INSIGE: On the Cutting Edge of Radiology Research



UNIVERSITY of MARYLAND School of Medicine

SOMnews



Point of Pride

On April 8, 2013, the SOM staged a rally on campus in support of the National Rally for Medical Research taking place in DC that day. Many of them also participated in this year's March for Science in DC on April 22, 2017.

> SUPPORTS MEDICAL RESEARCH

DEAN'S MESSAGE

We have made incredible progress through biomedical research in so many areas. For example, the number of deaths due to cardiovascular disease has declined by 50 percent because patients receive medical therapies based on results from research studies. Federallyfunded research is responsible for hundreds of FDA-approved drugs to treat heart disease, metabolic disease, infectious diseases, and other diseases and conditions. For every \$1 spent on research and care for type 2 diabetes, the health benefit is nearly doubled. Finally, the

five-year survival rate of people with cancer has increased to over 70 percent due to discoveries made in cancer research laboratories.

The biomedical research enterprise is the best investment our country can make. The return on this investment accrues directly to the health and well-being of our citizens, and to the local and national economies. This is truly a bargain!

However, we are facing a time of fiscal uncertainty regarding our Nation's support for research, especially for fundamental research. This lack of clarity and conflicting messages that the scientific community has received from the new federal administration has led a number of researchers to hold a **March for Science** in Washington, DC on April 22, 2017. The organizers have called upon scientists, and all those who support science, from across the United States to stand together to show our legislators and policy makers the critical need for public support for biomedical research.

The mission of the March for Science is to champion and celebrate "robustly funded and publicly communicated science as a pillar of human freedom and prosperity," as well as an avenue to influence public policy regarding science, science education, diversity in science, and science that benefits the public good. A number of key professional societies have already backed the March for Science, including the American Association for the Advancement of Science (AAAS), Research!America, the Society for Neuroscience, and the National Center for Science Education. As our Vision 2020 document outlined, challenging times call for innovative leaders to think strategically and opportunistically in order to not only sustain but to thrive in these moments. Indeed, the Accelerating Innovation and Discovery in Medicine (ACCEL-Med) Initiative called upon our entire community to ask the "Big Science" research questions, to collaborate broadly across the academic units, and to rapidly translate discoveries made in the laboratory into clinical practice. This month, we feature the innovative work of our Department of Radiation Oncology, led by Dr. William Regine, the Isadore & Fannie Schneider Foxman Chairman and Professor. The biomedical researchers and physician-scientists in the Department of Radiation Oncology are making selective, strategic

What's on My Mind...





...is the countless lives that have been saved and will be saved, thanks to the tireless efforts of biomedical researchers and the extraordinary discoveries they make every day.

and bold choices to drive our work in radiobiology forward. They have integrated research across the continuum of biomedicine, from basic science, to animal work, to preclinical studies, to treatments for people.

In addition, faculty within the Department of Radiation Oncology oversee the **Maryland Proton Treatment Center,** one of only a handful of such centers in the United States. The Proton Center gives patients in our region access to the most advanced radiation technology and care available, rooted in rigorous scientific research. Our patients' lives have already been profoundly changed by the treatment and care they've received from the Proton Center physicians and staff — and we are only within the first few years of the Center's opening!

The School of Medicine's Department of Radiation Oncology is unique in the breadth of medical counter measure research our faculty and staff are conducting. We are unique because we have an entire division dedicated to translating basic research into preclinical work, and vice versa. Most importantly, we are unique because the people conducting this vital work are all located at the same institution, within walking distance of each other, which makes us very well-positioned to lead the fields of radiation oncology and radiation countermeasures research.

The medical advances that are used to save lives



What's New...

RESEARCH

SAVES

LIVES

SOMnews has now expanded to eight pages, with more information and special sections on Research & Discovery, Clinical Care, Academic Innovations and Community Engagement.

What's Inside...

- 2 Emergency Medicine: Improving Access, Driving Quality
- 4 Radiation Oncology Research: From Bench to Bedside
- 6 Veteran Faculty Researchers Honored

8 Match Day 2017

and improve patient health and well-being, not only at the Proton Center but across the entire University of Maryland Medical System, depend heavily on the research and discoveries made every day in School of Medicine laboratories. I applaud our entire academic community for its dedication and commitment to human health.

We have been making an indelible impact on science and medicine for the last 210 years — I am supremely confident that we will continue on this extraordinary trajectory for the next 210 years to come!

In the relentless pursuit of excellence, I am Sincerely yours,

E. albert Rece

E. Albert Reece, MD, PhD, MBA Vice President for Medical Affairs, University of Maryland John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine

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EMERGENCY MEDICINE

Improving Access, Driving Quality SOM's Department of Emergency Medicine Maintains its Lead THROUGH INNOVATION



ith wailing ambulances and ER dramas a common staple on primetime TV, it's hard to believe that just some fifty years ago, the concept of emergency medicine did not exist. Today, although recognized as the newest clinical discipline, emergency medicine (or "EM") is a booming field of practice. According to recent data from the US Centers for Disease Control and Prevention, public demand for emergency services has jumped from 90.3 million emergency department visits in 1996 to 124 million in 2009 — a 35 percent increase. This rise is in part has been driven by America's aging Boomer population, who accounted for over 60 visits per 100 persons over 75 years old. None of these stats has taken Brian Browne, MD, Professor and Chair of the Department of Emergency Medicine, by surprise. In fact, he's been anticipating and promoting this growth in his profession since 1985, when he and two colleagues, Robert Barish, MD, and Elizabeth "Betty" Tso, MD (who is still a Clinical Associate Professor in the department), were tapped to launch a new emergency care section at the University of Maryland, developing both clinical services as well as educational programs for medical students and residents. By 1990, Emergency Medicine had gained division status, and in May 2006 it was designated as a full department within the University of Maryland School of Medicine, with Dr. Browne named Department Chair and Physician-in-Chief for Statewide Emergency Medicine Services.

Today, the department's robust UM Emergency Medicine Network (UMEMN) operates at 14 clinical sites in Maryland - five in downtown Baltimore and nine in surrounding communities. The key to its success, according to Dr. Browne, is its "academic engine" - the School of Medicine itself. "Thanks to the inspired direction of individuals like Amal Mattu, MD, Professor and Vice Chairman of Emergency Medicine, who oversees faculty development; George Willis, MD, Assistant Professor and Medical Student Education Director; and Michael Bond, MD, Associate Professor and Residency Program Director, our students are going into our specialty in record numbers, while most of our graduating residents are staying within the state," he noted. "These are big wins from the perspective of Emergency Medicine and UMEMN, in bringing the UM SOM standard of quality to every corner of Maryland. As a result, our highly competent physicians are exporting this standard of clinical leadership to emergency departments throughout our network." Through Dr. Browne's leadership, the network provides high-quality emergency medicine services delivered by 175 Board-certified or eligible providers, along with 55 residents. In 2016 alone, UMEMN treated more than half a million patients. "By design, we've created a network of highquality emergency departments that provide greater access and a superior standard of emergency care to communities in Maryland, many of which are in historically underserved areas," said Dr. Browne. "And that's really important."

Or UNIVERSITY & MARYLAN

UMEM Goes Global

For the past 12 years, Terrence Mulligan, DO, MPH, has pursued a singular mission — to promote the concept and practice of emergency care to the world. A Clinical Associate Professor in SOM's Department of Emergency Medicine, Dr. Mulligan helped to found the department's International Emergency Medicine program in 2005. Today, the program provides consultative, educational and project-specific services to healthcare organizations and government agencies in countries as far afield as Botswana, China, Egypt, Netherlands, and South Africa. This international work is supported by a variety of funding sources, including the National Institutes of Health and various non-governmental organizations (NGOs).

"Our focus is comprehensive acute care system development," said Dr. Mulligan. And it's a pressing issue—he notes that only a handful of countries have an emergency medicine system as sophisticated as that found in the US.

International Emergency Medicine offer special expertise by creating educational conferences and forums that address the complexities of developing an emergency medicine infrastructure—from administration, management, and training, to legislation, financial issues, and public health policy. To that end, Dr. Mulligan taps heavily into the talents of the Department of Emergency Medicine's top professionals. "Terry has been a real champion for emergency medicine internationally," said department Chair Brian Browne, MD. "Through his efforts, we are not only able to teach best practices in emergency medicine throughout the world; we teach leadership."

More recently, the International Emergency Medicine program has gained the ears of top government leaders in a number of countries, including such notables as the President of Ireland and the Vice President of Romania. "Our department prides itself as being the global leader in emergency medicine education, given our SOM faculty of world-renowned, award-winning educators and researchers," said Dr. Mulligan. "The rest of the world is in real need of emergency medicine development; until recently, they've had no go-to resource. The University of Maryland has become that beacon on the hill for them. There's a huge potential there for us in building these relationships." 🚡

UM Emergency Medicine Network

Baltimore Area:

- 1. University of Maryland Medical Center
- 2. Mercy Medical Center
- 3. Baltimore VA Medical Center
- 4. UMMC Midtown Campus
- 5. Bon Secours Hospital

University of Maryland (UM) Eastern Shore: 6. UM Shore Medical Center at Easton

- 7. UM Shore Medical Center at Dorchester
- 8. UM Shore Emergency Center at Grasonville
- 9. UM Shore Medical Center at Chestertown

University of Maryland (UM) Upper Chesapeake: 10. UM Harford Memorial Hospital 11. UM Upper Chesapeake Medical Center

- 12. Laurel Regional Hospital 13. Prince George's Hospital Center
 - 14. Bowie Health Center

Prince George's County:

With its successful metrics, UMEMN's reputation, both nationally and internationally (see sidebar), continues to build, as a growing number of healthcare organizations reach out to the department for advice and insight. "We are consulting all of the time with various entities on what they can do to improve their emergency medicine departments and services," said





Dr. Browne. At the same time, he also is keeping a focused eye on what's ahead. "I like acute, episodic emergency care, but we need to recognize that the scope of our role in emergency medicine is continuing to expand telemedicine, paramedics making home visits, Uber docs, lots of new things on the horizon that bring care not through the ED but in different ways," he said. "We need to recognize that and evolve with it."

In particular, Dr. Browne points to the emerging concept of the freestanding Emergency Department — that is, an ED that is independent of a medical inpatient facility. For smaller regional hospitals that lack the financial means to maintain a full-service infrastructure, a freestanding ED provides the perfect solution by ensuring high quality, accessible emergency care to a community. Statistically, 85 percent of patients who come into an ED are treated and sent home; if more intensive care is required, patients can be transferred to a nearby "hub hospital," where patient volume and clinical experience usually lead to better outcomes. UMEMN has been a pioneer in developing the freestanding ED model successfully, both at its Bowie Health Center, the longest running freestanding emergency center in the state, and at the UM Shore Emergency Center at Queenstown, which opened in October 2010.

"We're in yet another transformation in the evolution of healthcare," said Dr. Browne. "So where do we fit into that transformation? At UM Emergency Medicine, we are pivotal to that change in adopting new approaches and making them work to everyone's benefit. In doing so, we are redefining what we mean by 'admission' to be more of a portal to the best patient care, wherever that care resides."

SOMnews Research&Discovery

On the cutting and a second se

Radiation

The Division of Translational Radiation Sciences (DTRS)

of

Its focus is translating novel therapeutic interventions and treatment modalities into clinical radiation therapy to improve tumor response and reduce treatment-related side effects in patients undergoing radiation therapy. In addition, the division has a large research program focused on the development of radiation countermeasures to improve the likelihood of survival in a nuclear and/or radiological accident or attack.

Dr. Lauren Jackson

resides within the Department of Radiation Oncology and is directed by **Zeljko Vujaskovic, MD, PhD,** a Professor in the department who established DTRS upon his arrival at the UM SOM in 2012. The division grew 164 percent in the first two quarters of FY 2017 and is experiencing unprecedented growth, with more than \$25 million in federal- and industrysponsored research dollars.



Funding for the work being done in the division comes from a variety of sources. "Research is supported by industry sponsors, National Institutes of Health research grants and cooperative agreements, as well as federal contracts through the National Institutes of Allergy and Infectious Diseases (NIAID/NIH) and the Biomedical Advanced Research and Development Authority (BARDA), " says Lauren Jackson, PhD, an Assistant Professor in the Department of Radiation Oncology, and Deputy Director of DTRS. These investments have enabled faculty researchers to successfully translate multiple drugs from the bench to safety studies in healthy human volunteers and to Phase I/II clinical trials in cancer patients. Faculty in the division have also generated supporting data

Dr. Zeljko Vujaskovic



leading to the development of the first two drugs ever approved as radiation countermeasures for acute radiation syndrome.

"Our division is world-renowned for bridging radiation oncology, biology, and physics to drive new treatment strategies from the bench to bedside, says Dr. Jackson. "It is capable of conducting basic science research to identify new therapeutic targets and understand the pathogenesis of tumor and normal tissue radiobiology, as well as perform contract research for the federal government and industry sponsors." While basic science is conducted using robust practices to ensure data quality and integrity, advanced R&D within the division is performed within the Medical Countermeasure (MCM) program, whose laboratories are compliant with the U.S. Food and Drug Administration's Good Laboratory Practice regulations. The MCM program at UM SOM, one of the largest such programs in the world, serves as a contract research organization within our state-of-the-art academic medical center to advance the development of radiation countermeasures from pre-clinical efficacy trials towards FDA approval. All of the division's research is conducted on campus, although they also occasionally partner with industry, academic, and federal collaborators on long-term projects that involve multiple sites.

Of course, being part of a medical school, the division is also involved in educating future scientists and physicians. "The Department of Radiation Oncology is strongly geared toward introducing medical students, residents, and fellows to research early in their careers and ensuring resource availability that allows these students the intellectual freedom to pursue scientific questions of interest," Dr. Jackson explains. "Faculty members assist in mentoring first-year medical students pursuing research during their Foundations of Research course, students who are taking a gap year prior to residency, and medical residents who choose to take protected time for research." Recognizing that today's students are looking beyond the bench to future careers across the spectrum of academic, government, and industry science, the division seeks to ensure that students are prepared no matter where their careers lead them. Research and education are sustained and enhanced by broad multidisciplinary collaborations within the University of Maryland School of Medicine and with outside partners. Faculty members are supported by a well-organized team of administrators, quality assurance and regulatory personnel, and data and document management groups who plan, monitor, and track project objectives and deliverables, ensuring that milestone deliveries meet budget, time, and scope targets. The division receives full-time radiation physics support from four Board-certified medical physicists in the Department of Radiation Oncology, as

well as additional support from project-dedicated dosimetrists. Statistical support is managed by an experienced radiation scientist/statistician who directs the School of Medicine's Division of Biostatistics and Bioinformatics and through collaboration with the University of Maryland School of Pharmacy Center for Translational Medicine.

All of these personnel are needed when conducting and overseeing the many clinical trials currently underway in the department. "The Department of Radiation Oncology Clinical Research program has recently been moved under the organizational umbrella of DTRS, as part of Dr. Vujaskovic's leadership role as director of the division and an active clinician," says Dr. Jackson. "The department has more than 40 active clinical trials, ranging from cooperative studies focusing on radiation oncology to new technology development, including proton therapy, GammaPod treatment for breast cancer, and thermal therapy."

Faculty from other departments who might be interested in referring patients to these trials should contact the clinical research office to do so.

For additional information on the division's technical capabilities or to discuss research collaborations, please contact Dr. Vujaskovic or Dr. Jackson.

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SOMnews Research&Discovery

VETERAN FACULTY RESEARCHERS HONORED WITH Prestigious National and

The monthly issue of *The Buzz* regularly includes faculty who have been bestowed with a variety of local, national and international honors and awards for their research. Recently, though, three longstanding faculty members were recognized with some of the highest honors in their respective areas.

Accolades

International

MEDICINE

6

Stephen Davis, MBBS, FRCP, MACP

The Theodore E. Woodward Endowed Chair and the Professor and Chairman of the Department of Medicine at the University of Maryland School of Medicine (UM SOM); Director of the General Clinical Research Center and the Clinical Translational Science Institute; and Vice-President of Clinical Translational Science for the University of Maryland, Baltimore campus, has been awarded Mastership in the American College of Physicians (ACP), the national organization of internists. Dr. Davis was honored at the Convocation for new Masters, held during Internal Medicine Meeting 2017, ACP's annual scientific conference, which took place March 30-April 1 in San Diego.

Dr. Davis is widely considered one of the country's leading diabetes experts. His laboratory has found areas of the brain that act to blunt the body's ability to protect against hypoglycemia, one of the most alarming complications of diabetes. Dr. Davis has also identified promising new treatments and interventions that counteract these mechanisms and stimulate the body's ability to defend against hypoglycemia. ACP Masters are elected "on account of personal character, positions of honor, contributions toward furthering the purposes of the ACP, eminence in practice or in medical research, or other attainments in science or in the art of medicine." ACP activities are also taken into consideration for all candidates. This includes service to

RECOGNITION



. . .is widely considered one of the country's leading diabetes experts.

Election to Mastership recognizes outstanding and extraordinary career accomplishments. Masters must have made a notable contribution to medicine. This includes, but is not limited to, teaching, outstanding work in clinical medicine (research or practice), contributions to preventive medicine, improvements in the delivery of health care, and/or contributions to the medical literature.

"Dr. Davis is quite deserving of this national recognition," said **E. Albert Reece, MD, PhD, MBA,** Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean at the UM SOM. "He is a long-standing and highly-respected leader in Internal Medicine, as well as one of the top translational research scientists in his field. We are privileged to have someone of his stature leading our Department of Medicine, the largest academic department at the University of Maryland School of Medicine." the ACP in an official capacity, participation in chapter activities, and involvement in the development of College products and educational programs. Volunteer and community service is also taken into consideration.

ACP is a national organization of internists, the largest medical-specialty organization, and the second-largest physician group in the United States. It consists of 148,000 members, who include internists, internal medicine subspecialists, medical students, residents, and fellows.

Mary-Claire Roghmann, MD, MS

Professor of Epidemiology & Public Health, and Associate Dean for Physician Scientist Training and Transdisciplinary Research Advancement at the University of Maryland School of Medicine (UM SOM), as well an Associate Hospital Epidemiologist and Investigator at the VA Maryland Health Care System, has been awarded the Alvan R. Feinstein Memorial Award from the American College of Physicians (ACP). The award was presented in San Diego at ACP's Convocation Ceremony on March 30, during its annual scientific conference, Internal Medicine Meeting 2017.

The Feinstein award is given to an American physician who has made a major contribution to the science of patient care in clinical epidemiology or clinimetrics, involving the direct study of patients' clinical conditions. "Dr. Roghmann is an excellent epidemiologist who has defined how to prevent infection of *S. aureus*, especially in nursing homes. She has developed epidemiological data to inform isolation practices which has changed national guidelines," said **Daniel Morgan MD**, **MS**, Associate Professor of Epidemiology and Public Health at UM SOM, and Hospital Epidemiologist at the VA Maryland Health Care System.

Dr. Roghmann, an infectious disease physician and epidemiologist, studies how to prevent the transmission of antibiotic resistant bacteria and the development of infections. Her research in antibiotic resistance is focused on a number of interrelated areas including: the transmission of multi-drug resistant organisms in nursing homes, host factors affecting MRSA colo-



. . .studies how to prevent the transmission of antibiotic resistant bacteria and the development of infections.

nization, and the microbiome of the anterior nares and other sites which *Staphylococcus aureus (S. aureus)* frequently colonizes. She has published more than 75 papers in peer-reviewed journals. Dr. Roghmann's research is funded by the National Institutes of Health, the Department of Veterans Affairs, the Centers for Disease Control and Prevention, and the Agency for Health Research and Quality.

The Alvan R. Feinstein Memorial Award was established by the ACP's Board of Regents in 2002 in honor of the late Dr. Feinstein, who was internationally recognized as the father of clinical epidemiology. Awardees are selected based on supporting letters from physicians familiar with clinimetrics/clinical epidemiology and how the nominee's work contributes to the science of patient care. Selections are also based on whether the nominee's contributions have been sustained over time.

"Dr. Roghmann has had tremendous impact on advancing the study of infectious disease," said Dean Reece. "In her role as associate dean, she works to forge closer connections in research and clinical practice between different disciplines. This award is further proof of the impressive effort she is making in this area. Her work truly exemplifies the essential role that scientific inquiry can play in providing the highest quality clinical care."

VACCINE DEVELOPMENT

Samba Sow, MD, MSc

Director General of the Center for Vaccine Development in Mali (CVD-Mali), and Adjunct Professor of Medicine at the University of Maryland School of Medicine (UM SOM), has been decorated as a Knight of the Legion of Honor from the French government. Dr. Sow, a native of Mali, will be formally inducted in July, on Bastille Day. This is the highest honor bestowed by the French government. He is receiving the award for his crucial role in Mali's response to the recent Ebola epidemic. As a result of his leadership, the country successfully tracked and monitored all potential cases to minimize a potential outbreak. CVD-Mali is jointly maintained by the Ministry of Health of Mali and the UM SOM Center for Vaccine Development (CVD).

"Dr. Sow richly deserves this honor," said CVD director **Kathleen Neuzil**, **MD**, **MPH**, **FIDSA**. "This work required enormous personal courage, technical expertise, tireless dedication, and strong leadership."

Dr. Sow began his close collaboration with the CVD in 2001. The CVD



. . .has led to the introduction of five lifesaving vaccines for children and adults in Mali and elsewhere in Africa.

Dr. Sow has other significant accomplishments, as well: He helped lead clinical trials that resulted in the introduction of a vaccine that has played a major role in reducing Meningitis A in areas of Africa where the deadly disease was once common. More than 220 million people have received this vaccine in 26 countries. In Mali, he has also been active in implementing Gardasil, a vaccine against cervical cancer, as well as vaccines against meningitis, pneumonia, and diarrheal diseases.

CVD-Mali

is part of the UM SOM Institute for Global Health (IGH), which focuses on vaccine development and malaria research. This collaboration has led to the introduction of five lifesaving vaccines for children and adults in Mali and elsewhere in Africa. In the process, a team of highly trained Malian public health physicians was formed at CVD-Mali; this team was uniquely capable of responding to the Ebola epidemic under Dr. Sow's leadership.

When the Ebola epidemic struck in West Africa in 2014, Dr. Sow and his team were prepared. As the epidemic spread, he responded. When most health workers fled the areas where the disease seemed to appear, he instead went to those places. He played a key role in setting up the Malian Ebola surveillance and containment network (for case detection and follow-up of contacts), emergency hospital unit, and border screening system. Collaborating closely with the Malian government, as well as civilian leaders, religious figures and others, Dr. Sow and his team worked nearly non-stop for months. Their efforts were rewarded: Mali was one of a very few West African countries to contain the epidemic. In recognition of his strong expertise, he has been appointed special advisor to Malian President Ibrahim Boubacar Keïta.

Dr. Sow received his MD degree from the Ecole Nationale de Medecine et Pharmacie du Mali, and his MSc degree from the London School of Hygiene and Tropical Medicine. Throughout his career, he has conducted research on vaccines, infectious diseases, and public health in Mali and Africa, and has been crucial in the country's fight against leprosy. He has authored or co-authored more than 90 scientific articles and chapters and serves on high impact international committees overseeing the use of vaccines in developing countries.

"Dr. Sow has devoted his career to saving lives, especially the lives of those who are most in need of help. Ebola has been a major public health threat in Africa and elsewhere. His work has significantly decreased this threat," said Dean Reece. "His tireless and heroic work has succeeded in doing just that, many times over. I am very happy for him — he fully deserves this impressive honor."

SOMnews AcademicInnovations

SOM Match Day... The Envelope Please!

It was a day filled with anxiety and excitement at Baltimore's famed Hippodrome Theater on March 17, when the Class of 2017 received its matches, an event known as Match Day. At exactly noon, medical students here and around the country received an envelope telling them where they will do their residency training.

This year's students include Jessica Chaffkin. As a medical student, she has been very active fighting for social and racial justice in Baltimore and around the country, and was also active in the group White Coats for Black Lives. She plans to go into forensic psychiatry, treating prisoners and evaluating people in the court system. Her first choice was to match at Yale New Haven Hospital in Connecticut in psychiatry — and that was exactly where she matched.



"I am definitely ecstatic, I was really hoping that that's where I would end up, and my dream has come true."

— Jessica Chaffkin

James Van Meerbeke and his wife Sara hoped to match somewhere close to each other. They were married two years before medical school, and at some points during school, they spent about 22 hours a day together. "Thankfully we like each other," he says. They just had a baby, and James is a stay-at-home dad, while his wife works through a rotation. They came up on stage together with their baby, and were extremely happy to find out that they had both matched at the University of Pittsburgh Medical Center — he in emergency medicine and she in internal medicine.

Some members of the class have already traveled far and wide for their career. After her second year of medical school, Crystal Bae took a year off to work in Africa. She spent a year in South Africa, Rwanda, Uganda and Botswana, helping doctors there improve



emergency medicine training. She plans to specialize in emergency medicine, and may decide to work in global health too. She was matched to Temple University Hospital in Philadelphia, in emergency medicine.

Sheila Razdan has also traveled. Born and raised in Baltimore County, she took a year off from medical school to get a Master's degree in public health from the Johns Hopkins School of Public Health. She visited Ecuador, and focused on child health in Baltimore, working with newborns born addicted to opioids. She will specialize in pediatrics and wants to continue working in child and public health. She matched to St. Louis Children's Hospital in pediatrics.

Donique Cross is going into family medicine. Her husband, Stephen Cross, also just graduated, from the University of Maryland Dental School; they had hoped to be matched relatively near each other, somewhere along the eastern seaboard. She matched at the hospital of the University of Pennsylvania, in family medicine; her husband matched at the Bronx Lebanon Hospital Center in New York City for a general practice dental residency.

Carlos Salgado emigrated from Ecuador 10 years ago to go to college in the US. He now shares an apartment with his brother, who is a first-year medical student at Maryland. He matched at Johns Hopkins Hospital in pediatrics.

Megan Halliday is going into emergency medicine. "I like the immediacy of it," she says. She went through the military match, and knew ahead of time that she would be sent to a naval medical facility in Portsmouth Virginia. She took this route because it gave her the opportunity to work with military personnel as well as the opportunity to travel. Although she already knew where she was going, she said she was extremely nervous, mostly because she wanted her friends to get their choices. "This has been a really emotional day," she said. "I'm so happy for everyone."

Every student selected their own soundtrack for their walk to the stage. Many students danced their way up, to applause. This year, 155 UM SOM students matched at 30 different hospitals in 19 states. Thirty-five members of the Class of 2017 will stay in the state of Maryland for their residency training; last year, the number was 56.



AcademicInnovations

SOM Doing Its Part in Addressing the Physician Shortage

Nationwide, more than 41,000 U.S. and international students applied for one of the approximately 30,000 first-year residency positions offered in this year's Main Residency Match, according to the National Residency Matching Program (NRMP). Even though more students than ever are enrolling in medical schools, the United States is still facing a significant physician shortage, according to the Association of American Medical Colleges.



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SOM Class of 2017



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