologous recombination repair activity is particularly important for genetic integrity of luminal genes in luminal cells of breast tissue, where many BRCA1-associated tumors originate. ■

Matthew Colonnese, PhD, Seeks to Improve Diagnostic Utility of Neonatal EEGs

Researchers at the George Washington University (GW) are laying the groundwork for a future in which health care providers can more accurately diagnose brain injury and dysfunction in newborns with the use of an inexpensive and non-invasive diagnostic tool – electroencephalography (EEG).

The research, led by Matthew Colonnese, PhD, associate professor of pharmacology and physiology at the GW School of Medicine and Health Sciences, was recently funded with more than \$4 million in grants from the National Eye Institute and the National Institute of Neurological Disorders and Stroke.

The researchers seek to expand current knowledge of how changes in brain connections to the cerebral



cortex control the normal development of brain activity that occurs around the time of birth.

Despite more than 65 years of EEG use on newborns, understanding of rhythmic cortical activity patterns associated with brain development and injury is limited. The funding will enable the research team to help improve the interpretation and understanding of the EEG in babies, both preterm and full term. ■

Steven Davis, MD, Recognized as National Clerkship Director of the Year

Steven Davis, MD, RESD '08, assistant professor of emergency medicine at the George Washington University (GW) School of Medicine and Health Sciences (SMHS), has been selected as the 2019 National Clerkship Director of the Year at the Society for Academic Emergency Medicine.

Davis serves as the student clerkship director of the Emergency Medicine Senior Clerkship at SMHS, is on the Committee for Undergraduate Medical Education Curriculum, and is chair of the Clinical Curriculum Subcommittee at GW.

The award recognizes an emergency medicine clerkship director who has made significant contributions to either a third- or fourth-year emergency medicine rotation.

“It’s an honor to be recognized for our Emergency Medicine Senior Clerkship,” said Davis. “Awards like this are a recognition of the whole educational team. It takes a whole department to build a successful educational program.” ■



The INNOVATOR

Gail Lebovic, MD '86, Turns Passion for Problem Solving into Creation of Medical Devices

BY KATHERINE DVORAK

Gail Lebovic, MD '86, can confidently look back on her decades as a surgeon and an entrepreneur and see the effect her work has had in the field of women's health care, and particularly on innovative surgery for women with breast cancer.

As one of the few people, and few women, involved in breast-conserving surgery in the 1980s, Lebovic traveled around the world attending meetings with surgeons who shared her passion for the issue.

"At the time ... only a handful of surgeons in various parts of the world [were] interested in improving surgical outcomes for breast cancer. There were some surgeons in France, Italy, and New Zealand, and we would get together at international meetings and talk about this," she says. "We discussed ways we could save the skin of the breast and make different and hidden incisions, as well as performing immediate reconstruction."

The real goal, she says, was saving the breast without having a negative impact on survival from the cancer. "A new term was coined for this approach to breast surgery: oncoplastic surgery," Lebovic says, "which combines techniques in surgical oncology with aesthetic and reconstructive techniques.

"I was the only woman surgeon in the United States really pushing for this, that's for sure," she adds.

Nearly three decades since those early days, Lebovic has developed eight medical device startups, all of which have been acquired and have products still on the market today.

Lebovic's inventions are "relatively simple ideas that came out of a clinical need," she says. They include the MammoPad, which cushions the breast during a mammogram; the Expand-a-Band Breast Binder, which helps women recovering from a mastectomy; the SAVI, which helps deliver targeted radiation to the breast; and most recently the BioZorb, an implantable device that marks the surgical site where a tumor is removed.

It wasn't the path Lebovic imagined for herself when she attended the George Washington University (GW) School of Medicine and Health Sciences (SMHS), but it's a path she says the school more than adequately prepared her to travel. "I truly believe one of the critical aspects of success has been the incredibly strong clinical foundation I obtained while at GW," she says. "In everything I've done, that really strong clinical foundation is what helped me excel in so many different aspects of medicine."

When asked if she's always been an innovator, Lebovic replies with a thoughtful "yes."

As a surgeon, "I loved being able to diagnose a clinical problem and fix it," she explains. "I think that's where that innovative spirit, that entrepreneurial spirit, comes from: being able to recognize a problem and carefully and thoughtfully come up with a creative solution, while avoiding risks whenever possible."

While she was at GW, a close family friend died from breast cancer, pushing Lebovic to learn more about the disease. Not long after, Bernie Fisher, MD, a pioneer in the treatment of breast cancer who conducted one of the pivotal studies in breast-conserving surgery, spoke to students on campus at SMHS.

"I remember sitting in the lecture hall going 'Wow, this is kind of crazy stuff,'" she says. "Almost all women with breast cancer were having mastectomies, and I had seen my first mastectomy and was pretty shocked, and was thinking, 'does every woman who has breast cancer have to go through this?'"

After that, Lebovic says, she was set on her career path, seeking to find or develop better, more creative ways to improve the surgical approach through the art of oncoplastic surgery, a subspecialty using reconstructive surgical techniques to shape the remaining breast after removal of a tumor.

Eventually, Lebovic's innovative spirit drew her toward the field of medical devices. In the 1990s, she spent a lot of time consulting for device makers, which led her to want to start her own companies that could develop medical products designed to help women.

With the help of engineer George Hermann, whom Lebovic had worked with in the past, ideas started to turn into actual products. "We would do the research, and once we were confident we had a winning product design, we

would raise money and build the companies ourselves," she says. "I bring the clinical design and strategic aspects and he brings the engineering, regulatory, and quality aspects to the table. Then together we assemble a team to help with the work. It really is all about the people, their talent, and our ability to work together. It's an incredibly rewarding and fun experience."

The culmination of many aspects of Lebovic's clinical work, she says, can be found in the BioZorb, a simple yet elegant-looking device that's actually very complex in what it can do. The device is implanted during surgery after the tumor is taken out; it's placed where the tumor was removed, and the surgeon sutures it into the breast tissue, allowing the tissue to grow into the center of the device. The BioZorb consists of a bioabsorbable framework, which can be reabsorbed by the body over time, leaving behind six permanent titanium clips to mark the surgical site.

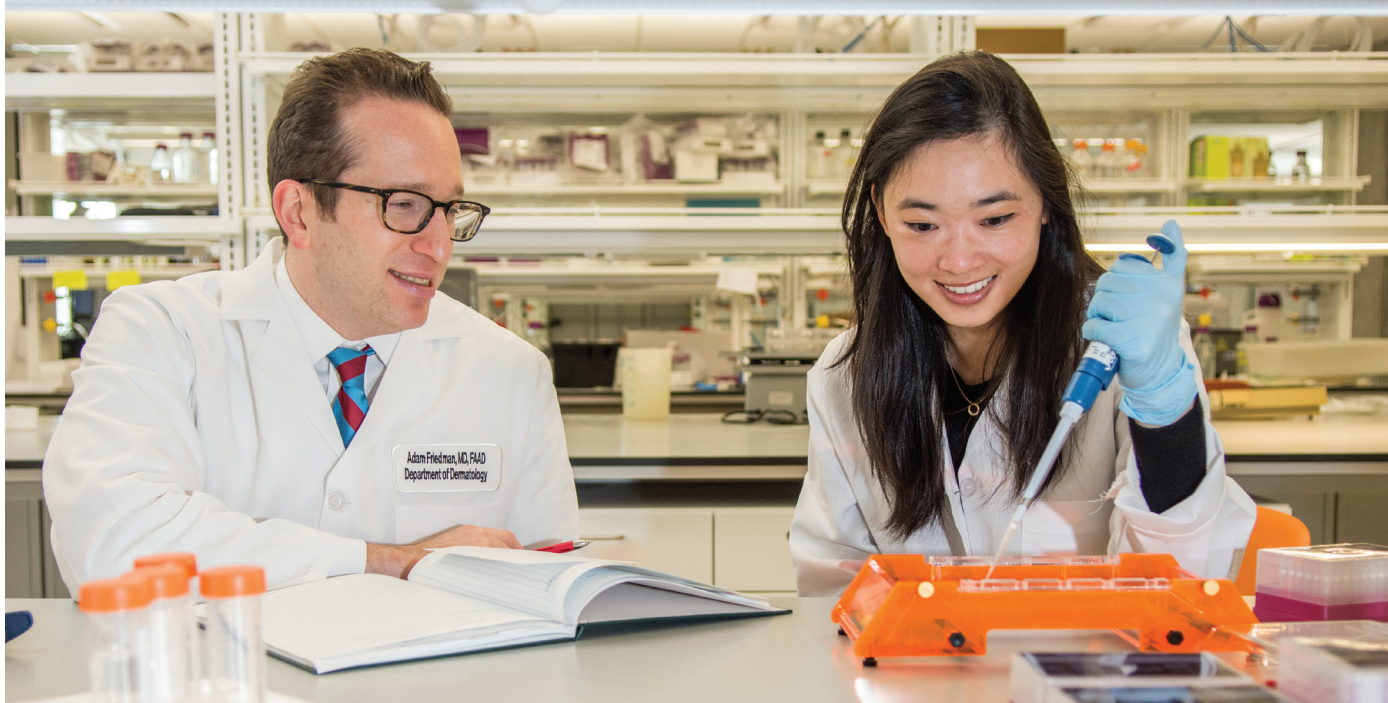
The device helps to maintain the contour of the breast and allows the tissue to heal with support and to re-form instead of collapsing. The clips enable the spot to be easily found during mammography for follow-up, and it helps the radiation oncologists target the area that needs treatment. The product has been used to help nearly 100,000 women, Lebovic says. Focal Therapeutics, the company that Lebovic and Hermann founded to produce and market BioZorb, was acquired last October by women's medical technology company Hologic for \$125 million.

It's gratifying to be a surgeon and have one-on-one relationships with patients, Lebovic says, but you can help only so many people directly. However, "when you become an entrepreneur and invent something that improves patient care, now you can impact millions of women all at once."

The same goes for teaching, she notes. About 13 years ago, Lebovic founded the School of Oncoplastic Surgery. Two courses are held each year, and plans are in the works to expand and include online courses as well. "We've trained a thousand surgeons through our school from all around the world, and each one of those surgeons impacts several hundred women a year, so now I'm able to 'touch' 2 million women or more a year, something I could never do if I only stayed in practice," she says.

With all she's done, all the 100-hour workweeks over the years, people sometimes ask Lebovic if she's going to retire, but she says there's always something in the pipeline.

"It would be impossible for me to retire. It's not in my blood, and besides, why retire when you love what you do and can change history in medicine? In my career I've just put one foot in front of the other ... and opportunities just kept presenting themselves to me," she says. "I never planned all of this, but looking back on it all, it looks so well-orchestrated." ■



Scholarly Concentration Boosts Research Interest

BY KATHERINE DVORAK

Participation in a research scholarly concentration is an important step in giving medical students the aspiration to become physician-researchers, regardless of their research experience before entering medical school, according to a new study published in the *Journal of Investigative Medicine*.

The study found that students in the George Washington University (GW) School of Medicine and Health Sciences (SMHS) Clinical and Translational Research (CTR) scholarly concentration were more likely to place in a highly selective residency (40.2% vs. 21.6%), 68% more likely to publish after medical school, and almost four times as likely to take a job at an academic health center compared with their non-concentration peers.

“We had predicted that students who came into medical school with a lot of research were more likely to be successful because they had experience,” says author Alison Hall, PhD, associate dean for research workforce development at SMHS. “But what surprised us was that it didn’t matter if you’d done two years at the NIH or you’d never touched a test tube — the CTR scholarly concentration had a significant impact on medical students who go on to research careers.”

About 20% of first-year medical students at SMHS choose research as their concentration, a focused elective program the school has been running for more than a decade.

Hall and the study’s other authors, Laura Radville, PhD, former research program manager at SMHS; Annette Aldous, MPH, senior research assistant at the Milken Institute School of Public Health at GW; and Jennifer Arnold, former program assistant, compared data from 335 graduates from 2009 to

2018 who participated in the research concentration with data from the same number of graduates with no scholarly concentration.

Hall says the timing of the research scholarly concentration may have a larger impact than research prior to medical school because students are learning about research at the same time they are immersing themselves in medicine.

The SMHS research scholarly concentration, led by Hall and Naomi Luban, MD, chair of the Institutional Review Board and medical director of the Office for the Protection of Human Subjects at Children’s National Health System, offers “a brisk exposure to research,” Hall notes. The concentration matches students with mentors in their area of interest and consists of a research lecture series, a large research project conducted during the first and second years of medical school, research presentations, and a scholarly project, such as a research manuscript submitted for publication or a poster presentation at a professional meeting.

Hall adds that she and Luban are now using the data collected in the study to examine additional experiences that can be offered to SMHS students. They’re considering how to link the concentration to a year off for research, or match it to research in residency programs that follow medical training. “How do we enrich this for people who really want to keep going? How do we create a real career path for people who discover in medical school that this is for them?” Hall asks.

She adds that she’s excited about the findings and the level of success of the concentration. “I think what will be interesting is what steps we take next to enrich the students’ environment,” she says. ■



Following a Calling

Family history of breast cancer drives student's passion for oncology, health equality

BY KATHERINE DVORAK

RHEMA Thomas knows firsthand the negative impacts of social determinants of health; her mother and two aunts had breast cancer and one of her aunts died from the disease. Now in medical school at the George Washington University (GW), she sees everything through that lens.

“They all had it pretty aggressively and pretty young. I’ve seen how social determinants of health affected my aunt, and I wonder if things had been different, would there have been a different outcome?” she says. “For me, especially being a woman of color, my family history of breast cancer has really made me focus on that and the fact that across almost all of the cancers, African Americans have a higher mortality rate.”

Thomas is only a second-year MD student at the GW School of Medicine and Health Sciences, but she already knows oncology is her calling, and has found herself drawn to radiation oncology in particular. In fact, she recently participated in the prestigious American Society for Radiation Oncology’s (ASTRO) Minority Summer Fellowship.

“Radiation oncology is a field that’s lacking in diversity, and that is something I want to make a change in,” she says. “I want to make a difference in these outcomes because everyone deserves an equal chance at survival and beating cancer.”

Thomas’ interest in medicine started when she was a child wandering the halls of the hospital where her father worked as a cardiologist. She recalls seeing him read echocardiograms, and remembers enjoying being with him at the hospital.

“A lot of the time we’d be in the telemetry unit and I’d be asking the nurses questions about the EKG readings on the screen,” she says. “I naturally was drawn to math and science.

I think [the medical field] is just the perfect thing for me.”

Thomas discovered the ASTRO fellowship during a search for summer experience opportunities. It was created to introduce medical students from underrepresented backgrounds to the field of radiation oncology and to provide them with exposure to clinical, basic, and translational research.

During the summer, Thomas conducted research with ASTRO member Curtiland Deville, MD, clinical director of radiation oncology at Johns Hopkins Kimmel Cancer Center at Sibley Memorial Hospital, on the use of photon and proton therapies in soft tissue sarcomas.

In addition to the research, Thomas had the opportunity to join Deville on his rounds in the clinic, observing how he interacts with patients. “I really liked the consults because they were very educational,” she explains. “Sometimes patients come in feeling very unsure, and I like that when they leave, they feel more confident about what they’re going to do.”

She also spent time in the clinic with other radiation oncologists, which allowed her to learn about additional cancers, including prostate, breast, lung, head and neck, and even pediatric cases.

“This experience has strengthened my desire for a career in radiation oncology,” she says. “There are so many different advancements coming in the field, and it combines all the things I like, including imaging and being able to care for patients, and there’s a genetics aspect to it.”

Thomas is grateful every day to be in medical school. “I’m following my dream, and not everyone is lucky enough to say that.” ■

TRANSFORMATIVE MEDICINE

A Medical Mission as a Third-Year
Medical Student Provided
David Rapp, MD '01, with a Global
Perspective on Health Care

BY THOMAS KOHOUT

There are those who talk about what needs to be done, and those who just do it. It's safe to say David Rapp, MD '01, falls into the "just do it" column. When he entered his third year of medical

school at the George Washington University (GW) School of Medicine and Health Sciences, Rapp got his first glimpse of the desperate need for medical care around the world by participating in a medical mission as part of his MD curriculum. "I went to Honduras for a week and it was a transformative experience."

That first trip left an indelible impression on Rapp, who today serves as an associate professor of urology at the University of Virginia. Ultimately, it would prompt him to act on the need he witnessed during that medical mission, forming his own nonprofit medical philanthropic organization, Global Surgical Expedition (GSE).

"Once you've taken one trip, you're committed forever," says Rapp. "I always knew that I wanted to [travel and

work in underserved regions], but I also wanted to make a bigger impact.

"My mother is a storyteller and she taught me the power of stories," Rapp explains. "So, I wanted to use stories to help inspire other physicians and health care professionals to join the global effort to treat surgical illness." From its beginning, Rapp has ensured that GSE lives this mission, offering a catalog of inspirational stories from patients, health care volunteers, and GSE trips through videos and blogs posted on the nonprofit's website.

As a high school student, Rapp developed a serious interest in language, particularly Spanish. He even majored in Spanish as an undergraduate at the University of Virginia. Medicine, however, was always his end goal. Because he came from a family of physicians — both his father and grandfather were doctors, and his brother also practices medicine — health care was a big part of his world view from an early age.

Rapp's grandfather was a primary care physician in

rural Illinois, and Rapp recalls visiting the clinic where he worked, “learning how a stethoscope worked, playing with the centrifuges. Those things were really exciting. I think it was always something I envisioned doing.”

Those diverse interests and zeal for language laid an ideal foundation for Rapp’s future international work. When it came time to apply for medical school, Rapp says, GW topped the list. “I was obviously attracted to the quality of the education and the school itself, but I was also interested in the community in and around GW. There is a real international flair. GW is known for being a hub of international relations and work within Washington, D.C.”

Following graduation from GW, the completion of his residency at the University of Chicago, and a fellowship at Virginia Mason Medical Center, Rapp sought out more global health opportunities. The young urologic surgeon visited Belize — a tiny nation perched along the eastern edge of Central America, bordered by Mexico, Guatemala, and the Caribbean Sea — and discovered a region in desperate need of his skills.

“Sometimes education is as meaningful as doing a surgery. If you can educate local surgeons and teach them how to perform a particular procedure, they can each do 100 of those surgeries in a year, while I can only do a few of them while I’m there.”

— David Rapp, MD '01

“I expected on my first trip to go and perform a number of very complicated surgeries,” recalls Rapp, who specializes in reconstructive urological surgery. “When I got there, what I found was a lack of urologic care, often very basic care that we take for granted in the United States, that was resulting in lifelong disability or even death [in Belize].”

Common problems such as kidney stones, which elsewhere are treated very simply, he explains, plagued the local population, leaving patients on dialysis or even costing them their lives. “It really motivated me to set up a hub and focus our efforts down there, because I knew that we could make such a big difference.”

Rapp and Tim Bradford, MD, a partner at the Virginia Urology Center who joined him on the trip, returned to the United States committed to do even more. In 2012, they founded GSE, providing surgical care and boosting regional health care capacity by offering equipment and training to local surgeons. Over the seven years the nonprofit has been

organizing missions, GSE has grown. It now sends out five surgical teams annually — to not only Central America, but also Africa. Together, GSE volunteers have performed more than 300 surgeries and treated more than 750 patients afflicted by cancer, fistula, kidney stones, urinary blockage, and other devastating illnesses.

Beyond the life-restoring surgeries performed during each trip, the sustained impact from training local physicians is the key contribution of GSE — and it’s a big part of what drives Rapp. “Sometimes education is as meaningful as doing a surgery,” he says. “If you can educate local surgeons and teach them how to perform a particular procedure, they can each do 100 of those surgeries in a year, while I can only do a few of them while I’m there.”

“It’s those trips that truly reinforce the privilege that it is to be a physician,” Rapp continues. “You look back at the years of schooling and training, and it’s trips like these [that make] you realize it was worth it.” ■



David Rapp, MD '01, and his father Michael Rapp, MD, JD '75, an emergency medicine physician, had the chance to work together on a mission to Belize. It was one of my true pleasures having my father join me on a GSE trip," recalls the younger Rapp.

CLASS NOTES

Joseph René Smith, MD '80, BS '74, recently returned from a volunteer mission to Vietnam. Smith was one of two designated medical directors for the Vietnam Health Clinic (VHC), a student-run volunteer organization with the University of Washington. The group is responsible for setting up mobile medical clinics in rural Vietnamese villages to deliver medical and dental care to underserved populations.

This was Smith's sixth visit to Vietnam as a medical volunteer, and his fifth with VHC.

This year students and health professionals worked in villages west of Da Nang in Central Vietnam. They treated more than 1,700 villagers – including a large number of children – over a two-week period and eight full clinic days. Smith began his academic career at the George Washington University's Columbian College of Arts and Sciences in 1970, two months after returning from a one-year tour of duty in Vietnam serving with the United States Marine Corps.

1960s

Irwin Koff, MD '69, a family physician, received a 10-year service award from the Kalihi Palama Health Center in Honolulu, Hawaii.

Jerome Mayersak, MD '64, RESD '69, received the Distinguished Alumni Urology Award from the Department of Urology at SMHS during the annual Harry C. Miller Symposium and Luncheon.

1970s

Richard Roger Ware, AS '76, past department commandant, Marine Corps League (MCL), was elected as the MCL Mideast Division National Vice Commandant. Ware, who held positions as sergeant-at-arms and chief of staff prior to being elected as department commandant in 2009-11 and 2013-15, earned his associate's degree in medical services technology.

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1980s

Dominick Gadaleta, MD '86, was recently named chair of surgery at Southside Hospital, a 300-bed facility that is part of Northwell Health Physician Partners in Bay Shore, New York.

Michael Goldrich, MD '89, RESD '91, an ENT-otolaryngologist based in New Brunswick, New Jersey, was featured by Castle Connolly Top Doctors as a "Top Doc" in the New York metro area.

Richard Popiel, MD '81, RESD '85, BS '75, has joined health care technology company BiolQ as a senior adviser. Popiel most recently served as co-founder and managing partner of Xploration Health, LLC.

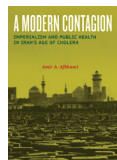
James Roberts, MD '84, a urologist in private practice, was named a top-rated urologist in San Diego, California, by Kev's Best, an independent blog and news site. Roberts opened his private practice in 2004 after retiring as chair of the Department of Urology at the Naval Medical Center San Diego after 20 years.

Edward M. Zimmerman, MD '83, was recently appointed to the medical advisory board of Apyx Medical Corporation, formerly Bovie Medical Corporation. Zimmerman also serves as president and examiner for the American Board of Laser Surgery, and is a member of the board of trustees for the American Academy of Cosmetic Surgery.

1990s

Jeffrey Bell, MD, RESD '93, recently merged his practice, Commonwealth OB-GYN, with that of Thomas E. Myers, MD, to form Novant Health UVA Health System OB-GYN, based in Warrenton, Virginia.

Bookshelves



In his new book, "A Modern Contagion" (Johns Hopkins University Press, 2019), **Amir Afkhami, MD '03, PhD**, associate professor of psychiatry and behavioral sciences at the George Washington University School of Medicine and Health Sciences, uses Iranian, European, and American archival records to establish a comprehensive overview of pandemic cholera in Iran from the early 19th century to the First World War. Tracking those historical outbreaks, Afkhami argues that the effects of pandemic cholera played a significant role in altering the country's social, economic, and political development, ultimately molding modern Iran.



Walter Jean, MD, professor of neurological surgery, recently published "Skull Base Surgery: Strategies" (Thieme Medical Publishers, 2019), a 455-page text that has quickly become one of the top new neurosurgery books. Jean, a board-certified neurosurgeon with 15 years of experience in both open and endoscopic skull base surgery, focuses on state-of-the-art skull-base procedures, important thought processes, and vital strategies required to perform them.

The text is broken into nine sections and 32 chapters, organized by anatomy cover tumors in the anterior, anterolateral, lateral, central, postero-superior, and postero-inferior skull base regions, and clivus, petrous bone, and ventricles. Real-life cases enhance understanding of all the elements that go into each operation. Perspectives sections at the end of each chapter embrace the concept of diverse surgeon viewpoints on similar ideas, techniques, and approaches.



Susan McCormick, MD '88, a gastroenterologist with Virginia Mason Health System in Seattle, Washington, recently published her debut novel "The Fog Ladies" (The Wild Rose Press, 2019). The mystery novel, McCormick's first, is set in San Francisco's storied Pacific Heights neighborhood. McCormick also published a children's book titled "Granny Can't Remember Me" about Alzheimer's disease and dementia told from the perspective of a 6-year-old.



Christina M. Puchalski, MD '94, RESD '97, founder and director of the George Washington University's (GW) Institute for Spirituality and Health and professor of medicine at GW School of Medicine and Health Sciences, partnered with Betty Ferrell, PhD, MA, FAAN, FPCN, CHPN, director and professor in the Division of Nursing Research and Education, Department of Population Sciences, at City of Hope Hospital, on a new book about spirituality and palliative care. The book, titled "Making Health Care Whole" (Templeton Press, 2019), serves as both a scholarly review of the field as well as a practical resource with specific recommendations to improve spiritual care in clinical practice. Puchalski and Ferrell provide definitions and chart a common language for addressing spiritual care across the disciplines of medicine, nursing, social work, chaplaincy, and psychology, and they present models of spiritual care and offer tools for screening, assessment, care planning, and interventions.

CLASS NOTES

Amy Hise, MD '96, adjunct assistant professor of pathology and international health at Case Western Reserve School of Medicine, was elected to a two-year term on the board of directors of the American Medical Women's Association.

Christine (Cooky) Menias, MD '95, professor of radiology at the Mayo Clinic College of Medicine and Science, received the American Roentgen Ray Society's 2019 Distinguished Educator award at the radiological society's annual meeting in Honolulu, Hawaii, in May 2019.

Mary Nordling, MD '98, BA '92, FAAP, accepted the position of program director of the new Tuality Family Medicine Residency at Tuality Healthcare in Hillsboro, Oregon, where she will create the first family medicine residency in Washington County. Nordling also received a Bronze Level National Program Director Award from the Association of Family Medicine Residency Directors.

2000s

Raymond Martins, MD '00, recently left Whitman-Walker Health, where he served as senior director of clinical education and training, to form an LGBT-focused medical practice in Savannah, Georgia. In addition to his role at Whitman-Walker, Martins has served as associate clinical professor of medicine at SMHS.

Robert Roose, MD/MPH '05, was named chief medical officer at Mercy Medical Center, Trinity Health New England, in Springfield, Massachusetts. Previously, Roose served in the regional role of chief of addiction medicine and recovery services for Trinity Health of New England.

Shlee Song, MD, RESD '08, director of the stroke center at Cedars-Sinai Medical Center in Los Angeles, California, presented the keynote address at the American University of the Caribbean School of Medicine commencement ceremonies in Coral Gables, Florida.

2010s

Simone Bernstein, MD '19, was recognized in her hometown of St. Louis as one of the 2019 St. Louis Women of Achievement, in honor of her commitment to youth empowerment and volunteerism.

Christian J. Rivera, AS '18, CERT '17, independent duty corpsman with the Captain James A. Lovell Federal Health Care Center in North Chicago, was honored as the Senior Sailor of the Year for the Directorate of Fleet Medicine (2018-19).

Timothy Wagner, MD '13, completed the Otto E. Aufranc Fellowship in Adult Reconstructive Surgery at New England Baptist Hospital, Beth Israel Lahey Health, in Boston.

IN MEMORIAM

Paul Joseph Anderson, MD '88
Doris Martens Araujo, MD '51
Gregory Saul Berlin, MD '74
George F. Buerger Jr., MD '62
Don B. Cameron, MD '60, RESD '63
Paul J. Corso Jr., MD '69, RESD '76, BA '66
Peter L. Crandall, MD '62
Charles B. Edwards, MD '64
William H. Ferguson, MD '53
Nicolae Filipescu, MD '75, PhD '64, RESD '78
Frank Elliott Goldberg, MD, RESD '75
Donald Harter, MD, Professor Emeritus of Neurology

Edwin R. Hatch, MD, RESD '57
Talmage Gordon Hiebert, MD '62, PhD '56, MA '54
Ariel Hollinshead Hyun, PhD '57, MA '55, Professor Emerita of Pharmacology
Howard S. Jacobs, MD '78, BS '75
Donald R. Johnson, MD '59
Eloise Kailin, MD '43, BA '41
Morris E. Krucoff, MD '42, BS '37
Francis K. Mainzer, MD '59
John Oliver Martin, MD '55
Donald McKay, MD '61
Hardin E. Olson, MD '59, RESD '61, BA '55
Edgar E. Peltz, MD, RESD '58

Edward L. Rea, MD '46, RESD '51
Annette W. Reda, MD, RESD '76
Richard B. Rich, MD '56
Robert P. Saunders, MD '01
Martin F. Schulman, MD '76, PhD, RESD '77
Craig Max Seal, MD '76
Kenneth Seeman, MD '62
Tracy Lee Silvey, PA/MPH '02
Jonathan Earl Skillings, PA '93
Robert L. Strautz, MD, RESD '75
William T. Thistlethwaite, MD '87
William Nicholas Toomy, MD '63
William Jan Van Veen, MD, RESD '61
Thomas M. Webster, MD '64



Dear fellow alumni and friends of GW,

The opportunity to become a physician in the special tradition unique to GW changed my life. The approach to class composition, learning, and the diverse clinical settings in which we trained have sustained me with confidence and altruism through a nearly 40-year career. To be a physician is an incredible privilege, and being in a position to help improve the lives of our patients, communities, and society is more fulfilling for me than any other endeavor could have afforded. It is with that attitude that we need to think about how we can sustain the values and qualities of the profession, and support those willing and ready to follow their hearts and dreams to become doctors.

The cost of a medical education is staggering. According to the Association of American Medical Colleges, medical students attending private institutions carry a mean debt of \$209,000. The debt incurred by many can discourage them from following their hearts, compromise their idealism, and change their career choices. These students need our help. When I think about how to give back, what resonates for me are the three familiar words of alumni giving: "learn, earn, and return." The question is, when am I ready to recognize that is a continuum that is unique to our profession and deserves to be sustained? It gives us an incredible opportunity for ongoing learning, generous income, and giving back in so many responsible and important ways through our skills and our means.

I believe the earlier you embrace the culture of giving back, the greater the significance it will have for you. Most of us have found our own individual way, it might be through working in a community clinic, going on a medical mission, working through organized medicine, or teaching students and residents. But, as time goes on, the opportunity and importance of giving financially becomes more feasible and more rewarding. There is no better way to do that than to contribute to the George Washington University (GW) School of Medicine and Health Sciences (SMHS) – the institution that afforded us the chance to become the people and professionals we are today.

In 2011, I was looking for a way to minimize the debt doctors incur through their medical education, allowing students to pursue subspecialty training of their choosing, without having to take finances into consideration. I also wanted to contribute to something that embodied the values of education and service that my late mother, Leona Libby Feldman, held dear. I chose to help reduce the burden of tuition and to mentor up-and-coming physicians by contributing to the SMHS Adopt-a-Doc program. Since then, I have adopted two medical students, and had the distinct privilege of hooding them at graduation. This year I'm expanding that support to a third medical student and I am even making a commitment to continue this for years to come through my estate. Developing professional relationships with these students, sharing my perspectives on medicine, and being available as a resource has been remarkably gratifying and has allowed me to give back.

As medical professionals, I hope you will join me in this important role of supporting the next generation of GW health care professionals.

Sincerely,

Russell C. Libby, MD '79, BS '74, pediatrician and proud and grateful graduate of the Class of 1979

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Ophthalmologist, the Eye Center

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Bio Banking

The AIDS and Cancer Specimen Resource (ACSR), the largest collection of annotated HIV malignancy specimens globally available to researchers, received a \$22 million renewal grant from the National Institutes of Health. The George Washington University (GW) Biorepository, under the direction of Sylvia Silver, DA, professor of microbiology, immunology, and tropical medicine, will serve as the primary ACSR site for the next five years. [Read more on page 9.](#)