



Patients With Severe Disabilities Teach Students Compassion

Drexel medical students learn how to understand and communicate with people with complex disabilities from the best possible teachers — people living with disabilities themselves. Their instructors are residents of Inglis House, a specialty nursing care facility that provides long-term residential care for adults with physical disabilities, including multiple sclerosis, cerebral palsy, spinal cord injury and stroke. Every year, first-year medical students spend an afternoon at Inglis learning about its people and programs and then meeting individual residents in their rooms. This relationship started in 1998 and has continued ever since as part of the freshman Physician & Patient course.



Robert Woltanski was an art major in high school but didn't take it seriously. He started painting again when he came to Inglis.

The goal of the sessions is threefold: to enhance the students' understanding of the issues involved in caring for patients with severe disabilities, to enhance their ability to communicate with those patients and, perhaps most important, to help them better understand the personal attitudes and emotional reactions they may have toward patients and how these may inhibit or enhance patient care.

"It's all about cultivating empathy," says course director Dennis Novack, MD, professor of medicine and associate dean for medical education. "It takes time. The students have to

overcome their fears and first impressions, and get to the people inside. It gives them an understanding of how people with disabilities can build lives despite major limitations. Students are often inspired by the residents' wisdom, optimism and hope."

As an institution, Inglis, which also provides community-based services and accessible housing, is an ideal setting to counter stereotypes about nursing care facilities and their residents — a "least restrictive environment" where residents can be engaged not only in the Inglis community and its therapeutic and enrichment programs, but also in the larger community and the pursuit of personal interests and hobbies.

The Drexel students began the afternoon in an introductory session conducted by Novack, Inglis staff and some of the residents. On their tables with literature about Inglis was *As the Wheels Turn*, a collection of short pieces by Diane, one of the residents, who describes the environment as "a soap opera on wheels." Diane has severe cerebral palsy and communicates with great difficulty, but her mind is sharp and her wit is keen.

One of her articles attested to the great importance of the computer lab to residents.

SUMMER 2017

Vol. 5, No. 3



Recognizing how bias can shape medical decisions



\$3 million NIH grant awarded to test wound-healing device



The Class of 2017 celebrated their residency matches

Contents

Patients Teach Students 1
Destination Excellence 3
Wound-Healing Device Trial 4
Match Day 19
Genomics Study of Cystic Fibrosis 23

NEWS & EVENTS

AOA, Clifford Portrait,
A4 Study, CURE Grants 6-13

WHAT WE'RE DOING

Activities and accomplishments 14-18

ALUMNI NOTES

Class notes 20-22

Calendar 15

In Memoriam 22

pulse

Pulse, a publication for students, faculty, staff and alumni of Drexel University College of Medicine, is published five times a year by the Marketing & Communications Department
1505 Race Street, MS 484
Philadelphia, PA 19102

Marsha Braverman
Chief Marketing Officer

Jean Tracy
Editor

Heidi Karl
Art Director, Hollister Creative

Contributing writers:
Dan Heinkel, Adrienne Hovey,
Lauren Ingeno, Elisa Ludwig, Nancy West

Editorial Advisory Council:
Leah Cianfrani, Danielle Kane,
Michael Lombardo, Paul McGonigle, PhD,
Michael Nonnemacher, PhD, Brent Simmons, MD

Submissions may be mailed to *Pulse* c/o the Marketing & Communications Department, emailed to pulse@drexelmed.edu, or faxed to 267.359.6360.

For questions, comments or additional copies of *Pulse*, call 267.359.6363 or email pulse@drexelmed.edu

drexelmed.edu
drexelmedicine.org



Something to Celebrate

We are a country of immigrants, of seekers — or contributors, as I prefer to say — from every corner of the earth. This is the United States — a brilliant multicolored engine of talent, ingenuity, free expression and, at its best, compassion and grace.

The College of Medicine is a reflection of that society and we celebrate it. All are welcome here. From its roots, our medical school stared down the stereotype of “doctor.” We are heirs to a legacy that



Daniel V. Schidlow, MD

opened the doors of medical education to women, to people of color, to Catholics and Jews. Today, it is difficult to absorb the fact that this was unusual.

Every year, a number of our incoming medical students either came to the United States as children or were the first generation in their families to be born here. I had lunch in June with a group of eight third-year students; all but one of them were first-generation Americans and first-generation doctors.

Their families were from India, Afghanistan, Iraq, China, Taiwan ... they might also have represented the world’s major religions. Among more than 100 student affinity and interest groups are, just for example, the Catholic Medical Association, Drexel Christian Fellowship, Maimonides (Hillel International),

Latino Medical Student Association, LGBTQ People in Medicine, Muslim Student Association of DUCOM and South Asian Medical Student Association.

Our parent university was founded on a similar ideal to our predecessor schools: to provide practical education to students regardless of gender, race, religion or socioeconomic class. As we bid a proud adieu to the diverse students of 2017, we look forward to welcoming the Class of 2021, pleased to know that about 18 percent of them are first-generation college graduates. It is gratifying to see that part of the American Dream at work.

We base our admissions on holistic review — a three-dimensional portrait of the applicant. Of course, this is medical school; there are requirements and standards. But in addition to scores, GPAs, accomplishments, there is personhood. Who is the person? What would they bring? We can see the interest, energy and kindness in our students, when they come to us and when they leave. Our school reflects our country: a broad, inclusive multifaceted culture, joined by our common humanity.

A legacy that opened the doors of medical education

Daniel V. Schidlow, MD
Walter H. and Leonore Annenberg Dean
Senior Vice President of Medical Affairs

Recognize, Appreciate And Tame Unconscious Bias

"This is not the place for a girl from Idaho," I thought as my hands shook around the chest tube I was preparing for imminent use. I was in a community hospital in West Philadelphia during my emergency medicine residency, and was caring for a young man who had just been shot in the chest. I recall holding his hand while he awaited transfer to the nearest trauma center. At this moment of shared vulnerability, my sense of "otherness" — of geographical and situational misalignment — dissipated along with my waning adrenaline surge. "Of course this is where you belong," I thought.

Frequent relocation throughout my life has had a cumulative effect of reinforcing this sense of otherness wherever I land. I have often cursed this as a sense of cosmic homelessness. As I learned to care for patients with backgrounds so wildly different from my own that it gave me pause, I began to see my relative placelessness as a distinct advantage. From my perch of feeling a little bit out of place everywhere, I was able to observe my environment as a perpetual outsider looking in. Being removed from the implications of my own judgments allowed for a degree of raw honesty that would otherwise be hampered by a sense of belonging to what I observe.

In my career in medicine, this has led me to freely examine how we relate to one another — as colleagues, as physician and patient, and as a whole system — and how our interactions are so innately framed and motivated by who we are. This examination took on new depth when I moved to Philadelphia for my emergency medicine residency at Drexel. Here I had the opportunity to work with the Healing Hurt People™ violence intervention program and meet many young people who have been violently injured. I have had the privilege of meeting many of them outside of the trauma bay, where I have learned about the richness and complexity of their lives. This includes not only the sustained, intergenerational trauma to which they have been exposed, but also their resilience and grace.

In the wide space between knowing trauma victims as people and knowing them as patients in the trauma bay, I began to feel a startling disconnect. I felt vulnerable to assumptions about these young

assault victims: *What did they do to get themselves hurt? They don't look like they want help ...* Despite my training in trauma-informed care and my personal experiences with young victims, these narratives crept into my subconscious. In these moments, I realized that I am a part of this, too. I am not an innocent bystander after all.

It turns out that I can never remove myself from my own observations, and neither can anyone else. Even as rational, educated and truly empathetic professionals, we are all subject to the same societal messages that determine our unconscious thoughts towards each other and those for whom we care. My new goal in medicine is not to rise above the noise of unconscious bias, but rather to recognize, appreciate and tame it. In my role as an educator, I feel particularly obligated to highlight to trainees how bias shapes our medical decision making, especially in the emergency department where rapid assumptions can save a life as easily as they can lead to catastrophic error.

As I learn new techniques for confronting the inevitability of my bias, it turns out that accountability within our shared space is more liberating than the illusion of separateness of which I was once proud. This shared space is where I actually belong.

— Erica J. Harris, MD

Assistant Professor of Emergency Medicine
Director, Injury & Public Health Fellowship



Erica Harris completed the Drexel/Hahnemann Emergency Medicine Residency program before joining the College. She is currently pursuing her master's in public health at Drexel's Dornsife School.

Clinical Trial to Test Wound-Healing Device

Drexel University researchers are one step closer to offering a new treatment for the millions of patients who suffer from slow-healing, chronic wounds. The battery-powered applicator — as small and light as a watch — is the first portable and potentially wearable device to heal wounds with low-frequency ultrasound.

The National Institutes of Health awarded the research team an estimated \$3 million to test the therapy on 120 patients over the next five years. By using diagnostic monitoring of blood flow in the wound tissue, the clinical trial will also determine how nutrition and inflammation impact wound closure, making treatment customization a possibility.

The project is an interdisciplinary collaboration between the College of Medicine and Drexel's School of Biomedical Engineering, Science and Health Systems, and College of Nursing and Health Professions.



This battery-powered applicator — as small and light as a watch — is the first portable and potentially wearable device to heal wounds with low-frequency ultrasound.

Chronic wounds affect up to 6 million patients a year in the United States. Venous ulcers — one type of chronic wound the researchers are exploring — are caused by abnormal vein function, due to blood clots, injury, aging and obesity. Chronic wounds are also one of the most dangerous and common complications of diabetes. Unlike a typical scrape or cut, venous and diabetic ulcers can take months, or even years, to heal. The currently available therapies are passive, rather than active, such as using products to keep moisture in place.

Because of their high prevalence, chronic wounds are a significant economic burden to the U.S. health

care system. Over \$20 billion annually is spent on the treatment of chronic wounds in the United States, according to some estimates. Treatment can cost an individual patient up to \$2,400 per month, so even modest reductions in healing time would help, according to Michael S. Weingarten, MD, professor of surgery at the College of Medicine and medical director of the Comprehensive Wound Healing Program at Drexel.

“There is a lot of money being spent on wound supplies, visiting nurses and things like that. Those costs can run into the hundreds of thousands of dollars for an individual patient,” Weingarten says. “And if the wound isn’t responding, then you’re really just wasting your time, and more importantly, you’re not helping the patient.”

Drexel biomedical engineers, including project lead researcher Peter Lewin, PhD, and clinicians have an ideal solution: an inexpensive, portable instrument that can speed up slow-healing injuries and is safe enough for patients to use at home.

The device heals by sending low-frequency — 20 kilohertz (kHz) — ultrasonic sound waves directly to the chronic wound. While the healing potential of ultrasound to reduce swelling in injury is well known, high energy levels are not optimal for treating damaged tissue over long periods of time.

The device the Drexel team has developed operates at a level of energy much lower than, for example, the ultrasound units used to monitor pregnancy. Once the device is fully developed, the applicator may be applied directly to the wound using a thin piece of Tegaderm, gel and medical tape. Then, with the flip of a switch, the palm-sized battery pack is turned on, driving the set of transducers inside the device to create acoustic energy and begin the wound-healing process.

In 2013, the researchers successfully tested the device on 20 patients from Weingarten’s wound-healing clinic. Applying the ultrasound at a frequency of 20 kHz for 15-minute intervals proved to be the most effective combination of energy and duration. All five patients in the group who received this combination of treatment had healed completely by the end of the four-week treatment period. Overall, the study demonstrated that the new treatment improved healing by 15 percent per week compared to the placebo.

To monitor the wound-healing process in the new study, the researchers are employing near-infrared technology, also developed at Drexel, to measure blood vessel growth and tissue oxygenation. Depending on what the optic data tell them about how well a wound is healing, the researchers could increase or decrease the treatment time or frequency for the patient.

In addition, faculty from the College of Nursing

and Health Professions are collecting health data from the patients, including information about diet and nutritional intake, to determine how those factors, as well as inflammation, could contribute to chronic wound closure.

Results from the group's preliminary studies give the researchers confidence that the ultrasound device will accelerate closure of chronic wounds with a much larger group of patients. If they can prove efficacy and safety during the Phase II clinical trial, in which they will monitor 120 patients during a 16-week period, then they will treat an even larger cohort in a third clinical trial.



A National Showcase

Surgeon Michael S. Weingarten and colleagues were invited to Washington to present their ultrasound wound-healing technology at the annual Medical Imaging Technology Showcase hosted by the Coalition for Imaging and Bioengineering Research. Held on Capitol Hill, the event brings together “the best of academia, industry and patient-focused research” to educate legislators and their staffs about new technologies and how they affect patient outcomes.

Weingarten and Rose Ann DiMaria-Ghalili, PhD, of the College of Nursing and Health Professions, had the opportunity to show off Drexel’s innovative device — a wearable patch that uses ultrasound to speed the wound-healing process — directly to policymakers, other scientists, patient groups and industry partners.

The wound-healing technology — and its potential impact on one patient — was also featured in a WTXF-TV (FOX-29) news segment (fox29.com/news/229993065-video).

Patients Teach Compassion

• continued from the cover

She, for example, prepares for trips to the mall or restaurants by previewing stores or menus. As the students would learn, many of the people living at Inglis are engaged in activities beyond the confines of the building or an uninformed imagination.

A resident named Ty explained that he used to be in a rock band. He was a chef, and he also showed his artwork in a gallery. “All these things came to an end when I contracted MS,” he said. “Inglis House represents for me another chance, another opportunity to explore my interests and hone my skills. I still paint every day, even though I’m not as good as I used to be. It’s just change, and how we respond to it is what defines us.”

Inglis’s focus is person-centered care — not only providing for people’s needs but helping them to achieve their goals, whether they want to go back to school or get up early and eat breakfast with their friends. Adaptive technology is used to enhance activity. “If you can move any part of your body, we can get you on the Internet,” said a staff member.

The facilitators dealt frankly with the issue of pity — a common emotional response in working with someone who has a severe disability. “Pity is the simplest reaction to a more complex situation,” said one resident, “and a way for people to distance themselves from us.”

“It’s not so much about pity,” said Gary Bramnick, director of marketing and public relations at Inglis. “It’s a matter of mindset. It took me a while to understand that to engage with someone you had to let them engage back — take the time to let them respond.”

This prompted Novack to recall how he got to know Diane: “I met her the way Gary described — rushing by,” he said. “Then one day I noticed that she was holding a loose-leaf binder. She very slowly asked if I wanted to read it and I said yes. It was some of her writing.”

After the students went in twos and threes to interview residents in their rooms, they came back to share their experiences and perceptions. What was the hardest thing for them? How did it make them feel? What emotional and social resources have helped the residents cope?

The other side of that coin, perhaps, is that patients with severe chronic disabilities often have questions that the physician cannot answer. Novack and the students discussed ways to deal successfully with the patient’s and family’s reactions to the limits of physician knowledge.

Ty thanked the students for coming, expressing confidence in their future: “You are going to have the opportunity in your life to boost people up and give them hope again,” he said.

His confidence was borne out a few weeks ago when a graduating senior told Novack how important the Inglis House visit was to him. “I came out of that session saying to myself, you better start being compassionate — you never know what people have been through.”

Honors for Scholarship, Highest Ideals and Humanism

The first joint Alpha Omega Alpha and Gold Humanism Honor Society banquet was held on Wednesday, March 22, 2017, at the Hilton Philadelphia City Avenue. The elected students, alumni, faculty and house staff were formally inducted into the Delta Zeta Chapter of Alpha Omega Alpha or the Gold Humanism Honor Society.

Alpha Omega Alpha Honor Medical Society recognizes and advocates for scholarship and the highest ideals in medicine. The top 25 percent of a medical school class is eligible for nomination, and up to 16 percent may be elected. Each year, the chapter also selects a limited number of residents or fellows, faculty members and alumni for membership.

The new members were inducted by Dean Daniel V. Schidlow, MD, and Vice Dean Valerie Weber, MD. Alpha Omega Alpha's Volunteer Clinical Faculty Award recognizes community physicians who contribute to the education and training of clinical students. Nominations may be made by all clinical students; then the recipient is chosen by student members of the AOA Chapter.

AOA VOLUNTEER CLINICAL FACULTY AWARD

Recognizing a community physician who contributes to the education and training of clinical students

Paul R. Gittens Jr., MD, clinical assistant professor of surgery

AOA INDUCTEES

Alumni

Michael Bohrn, MD, HU '98

Renee Turchi, MD, MCP '98, MPH

Faculty

Sandeep Aggarwal, MD, assistant professor of medicine

Bradford Jameson, PhD, professor of biochemistry and molecular biology

Leonard Levine, MD, associate professor of pediatrics

Diane Magrane, MD, professor of obstetrics and gynecology; director emerita, ELAM

Steven Rosenzweig, MD, associate professor of emergency medicine; director, Office of Community Experience

House Staff

Sherri Besmer, MD, Drexel/Hahnemann Pathology & Laboratory Medicine Residency '17

Daniel DiLeo, MD, Drexel/Hahnemann Internal Medicine Residency

Ishminder Kaur, MD, St. Christopher's Pediatric Infectious Disease Fellowship

Tess Crouss, MD, Drexel/Hahnemann Obstetrics & Gynecology Residency

Emmanuelle Topiol, MD, St. Christopher's Pediatrics Residency '17

Students

James Abbott

Lauren Abrams

James Airoidi

Kristine Albin

Sara Ancona

Matthew Antonello

Natalie Ben-Yakar

Vikas Bhatt

Jennifer Boles

Lauren Briskie

Joyce Choi

Russell D'Anton

Ashley Davis

Jennifer DiBiagio

Colin Gold

Martin Griffis

Nicholas Guido

Ryan Hoffman

Neha Jariwala

Timothy Jordan

Yehuda Kerbel

Ashley Kimble

Sravanthi Koduri

Samantha Korycinski

Daniel Layon

Lindsay Lazarus

Randall Lee

Jeffrey Liaw

Clarissa Lin

Joshua Luginbuhl

Adam McGonigle

Aimee McMullin

Kirsten Meenan

Gregory Mullen

Anthony Nehlsen

Shannon O'Malley

Matthew Recker

Kevin Scott

Elana Siegel

Anmol Singh

Stephen Stephan

Alexandra Tilocca

Andrew Touati*

Cicily Vachaparambil

Cara Wiest

Dayna Zimmerman



Faculty, alumni and house staff at the AOA and Gold Society banquet (l-r): Drs. Valerie Weber, Maneesh Jain, Bradford Jameson, Sandeep Aggarwal, Michael Bohrn, Mary Anne Delaney (keynote speaker), Daniel DiLeo, Kathleen Ryan (AOA Delta Zeta Chapter councilor), Matthew Meleka, Sherri Besmer, Diane Magrane, Hanisha Manickavasagan, Leonard Levine, Steven Rosenzweig, Renee Turchi, Emmanuelle Topiol, Daniel V. Schidlow, Mykael Garcia, and Paul R. Gittens.

GOLD HUMANISM HONOR SOCIETY

The Gold Humanism Honor Society is the heart of our Community of Caring. Membership recognizes students, residents and faculty who are exemplars of compassionate patient care and who serve as role models, mentors and leaders in medicine. Members are nominated by their peers. The new members were inducted by Gold Society faculty members Drs. Steven Rosenzweig and Maneesh Jain.

Faculty

Mary Anne Delaney, MD, professor and former chair of psychiatry; associate dean, Faculty Affairs; associate director, ELAM

Doantrang Du, MD, clinical assistant professor of medicine, Monmouth Medical Center

Sandra Wolf, MD, clinical associate professor of obstetrics and gynecology; director, Women's Care Center

House Staff

Mykael Garcia, MD, St. Christopher's Pediatrics Residency

Hanisha Manickavasagan, MD, Drexel/Hahnemann Internal Medicine Residency

Matthew Meleka, MD, Drexel/Hahnemann Internal Medicine Residency

Justin Sloane, MD, Abington-Jefferson Obstetrics & Gynecology Residency

Quan Tran, MD, Pinnacle Health Systems Internal Medicine Residency

Students

Maelys Amat*

Sara Ancona

Vikas Bhatt

Daniel Burke

Zahabiya Chithiwala

Demetrius Coombs

Ashley Davis

Nicole Evans

Shaun Flynn

Tina Hu

Laura Kurash

Randall Lee

Anthony Little

Hera Mahmood

Aimee McMullin

Kirsten Meenan

Ali Noory

Shannon O'Malley

Ronald Paranal

Olivia Ruth

Parsa Salehi

Sonya Shah

Anmol Singh

Timur Suhail-Sindhu

Michelle White

Jennifer Williams

**Class of 2018*

Portrait Rededication Honors Maurice C. Clifford, MD

The memory of the late Maurice C. Clifford, MD, the College of Medicine's highest-ranking African-American physician and leader, was honored this spring with the rededication of his portrait at the Queen Lane Campus. The Office of Diversity, Equity & Inclusion, and its associate dean, Ana E. Núñez, MD, hosted the rededication ceremony, which was attended by members of the Clifford family as well as College faculty, staff, students and community leaders.

In his remarks, Dean Daniel V. Schidlow, MD, noted that the College's predecessor schools afforded access to medical training at a time when the medical establishment excluded many groups. From then to today, the College of Medicine has been committed to diversity and inclusion.

"We intentionally recruit well-rounded, holistically evaluated students to our school, and we are committed to becoming a leader in developing the next generation of a diverse workforce," Schidlow said. "As we move forward, we kick off this next phase by rededicating our work, by paying honor to our highest-ranking African-American physician and leader, Dr. Maurice Clifford."

Clifford joined the faculty of the Woman's Medical College of Pennsylvania in 1955, in the Department of Obstetrics & Gynecology. In 1980, having served as vice president of clinical affairs, he was elected the 17th president of the Medical College of Pennsylvania. During his tenure, the College became a nationally



Dr. Clifford's sons (l-r) Maurice Clifford III and Jay Clifford, PhD, and their wives with Drs. Schidlow, Cohen, and Núñez

recognized center for patient care, research and training. Clifford left MCP in 1986 to accept the position of Commissioner of Public Health for the City of Philadelphia. He continued to serve on the board of the College.

D. Walter Cohen, DDS, chancellor emeritus, who knew Clifford personally, mentioned that he was the first African American to be elected president of a medical college that was not a historically Black school. As Clifford entered his presidency, Cohen said, MCP was facing challenges, and he credits Clifford with stabilizing the College.

Núñez said that the Office of Diversity, Equity & Inclusion springs from the College's "history of luminaries like Dr. Clifford, and propels us, under the Dean's vision, to address pressing challenges." Visit drexel.edu/medicine/diversity/.

Brain Awareness Week

Graduate students in the Neuropharmacology course at the Graduate School of Biomedical Sciences and Professional Studies kicked off Brain Awareness Week March 16 with an event featuring 17 booths and displays on topics such as CNS cells/glia cells, brain food, mental disorders, Fragile X syndrome, illusion cards, cranial nerves, optical illusion and depth perception. Brain Awareness Week was created by the Dana Foundation and Society for Neuroscience in efforts to promote knowledge about brain health and to encourage exploration in neuroscience.

Loretta Walker, PhD, assistant professor and director of the Drexel Pathway to Medical School, and her neuropharmacology students, put on the event every year. For 2017, Walker enlisted the planning skills of Ronnie Shade Jr., a former Pathway student who is an MS candidate in the Interdisciplinary Health Sciences program. He wanted to make the event a community-wide effort and “pay it forward” by inviting local high schools. Philadelphia Performing Arts, a String Theory Charter School, collabo-



Antoinette Bell, MS '17, and medical student Rita Akumuo

rated with Shade to brainstorm and organize their own project booth at the event. The students had art, music, brochures, display boards, and even an EEG machine, for an exhibit on the effects of music therapy upon psychiatric disorders and performance.

The A4 Study: Landmark Study for Alzheimer's Disease Seeks Volunteers



More than 5 million Americans — including 400,000 in Pennsylvania and 85,000 in South Jersey — are currently suffering from Alzheimer's disease, and scientists expect this number to nearly triple by 2050. Experts say that minority communities, including African American and Hispanic, are more likely than white Americans to develop the disease.

Drexel Neurosciences Institute is participating in a groundbreaking study to test whether an investigational drug can prevent or slow the memory loss associated with Alzheimer's disease. Researchers seek healthy volunteers between the ages of 65 and 85 who may be at risk for Alzheimer's disease-related memory loss but who have no outward signs of the disease.

Although recent news stories reporting failure of drug trials to treat Alzheimer's have been discouraging, it is important to note that the trials that failed were conducted on patients who already had symptoms of the disease — specifically memory impairment, according to G. Peter Giebuis, MD, interim chair of neurology and director of the Cognitive Disorders Center at Drexel Neurosciences Institute. The landmark A4 Study (A4 stands for Anti-Amyloid in Asymptomatic Alzheimer's) takes aim at brain damage related to Alzheimer's before any outward signs develop.

“Current scientific data support the hypothesis that pathologic amyloid plaques start accumulating in the brain at least a decade before the first symptom presents,” notes Giebuis. The goal of the A4 Study is to test whether an investigational drug that targets amyloid plaques can help to slow the progression of

memory loss associated with Alzheimer's. Another major emphasis of the study is to help determine why certain populations, including African Americans and Hispanics, are more likely than others to develop the disease.

The researchers use PET amyloid imaging scans to determine whether a potential participant has evidence of elevated brain amyloid buildup. People who meet certain criteria are invited to join the study. Half the participants receive monthly treatment with specific antibodies to clear the amyloid from the brain. The other half receive a placebo.

“This will help to determine whether clearance of amyloid from the brain before cognitive symptoms start can prevent or stall the disease from developing into significant cognitive impairment,” says Giebuis.

Participants enrolled in the A4 Study will visit the clinical research site once a month for approximately three years. Each participant must have a “study partner” who has at least weekly contact with them and can answer questions once a year.

Potential study participants can learn more, including how to enroll, by visiting the A4 Study website at A4Study.org or by contacting Katie Rife at krife@drexelmed.edu or 215.762.7436.

Some of this information appeared in an article by G. Peter Giebuis, MD, in AlzAware (March 2017), the electronic newsletter of the Delaware Valley Chapter of the Alzheimer's Association. Giebuis is a member of the chapter's Medical & Scientific Committee.

EMS Division Recognized for Advanced Trauma Service

The American College of Surgeons Committee on Trauma recently recognized the College of Medicine's Division of Emergency Medical Services for more than 35 years of active participation and dedication to the Advanced Trauma Life Support® program. The ATLS program was developed by the College of Surgeons and its Committee on Trauma to offer a systematic approach to early care of trauma patients. For more information about training offered in the Emergency Medical Services Division, visit drexel.edu/medicine/ems/.



The American College of Surgeons presented a plaque to the College's EMS Division represented by (l-r) Heidi Hartzell, EMS Division administrative assistant; Bartholomew Tortella, MD, MBA, ATLS course director; Brendan McCracken, MD, assistant professor of surgery; Bohdan M. Minczak, MD, MS, PhD, EMS Division director, ATLS instructor; and Robert "Bubba" Hamilton, EMT-P, EMS-I, EMS clinical coordinator.

Dr. Van Bockstaele to Fill Dual Role



Elisabeth Van Bockstaele, PhD, dean of the College of Medicine's Graduate School of Biomedical Sciences and Professional Studies, has been appointed to the additional post of interim vice provost of graduate education for Drexel University. Van Bockstaele will continue in her role as dean of the Graduate School, reporting to College of Medicine Dean Daniel V. Schidlow, MD, while assuming her new position, effective July 1.

As interim vice provost, reporting to Drexel Provost Brian M. Blake, PhD, Van Bockstaele will provide leadership for the University's Graduate College during the search for its next permanent dean. James Herbert, PhD, founding dean of the Graduate College, is stepping down to become president of the University of New England.

In addition to her executive roles, Van Bockstaele is a professor in the Department of Pharmacology & Physiology. A leading expert on neural adaptations to drugs of abuse and the intersection with stress, she currently holds two R01 regular research grants as principal investigator and two other R01s as co-investigator with scientists at other academic health centers. She came to Drexel in 2013 from Thomas Jefferson University, where she was the founding director of the Graduate Program in Neuroscience as well as vice chair of research in the Department of Neurological Surgery.

Drexel Neuroscientists Advocate for Research Funding on Capitol Hill

Brielle Ferguson, PhD candidate in neuroscience, and Ramesh Raghupathi, PhD, a professor in the Department of Neurobiology & Anatomy, joined 40 members of the Society for Neuroscience to advocate for public funding of scientific research at the society's annual Capitol Hill Day, on March 23.

Capitol Hill Day is the hallmark advocacy event of the year for the neuroscience group. Members from across the country convene on Capitol Hill to meet with their congressional representatives to discuss advances in the field of neuroscience, share the economic and public health benefits of investment in biomedical research, and make the case for strong national investment in scientific research



through the National Institutes of Health and the National Science Foundation.

Ferguson and Raghupathi had a total of six meetings with legislative aides for senators and representatives.

"At each meeting, we were able to share our stories about the important research we do, as well as make specific requests for increasing the budget for NIH and NSF, and other ways our elected representatives could get

involved in supporting the mission of biomedical research," Ferguson says. "It was truly transformative, and I am already brainstorming ways we can continue the work of Capitol Hill Day here at Drexel."

Brielle Ferguson went to Capitol Hill to make the case for research funding face to face. Ferguson will defend her thesis later this summer, before she begins a postdoctoral fellowship at Stanford University in the early fall.

Scholars and Heroes: Students Who Run Free Clinics

The Health Outreach Project, which offers care to underserved Philadelphians through free health clinics and services run by Drexel medical students, won an award at the annual conference of the Society of Student Run Free Clinics, held February 11–12 in Anaheim, Calif. HOP members received the Certificate of Scholarly Achievement for their project “Improving Patient Care Through Advocacy Services at Student-Run Clinics,” presented at the meeting by then second-year medical students and HOP co-chairs Stephen Rogers and Denise Wang.

The other authors were Mira Henien, Charles Fencil, Kate Sheridan, Rohit Mukherjee, Hyein Jeon and Christine Quake, now third-year students; Victoria Martino and Maelys Amat, now fourth-years; and Clayton Ruley, MSS, and Elby Katumkeeryil, both of Prevention Point Philadelphia. Steven Rosenzweig, MD, and Annette Gadegbeku, MD, are the HOP faculty advisers.

Heroes for the Homeless

Rosenzweig, Amat and a second group of HOP students were named Heroes for the Homeless in the 2017 Steppy Awards, “honoring Philadelphians working to make life a little easier for those in need.” The awards are presented by One Step Away, Philadelphia’s “street newspaper,” whose vendors are working to overcome homelessness. The students helped to create a free clinic in St. Raymond’s House, a permanent supportive housing program.

“I cannot even put into words the amount of gratitude we have for them,” says Shannon Morgan, associate director of St. Raymond’s House, who nominated HOP for the award. “Even at times when folks were not yet ready to access services from them, they persisted in finding creative and thoughtful ways to engage and build relationships with residents so they felt safe and comfortable.”

In addition to Maelys Amat, the students who developed the clinic were Hyein Jeon, Paul Menell, Michelle Fleyshman and Wick McIlvain, all now third-year students.

“I feel fortunate to have met this population and learn more and more from them about the social determinants of health every week,” says Amat, who is in the MD/MBA program. “They taught me more about medicine than I could have ever learned from a textbook.”



Stephen Rogers and Denise Wang presented the HOP project to the Society of Student Run Free Clinics.

Health Fair for Latino Community

Members of the College of Medicine’s Latino Medical Student Association organized a “Health Fair for Our Latinos!” that served more than 120 people in the Hunting Park section of Philadelphia. Association co-presidents Paulina Ramirez and David Bruni and their board developed and implemented plans to bring Spanish-language health screenings, education and resources to the neighborhood.

The student volunteers offered basic health screening — blood pressure, pulse, BMI, vision and glucose — and a follow up with one of their volunteer doctors: Leon McCrea, MD, of Drexel

Family Medicine; alumna Natalie Miranda, an ob/gyn; and alumna Eunice Del Rosario, a dermatologist.

The nonprofit Health Promotion Council provided educational workshops, including one on breast and cervical cancer, and there were eight tables for health-related organizations with information and

resources all in Spanish. Participants could sign up for future classes in diabetes management, smoking cessation, or nutrition; find referrals for public health centers; and learn about Philadelphia Health Management Corporation, Access Matters/Healthy Woman (for mammograms), Women Organized Against Rape, Home Health Agency Services, Grupo Morivivi Latino Breast Cancer Support Group and Aspira Stakeholders.

Membership in the Latino Medical Student Association is diverse. According to Ramirez, the association welcomes anyone who is interested in advocating for the rights of Latinos in health care, promoting volunteerism in the community and providing a voice for underrepresented medical students and patients. This event

also created an opportunity for members to practice their medical Spanish. “It was definitely a challenge, especially for students who are not proficient,” Ramirez says, “but it showed me how caring and passionate my fellow classmates are and it made me very proud.”



Paulina Ramirez



David Bruni

St. Christopher's Recognized for Patient Safety as Part of I-PASS Study Group

St. Christopher's Hospital for Children is part of a patient safety research group that received the prestigious 2016 John M. Eisenberg Award for Innovation: Patient Safety and Quality. The award is presented annually by The Joint Commission and the National Quality Forum, organizations that set standards in patient care.

The hospital is one of more than 50 medical centers across North America that are part of the I-PASS Study Group, dedicated to improving patient safety by standardizing provider communication during patient handoffs. I-PASS, the program the group developed, is an extensively researched and validated package of interventions designed to reduce miscommunication that can lead to harmful medical errors.

St. Christopher's was a primary site when the I-PASS Study Group was formed in 2009 and played a prominent role in helping to develop and study the I-PASS program. Led by Nancy Spector, MD, professor of pediatrics and associate dean for faculty development at the College of Medicine, the St. Christopher's team are all members of the Drexel pediatrics faculty: Drs. Sharon Calaman and E. Douglas Thompson, both associate professors, and Drs. Nickolas Kuzma and Kheyandra Lewis, assistant professors. Spector is also a leader at the national level, as chair of the executive council for



the I-PASS Study Group.

In a study of a resident-handoff improvement program using I-PASS at nine hospitals, the medical error rate decreased by 23 percent, and the rate of preventable adverse events decreased by 30 percent (Starmer, Spector, et al. for the I-PASS Study Group, "Changes in Medical Errors after Implementation of a Handoff Program," in the *New England Journal of Medicine*, November 6, 2014, PMID: 25372088).

The I-PASS method is now a standard part of care at St. Christopher's and is taught to all pediatric residents. The term I-PASS is a mnemonic device for the steps in the transfer process: I = Illness severity; P = Patient summary; A = Action list; S = Situation awareness and contingency planning; S = Synthesis by receiver.



Nancy Spector, MD

College of Medicine to Lead 13-Partner Health Professions Education Collaborative

Drexel University College of Medicine has received a grant of more than \$420,000 from the Josiah Macy Jr. Foundation to lead a collaborative of 13 medical, nursing and health professions schools with the goal of enhancing each school's education in professionalism and interprofessional communication.

Led by principal investigators Dennis Novack, MD, and Kymberlee Montgomery, DrNP, CRNP-BC, the collaborative will use ProfessionalFormation.org (PFO), an online resource for teaching, assessing and remediating gaps in professional and interprofessional behaviors in health care. The College of Medicine created this resource in collaboration with the Academy for Professionalism in Healthcare and the American Academy

on Communication in Healthcare. Interprofessional project faculty will work with each institution to integrate PFO into existing curricula and create new programs in professionalism and interprofessional teamwork. The PFO faculty will assist in planning for pilot testing of new activities, work with the partner schools to create robust program evaluations and establish educational research, and assist in creating faculty development programs at each institution. At the same time, the project team will identify existing evaluation tools to help faculty and students to monitor students' personal and professional growth, as well as develop new tools where needed. Currently, PFO comprises 13 interactive modules complemented by a sophisticated learning management system.

Novack is a professor of medicine and the associate dean for medical education. Montgomery holds a joint appointment as clinical associate professor in the College of Medicine and the College of Nursing and Health Professions, where she is chair of the nurse practitioner program.



Dr. Montgomery



Dr. Novack

Annual Pediatric AIDS Benefit Raises Over \$25,000

The 24th annual Pediatric AIDS Benefit Concert was a smashing success, raising more than \$25,000 this year for children with HIV and AIDS. That brings the total amount raised to over \$550,000 since the event began.



Students, faculty and guests sang, danced and laughed their way through the February 11 event, which is organized each year by Drexel University College of Medicine students for the benefit of the Dorothy Mann Center at St. Christopher's Hospital for Children.

"Not only does this event raise funds for the HIV clinic at St. Christopher's, but it also gives the College of Medicine community an opportunity to put down their white coats and stethoscopes for a night, and tap into a more creative side of themselves," said medical student Colleen Delaney, a co-chair of the benefit.

The Dorothy Mann Center for Pediatric and Adolescent HIV is the largest of its kind in the tri-state area, providing comprehensive care, including social services, to children infected with HIV and their families. The money raised by the concert helps provide affected families with emergency funds for housing, utilities, food, and rent, and helps to offset other expenses such as supplies for summer camp.

Bright Idea: Graduate Students Launch Volunteer Fair

To learn more about nonprofits in need of help and encourage volunteerism among their peers, students in the Division of Pre-medical and Pre-health Programs organized a volunteer fair on the Center City Campus. Nonprofit organizations from across the city — including the Alzheimer's Association, George Washington Carver Science Fair, Lutheran Settlement House and PALS [Promoting Achievement Through Learning Science] — set up shop on tables arranged around Geary Lobby in New College Building, with staff ready to talk to potential volunteers. The fair-style layout made it easy for students and

other visitors to move between the nonprofits and find out what kind of work each needed. As an incentive to visit more of the "vendors," students received a game card that could be entered in a raffle once it had been signed by three of the organizations at the fair.



Graduate School Dean Elisabeth Van Bockstaele, PhD, with Naomi Francois, Hana Kebede, Saba Bakhtiari and Andrea Fowora

Voice Foundation Honors Dean Schidlow at Gala

The Voice Foundation's annual Voices of Summer Gala honored two leaders of Philadelphia institutions and two international stars: The Voice Education Research Awareness, or VERA, Award was presented to Daniel V. Schidlow, MD, Walter H. and Leonore Annenberg Dean of Drexel University College of Medicine; Kevin McDowell, president and artistic director of the Academy of

Vocal Arts; and Reri Grist, star of the Metropolitan Opera and Broadway. The legendary Tommy Tune, a 10-time Tony Award winner, received the Raymond and Beverly Sackler Award. Justice Sandra Schultz Newman, member of the College of Medicine advisory board, chaired the black-tie event, held June 2 at the Westin Philadelphia. Entertainment and dancing followed the dinner and awards.

The Voice Foundation is the world's leading organization dedicated to the care and training of the human voice.



Daniel V. Schidlow, MD (left) receives the VERA Award from Robert T. Sataloff, MD, DMA, board chair of the Voice Foundation and chair of Drexel's Department of Otolaryngology-Head & Neck Surgery.

2017 CURE Awardees

Many thanks to the faculty and staff who participated in the 2017 Commonwealth Universal Research Enhancement (CURE) grant program competition. After an internal call for proposals, a scientific review panel met on March 3 to evaluate the applications. The panel was composed of faculty members from across the University. Please join us in congratulating our colleagues below who will receive awards:

Advancement of First-in-Class Macrocyclic HIV-1 Inactivators for Therapeutics and Cure

Adel Ahmed, PhD, Biochemistry & Molecular Biology, College of Medicine

Co-investigators:

Irwin Chaiken, PhD, Biochemistry & Molecular Biology, College of Medicine

Elias El Haddad, PhD, Medicine, College of Medicine

Mechanisms of Olfactory Hypersensitivity in Fragile X Syndrome

Michael Akins, PhD, Biology, College of Arts & Sciences

Co-investigator:

Joris Beld, PhD, Microbiology & Immunology, College of Medicine

Chronic Pain and Cardiovascular Disease

James Barrett, PhD, Neurology, College of Medicine

Co-investigators:

Huijuan Hu, PhD, Pharmacology & Physiology, College of Medicine

Harpreet Singh, PhD, Pharmacology & Physiology, College of Medicine

Patrick Osei-Owusu, PhD, Pharmacology & Physiology, College of Medicine

How Bacteria Utilize Environmental Fatty Acids

Joris Beld, PhD, Microbiology & Immunology, College of Medicine

Co-investigator:

Amy Ma, PhD, Microbiology & Immunology, College of Medicine

A Novel In Vitro 3D Liver Sinusoid Model for Hepatitis B Virus Studies

Michael Bouchard, PhD, Biochemistry & Molecular Biology, College of Medicine

Co-investigators:

Moses Noh, PhD, Mechanical Engineering & Mechanics, College of Engineering

Laura Steel, PhD, Microbiology & Immunology, College of Medicine

Novel Compositions for Treating or Preventing Age-Related Dermal and Epidermal Disorders

Christina Chung, MD, Dermatology, College of Medicine

Co-investigators:

Christian Sell, PhD, Pathology & Laboratory Medicine, College of Medicine

Ibiyonu Lawrence, MD, Medicine, College of Medicine

Analytics on Real-Time Biometrics from Passive Wearable Smart-Garments

Adam Fontecchio, PhD, Electrical & Computer Engineering, College of Engineering

Co-investigator:

William Mongan, Computer Science, College of Computing & Informatics

Effects of GSK-3 on the Prefrontal Dopamine System

Yan-Chun Li, PhD, Neurobiology & Anatomy, College of Medicine

Co-investigator:

Felice Elefant, PhD, Biology, College of Arts & Sciences

O-GlcNAc Regulation of Acetate Metabolism in Glioblastoma

Mauricio Reginato, PhD, Biochemistry & Molecular Biology, College of Medicine

Co-investigators:

Christos Katsetos, MD, PhD, Pediatrics, College of Medicine [Note: See In Memoriam, page 22]

Nathaniel Snyder, PhD, MPH, A. J. Drexel Autism Institute

The Mechanisms of Visual and Decision Processes in Cancer Histopathology Interpretation

Mark Zarella, PhD, Pathology & Laboratory Medicine, College of Medicine

Co-investigator:

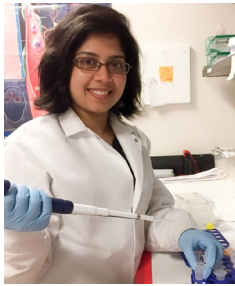
David Breen, PhD, Computer Science, College of Computing & Informatics

Local Delivery of Minocycline and Glypican to Promote Protection and Repair After Spinal Cord Injury

Yinghui Zhong, PhD, School of Biomedical Engineering, Science, and Health Systems

Co-investigator:

Veronica Tom, PhD, Neurobiology & Anatomy, College of Medicine



Shaili Aggarwal, PhD, a second-year postdoctoral fellow in the Department of Pharmacology & Physiology, is one of the two 2017 recipients of the Brody Family Medical Trust Fund fellowships for medical research, presented by the Philadelphia Foundation. The fellowship funds up to two

consecutive years for full-time postdoctoral fellows in the early stages of research into cutting-edge treatments. Aggarwal's research focuses on the development of alternative treatments for cocaine addiction, which she is pursuing in the laboratory of Ole Mortensen, PhD, associate professor. She earned her doctorate in medicinal and pharmaceutical chemistry at Duquesne.



Peter Baas, PhD, professor, Department of Neurobiology & Anatomy, gave the platform presentation "Microtubules: Loss-of-Function and Gain-of-Function Mechanisms Contributing to Neurodegeneration" at a symposium, CNS Neurodegeneration Strategies: Discovery and

Implementation, at the Houston Methodist Research Institute, Houston, Texas, March 15–17; and at an EMBO workshop, Emerging Concepts in Neuronal Cytoskeleton, held April 2–6 in Puerto Varas, Chile. Baas is the 2017 recipient of the Advanced Scholarship for Research into Hereditary Spastic Paraplegia and Related Diseases from the Tom Wahlig Foundation, 2017–2020, which totals \$63,000.



Jessica R. Barson, PhD, assistant professor, Department of Neurobiology & Anatomy, gave an invited panel session talk, "Neurotensin in the Paraventricular Thalamus: Inhibitor of Pharmacologically-Relevant Ethanol Drinking," at the Winter Conference on Brain Research, held

January 28–February 2 in Big Sky, Montana.



Zachari Breeding, MS, RDN, LDN, clinical dietitian in the Adult Cystic Fibrosis Center, Division of Pulmonary, Critical Care & Sleep Medicine, presented "Cystic Fibrosis Nutrition: What Every RDN Needs to Know" at the Academy of Nutrition and Dietetics' 2016 Food & Nutrition Conference and Expo held October 15–18, in Boston. As a result, he was interviewed for an article on medical nutrition therapy in *Today's Dietitian* (April 2017). Breeding chairs the Cystic Fibrosis Nutrition Subgroup of the academy's Medical Nutrition Practice Group. (RDN stands for registered dietitian-nutritionist.)



Dr. España

Zachary D. Brodник, neuroscience PhD candidate, and **Rodrigo A. España, PhD**, assistant professor in the Department of Neurobiology & Anatomy, are authors of "Reinforcing Doses of Intravenous Cocaine Produce Only Modest Dopamine Uptake Inhibition" in *ACS Chemical Neuroscience*, Volume 8, February 2017.



Dr. Cambell

Paul M. Campbell, PhD, assistant professor, Department of Pharmacology & Physiology; **Matthew C. Stout**, doctoral student in the Campbell Lab; and colleagues have recently published "CRISPR Knockout of the HuR Gene Causes a Xenograft Lethal Phenotype" in *Molecular Cancer Research* (PMID: 28242812).



Megan R. Detloff, PhD, research assistant professor, Department of Neurobiology & Anatomy, was awarded a two-year pilot grant by the Craig H. Nielsen Foundation for her work "Strength Training to Reduce Nociceptor Plasticity and Excitability Associated with Spinal Cord Injury-Induced Neuropathic Pain."



Garth D. Ehrlich, PhD, professor, Department of Microbiology & Immunology and Otolaryngology–Head and Neck Surgery, made a number of presentations in late 2016: "Pacbio-based Species-Level Microbiome Analyses" at the Advances in Microbiome Diagnostics Symposium,

Cambridge Healthtech's Eighth Annual Next Generation Dx Summit, on August 26 in Washington, D.C.; "Combining the Biofilm Paradigm and the Distributed Genome Hypothesis Provides a Rubric for Understanding Chronic Bacterial Pathogenesis," International Conference on Mitigation Strategies for Emerging Infectious Diseases, held October 19–21 in Cali, Colombia; and "Multi-Infections, Gene Expression and What This Means for Immune Response" in a breakout session at the ILADS annual meeting – Lyme Disease: An Evolving Paradigm for Chronic Illness, held November 4–6 in Philadelphia. During the plenary session at the same meeting, he presented "Examination of CNS Tissues From Patients With Dementia Using Molecular Diagnostics for Bacterial Pathogens."



Jill M. Giordano Farmer, DO, MPH, assistant professor of neurology, and director, Parkinson's Disease & Movement Disorder program, published "On Shaky Ground: Identifying Risk Factors for Parkinson's Disease" in *Practical Neurology* (January/February 2017). She is also

an author of "Neurovisual Impairment in Neurodegenerative Diseases" and the author of "Introduction to Combined Cognitive and Movement Disorders," book chapters in *Progressive Cognitive Impairment and Its Neuropathologic Correlates* (see Griebus).



Denise Ferrier, PhD, professor in the Department of Biochemistry & Molecular Biology, is the author of *Lippincott's Illustrated Reviews: Biochemistry*, 7th edition (Wolters Kluwer, 2017). Ferrier was the author of the 6th edition and co-author of the 4th and 5th editions. The book has been translated into seven languages to date.



Dr. Fischer



Dr. Lane

Itzhak Fischer, PhD, professor and chair, Department of Neurobiology & Anatomy, published a new manuscript in *Expert Review of Neurotherapeutics*, "Improving the Therapeutic

Efficacy of Neural Progenitor Cell Transplantation Following Spinal Cord Injury." The paper was published together with **Michael Lane, PhD**, assistant professor, Department of Neurobiology & Anatomy, and alumnus **Angelo Lepore, PhD Neuroscience '06**, faculty in the Department of Neuroscience at Thomas Jefferson University.



Florence Gelo, DMin, NCPsyA, associate professor, Department of Family, Community & Preventive Medicine, presented "Using the Visual Arts in Medical Education to Cultivate Empathy and Whole Person Care for People with Dementia" at the First International Research Conference

on the Arts and Dementia: Theory, Methodology and Evidence, held March 9–10 in London, and sponsored by the Royal Society for Public Health.

Rashida Ginwala, a PhD student in the laboratory of Pooja Jain, PhD, was awarded a travel grant and invited to give an oral presentation, "HTLV-1 Infection and Neuropathogenesis in the Context of Rag1^{-/-}yc^{-/-} (RAG1-hu) and BLT Mice," at the 18th International Conference on Human Retrovirology, held March 7–10 in Tokyo.



Simon Giszter, PhD, professor, Department of Neurobiology & Anatomy, was an invited seminar speaker at the University of Montreal GRSNC group, on March 31, and at Northeastern University on April 7. His laboratory also had collaborative presentations at the NIH 10th annual

IMAG MSM consortium meeting at the NIH campus, and posters at the Society for the Neural Control of Movement meeting, May 2–5, Dublin, Ireland.



G. Peter Griebus, MD, interim chair and assistant professor of neurology, is the editor of *Progressive Cognitive Impairment and Its Neuropathologic Correlates* (Nova Science Publishers, 2016), and is the author of the chapter "Memory Disorders in Neurodegenerative Diseases." Griebus

was recently named to the Medical & Scientific Committee of the Alzheimer's Association Delaware Valley Chapter.

• continued on next page

Calendar

July

Cord Blood Awareness Month

3–14 **Class of 2019 Transition to Clinician I: Transition to the Clinical Years**

17–18 **Fundamentals of Medical Research & Scholarship**

Contact: Michele Taylor, 215.762.4661 or mt475@drexel.edu

August

National Breastfeeding Month

7–11 **Class of 2021 Orientation**

11 **White Coat Ceremony**

The Kimmel Center, 11 a.m.



September

National Recovery Month

4 Labor Day

October

National Breast Cancer Awareness Month

12 **Discovery Day**

Pennsylvania Convention Center

Contact: Alyssa Abrohms, aa3436@drexel.edu

19 **New Faculty Orientation**

Queen Lane Campus, 1–4:30 p.m.

Contact: Michele Taylor, mt475@drexel.edu

New Faculty Reception

Queen Lane Campus, 5–7 p.m.

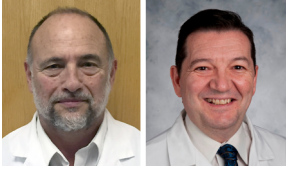
Contact: Alyssa Abrohms, aa3436@drexel.edu

Ongoing

Drexel Medicine Physician Refresher/Re-entry Course

Contact: Cynthia Johnson, 215.762.2580

Alumni: For information about alumni events, please call 215.762.2371, email medical.alumni@drexel.edu or visit drexel.edu/medicine/alumni/events.



Dr. Goldenthal Dr. Legido

Michael J. Goldenthal, PhD, research associate professor of pediatrics and scientific director of the Mitochondrial Disease Laboratory at St. Christopher's Hospital for Children;

Shirish Damle, PhD, research associate; and **Agustin Legido, MD, PhD, MBA**, professor of pediatrics and neurology; chief of St. Christopher's Section of Neurology and medical director of the Mitochondrial Disease Lab, are among the authors of "The Effect of Mitochondrial Supplements on Mitochondrial Activity in Children with Autism Spectrum Disorder," published as a peer-reviewed article in the February 13 edition of *Journal of Clinical Medicine* (PMID: 28208802). In addition, Goldenthal was the author of a review article entitled "Mitochondrial Involvement in Myocyte Death and Heart Failure," published in *Heart Failure Reviews* (PMID: 26886225).



Haviva M. Goldman, PhD, associate professor, Department of Neurobiology & Anatomy, chaired a symposium session, "AAA Innovation Program: Sharing Resources for Integrated Education and Research — The Virtual Microscopy Database," at the 2017 American

Association of Anatomists meeting at the Experimental Biology Conference, April 22–25. The symposium also included her presentation, "Utilizing Shared Virtual Microscopy Slides to Create Innovative Anatomical Science Resources in an Integrated Curriculum." The symposium introduced the outcomes of a recent AAA Innovation Grant that supported the creation of a virtual microscopy database (virtualmicroscopydatabase.org) for educators to share their slide collections and access high-quality virtual slides of normal, abnormal and developmental tissues.



Minda A. Green, MD, assistant professor, Department of Obstetrics & Gynecology, received a 2017 Gold Star Award from the Cherry Hill Chapter of National Hook-Up of Black Women, Inc., a nonprofit dedicated to improving the lives of women and their families. The Gold Star Award honors "Heroes in Medicine, Law Enforcement and Education."



Eugene Hong, MD, chair of Family, Community & Preventive Medicine and head team physician for Drexel University and Philadelphia University, was the keynote speaker at the Game Changers in Sports Medicine Conference, sponsored by WellSpan Sports Medicine and held on March 3 in York, Pa.



John Houle, PhD, professor in the Department of Neurobiology & Anatomy, spoke at a Shriners Hospital Town Hall held in support of state funding for spinal cord injury research. Houle was one of three speakers who described the research being performed at their respective institutions. The event took place on February 7 at Shriners Hospital in Philadelphia. A bill before the Pennsylvania Senate proposes designating part of the state's CURE grant funds for spinal cord research. Alumnus Angelo Lepore, PhD Neuroscience '06, presented on behalf of Thomas Jefferson University.



Amanda Hu, MD, associate professor, Department of Otolaryngology–Head & Neck Surgery, has been named one of the Top Physicians Under 40 by the Pennsylvania Medical Society (published in *Pennsylvania Physician*, Winter 2017). She was cited as an emerging leader in the Pennsylvania Academy of Otolaryngology-Head and Neck Surgery as well as its national affiliate.



Richard Huneke, DVM, professor, Department of Microbiology & Immunology, and executive director, University Laboratory Animal Resources, was invited to present and participate in a roundtable discussion at the IV Brazilian Congress of Bioethics and Animal Well-Being organized by the Federal Council of Veterinary Medicine in Porto Alegre, Brazil, April 18–20. His presentation, "Strategies and Approaches for Welfare Advances in Laboratory Animals," reviewed the 3Rs of ethical animal research: Replacement, Reduction and Refinement.



Laird G. Jackson, MD, professor, Department of Obstetrics & Gynecology, is the recipient of the 2017 ACMG Foundation David L. Rimoin Lifetime Achievement Award. Jackson was honored for his commitment to teaching, his leadership in the field of prenatal genetic screening, and his decades of work surrounding the characterization and treatment of Cornelia de Lange Syndrome. The award recognizes individuals who have demonstrated the personal characteristics of empathy, compassion and mentorship, in addition to having made major scientific contributions to medical genetics. Jackson's work in medical genetics spans over half a century. He has written more than 50 research articles and book chapters; served as a founding member of the International Society for Prenatal Diagnosis and the American College of Medical Genetics and Genomics; and served on editorial boards for several prominent research journals, including the *American Journal of Medical Genetics*.



Pooja Jain, PhD, professor, Department of Microbiology & Immunology, has been appointed as a standing study section member in the NeuroAIDS and other End-Organ Diseases Study Section, Center for Scientific Review, National Institutes of Health, for the term July 1, 2017 to June 30, 2021. On February 8, she presented at the Neuroscience Research Seminar Series at Temple University School of Medicine on "Neuro-immune Cross Talk and Dendritic Cells Based Immunotherapy for Neurological Diseases." She also recently received an R01 award from the U.S. Department of Health and Human Services for her project "Pre-Clinical Testing of a Novel Immunotherapy for HTLV-Induced Neurologic Disease."



Dr. Khan



Dr. Chaiken

Zafar Khan, PhD, professor, Department of Microbiology & Immunology; **Irwin Chaiken, PhD**, professor, Biochemistry & Molecular Biology; and **Pooja Jain, PhD**, professor, Microbiology & Immunology, along with former lab members and students, are authors of "Inhibition of DC-SIGN-Mediated HIV-1 Infection by Complementary Actions of Dendritic Cell Receptor Antagonists and Env-Targeting Virus Inactivators," which appeared in *AIDS Research and Human Retroviruses* (PMCID: PMC4692117).



Dr. Kim

Felix J. Kim, PhD, assistant professor and director of the graduate program in the Department of Pharmacology & Physiology, and colleagues published "Sigma1 Targeting to Suppress Aberrant Androgen Receptor Signaling in Prostate Cancer" in *Cancer Research*, February 24, 2017 (epub ahead of print) (PMID 28235766). Additional authors include postdoctoral fellows **Jeffrey D. Thomas** and **Halley M. Oyer**; research technician **Charles G. Longen**; **Nan Chen, MS '16**; doctoral candidate **Christina M. Maher**; and **Blase Kania**, a first-year medical student who was an undergraduate research assistant in the Kim Lab.



J. Yasha Kresh, PhD, professor of cardiothoracic surgery and medicine (cardiology), was an invited speaker at the annual meeting of the International Society for Heart & Lung Transplantation, held April 5–8 in San Diego. The title of his talk was "Design/Interconnected Thinking for Better Biomedical Devices." Interconnected thinking motivates "innovation by design," which is a design-thinking paradigm especially applicable to complex biomedical problems with many components. Mechanical circulatory support devices designed to treat various forms of heart failure embody a collection of such problems (e.g., materials, fluid transport/flow drive, energy transfer, control mechanisms). This approach to innovation necessitates a participatory iterative co-design process that integrates the needs of patients, advances in technology and requirements for business success.



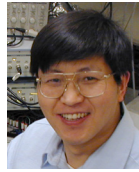
Ms. Ferguson



Dr. Y.-C. Li

Meng-Lin Li, MD, visiting graduate student from Guangzhou Medical University; **Yelena Gulchina**, **Sarah A. Monaco**, and **Brielle R. Ferguson**, doctoral students in neurosci-

ence; **Bo Xing, PhD**, postdoctoral fellow; **Yan-Chun Li, MD, PhD**, research assistant professor; **Wen-Jun Gao, PhD**, professor, all in the Department of Neurobiology & Anatomy; and colleagues at Sun Yat-Sen University, Guangzhou, China, published "Juvenile Treatment With a Novel mGluR2 Agonist/mGluR3 Antagonist Compound, LY395756, Reverses Learning Deficits and Cognitive Flexibility Impairments in Adults in a Neurodevelopmental Model of Schizophrenia," in *Neurobiology of Learning and Memory*, Volume 140, February 2017.



Dr. Gao

Tahir Maqsood, MD, clinical assistant professor of psychiatry, has been named chair of psychiatry by Mercy Fitzgerald and Mercy Philadelphia Hospitals. The chair will unify the psychiatry department at both hospitals in an integrated system of behavioral health.

Andrew Matamoros, doctoral student in the Molecular & Cell Biology & Genetics program in the laboratory of Peter Baas, PhD, professor, Department of Neurobiology & Anatomy, presented a poster, "Fidgetin Knockdown Promotes Axon Regeneration in an In Vitro Model of Spinal Cord Injury," at the International Union of Biochemistry and Molecular Biology Focused Meeting on Emerging Concepts of the Neuronal Cytoskeleton, held April 2–6 in Puerto Varas, Chile.



Dr. Mell



Dr. Balashov

Joshua Chang Mell, PhD, assistant professor; **Rachel L. Ehrlich, MS**, bioinformatics programmer; **Sergey Balashov, PhD**, genomics core facility manager; **Garth D. Ehrlich, PhD**, professor,

all in the Department of Microbiology & Immunology; and colleagues published "Phenotypic Diversity and Genotypic Flexibility of *Burkholderia cenocepacia* During Long-Term Chronic Infection of Cystic Fibrosis Lungs" in the April 2017 issue of *Genome Research* (published online March 21). To learn more about this study, see page 23.



Dr. Pelleg

Amir Pelleg, PhD, adjunct professor of medicine, Division of Cardiology, and **Edward S. Schulman, MD**, professor of medicine, Division of Pulmonary, Critical Care & Sleep Medicine, are authors of "IgE Receptor-Mediated Histamine Release in Human Lung Mast Cells: Modulation by Purinergic Receptor Ligands" in *Annals of Clinical & Laboratory Science*, September 2016 (PMID 27650611); and "Extracellular Adenosine 5'-Triphosphate in Obstructive

• continued on next page

WHAT WE'RE DOING

Airway Diseases," *CHEST*, September 2016 (PMID 27568579). Pelleg also co-authored "Adenosine Attenuates cAMP-dependent Chloride Current in Isolated Guinea-Pig Ventricular Myocytes" in *Journal of Heart and Cardiovascular Research*, Vol. 1, No. 1, 2017; and "Contrasting Effects of ATP and Adenosine on Capsaicin Challenge in Asthmatic Patients" in *Pulmonary Pharmacology and Therapeutics*, 2017 (PMID: 28392320).

Liang Qiang, MD, PhD, research instructor, Department of Neurobiology & Anatomy, gave a platform presentation, "Characterization and Investigation of a Mouse Gain-of-Function Model for SPG4-HSP," at the 2017 Symposium of the Tom Wahlig Foundation, held in Bochum, Germany, March 29. Qiang also is the recipient of the New Investigator Award in Gulf War Illness from the Department of Defense, 2017–2019, for his study "Tau Pathology as a Contributor to Gulf War Illness and a Basis for Potential Therapy," in the amount of \$750,000.



Allan B. Schwartz, MD, professor of medicine, has contributed several articles to the series "Medical Mystery" in the *Philadelphia Inquirer*. Recent titles include "What Nearly Kept U.S. Grant from Finishing His Memoirs?"; "At Peak of Cold War, Reagan's Cancer Diagnosis"; "What

Did Eleanor Roosevelt's Physicians Miss?"; "The Foe That Even Chairman Mao Couldn't Defeat"; and "What Killed Joseph Stalin?"



Daniel R. Taylor, DO, associate professor of pediatrics, and director of Community Pediatrics and Child Advocacy at St. Christopher's Hospital for Children, had his 50th article published in the *Philadelphia Inquirer* on April 11, "The Secret Ingredient That Helps Kids Overcome

the Toxic Stress of Poverty."



Dr. Varjavand



Ms. Johnson

Nielufar Varjavand, MD, associate professor of medicine, presented a poster abstract, "Reentry Program for Inactive Physicians Returning to Practice," at the annual meeting of the Society of General Internal Medicine, held April 19–22 in Washington, D.C. Abstract co-authors were **Cynthia**

Johnson, assistant dean for continuing medical education; and Mark Greco, MD, a 2007 graduate of Drexel's re-entry program, who is now an assistant professor of medicine at Robert Wood Johnson Medical School.



Tell your colleagues what you're doing.
Email pulse@drexelmed.edu.



Match Day

The Class of 2017 crossed one finish line on March 17 when they found out where they had matched for residency. Did some eager students open their envelopes a few minutes early? Maybe so — but nobody peeked before the official time, following a good luck toast.



'40s

Aimee Richmond, MD, WMC '48, a retired family medicine physician, published a book, *Simply Nutrition* (Xulon Press, December 2016), which is available on Amazon. She celebrated her 94th birthday on February 22.

'60s

Robert J. Broselow, MD, HU '66, after three years at Amarillo Urgent Care, now works in emergency medicine in a rural critical access hospital in Crosbyton, Texas. He lives on his ranch with cattle, horses and llamas.

Fredric H. Schiffer, MD, HU '69, presented "The Importance of the Physical Interactions Between Subjective Experience and the Brain in Human Psychology" at the Science of Consciousness Conference series, held in San Diego, June 5–10. Schiffer is an assistant professor part time at Harvard Medical School.

'70s

Joseph E. Imbriglia, MD, HU '70, received the 2016 Ralph C. Wilde Leadership Award from the Allegheny County Medical Society Foundation at its Celebration of Excellence Awards Gala, held March 4 in Pittsburgh.



Helen Meeks Horstmann, MD, MCP '72, an orthopedic surgeon at the Children's Hospital of Philadelphia, was installed as a board member of the Pennsylvania Horticultural Society and will also serve as chair of the Philadelphia Flower Show and Events Committee.

Marjorie Stanek, MD, MCP '72; Internal Medicine Residency, HU; Cardiology Fellowship, MCP, a cardiologist and director of the Cardiac Stress Laboratory at Einstein Health Network, was named the 2017 "Woman of Heart" by the Philadelphia Chapter of the American Heart Association. She was honored at the 14th annual Go Red for Women luncheon on May 12.

Sandra Hullett, MD, MCP '76, CEO and medical director of Cooper Green Mercy Hospital in Birmingham, Alabama, was honored in Alabama A&M University's salute to Women's History Month.

Janet Haas, MD, HU '77, chair of the board of directors of the William Penn Foundation, wrote an op-ed article about Philadelphia's Rebuild Initiative that was published in the *Philadelphia Inquirer*, February 20.

Edward C. Kondrot, MD, HU '77; MD(H), CCH, DHI, was interviewed on the radio show "The Natural Nurse with Ellen Kamhi and Dr. Z."

Richard V. Brown, MD, HU '78, a specialist in internal medicine working in geriatrics, recently received the Chief of Staff Clinical Excellence Award from VA Pittsburgh Healthcare System, where he has been working for 31 years. The award is for outstanding work that has advanced the system's pursuit of excellence, while setting a new standard in VA care.

Joseph F. Hacker III, MD, HU '79, president of Gastroenterology Associates in Newark, Delaware, was named a "GI Leader to Know" by *Becker's GI & Endoscopy*.

'80s

Ann Danoff, MD, MCP '80, wrote an article, "On Being (an Endocrinologist): One Personal Journey," featured on Medscape's website.

Eileen Boyle, MD, HU '83, received the Nathaniel Bedford Primary Care Award from the Allegheny County Medical Society Foundation.



Sandra Abramson, MD, MCP '84, a cardiologist with the Lankenau Heart Group and director of cardiovascular imaging for Main Line Health, was named the 2017 Philadelphia Goes Red Champion, as part of the Go Red for Women campaign of the American Heart Association.

Joseph G. Cacchione, MD, HU '85, was named president of Ascension Medical Group, the largest nonprofit health system in the U.S. and the world's largest Catholic health system.

Jon W. Wahrenberger, MD, HU '85, was appointed to the Board of Governors of Dartmouth-Hitchcock Medical Center in Dartmouth, N.H. Wahrenberger is a full-time clinical cardiologist at Dartmouth-Hitchcock and an assistant professor of medicine for Geisel School of Medicine at Dartmouth.

Stephen Kessler, MD, MCP '86, joined the University of Vermont Health Network – Alice Hyde Medical Center's OB/GYN practice.

Alan R. Turtz, MD, MCP '86, a neurosurgeon and chief of the Department of Neurosurgery at Cooper University Health Care, participated as a principal investigator in a newly launched cooperative clinical diagnostics and research initiative for the study and diagnosis of adult and pediatric brain tumors with the Philadelphia Coalition for a Cure.

Joseph C. Seprosky Jr., MD, HU '87 joined Highland Physicians Family Health Center in Honesdale, Pa.

'90s

Elizabeth Arthur, MD, HU '90; Dermatology Residency, MCPHU '95, owner of Helendale Dermatology and Medical Spa in Rochester, New York, was selected as a finalist for the 2017 Athena Awards by the Women's

Council, an affiliate of the Greater Rochester Chamber of Commerce. The awards honor the contributions of the area's most influential professional women.

Jeffrey Brown, MD, HU '92; General Surgery Residency, MCPHU '99, Surgical Critical Care Fellowship, HU, joined Riverside Medical Group in Kankakee, Ill., as a general surgeon.

Alexander E. Kalenak, MD, HU '94, joined Boone County Family Medicine North in Boone, Iowa. Kalenak earned his master's in biological chemistry from Hahnemann in 1989.

Andrew Spitznas, MD, MCP '94, a psychiatrist, joined Frontier Health in Kingsport, Tenn.

Amanda D. Reeve, MD, HU '95, spoke on "Rising Above Obstacles" at the second annual Soroptimist International of the Sierras "Dream It Be It" event for middle and high school girls. Reeve, an obstetrician-gynecologist in Fresno, California, is affiliated with Kaiser Permanente Fresno Medical Center and Saint Agnes Medical Center.

Eric A. Bank, Certificate, Emergency Medical Services, MCPHU '96, co-authored an article in the *Journal of Emergency Medical Services* on blood therapy.

Charles W. Reninger III, MD, MCP '97, a hematologist and oncologist in Camp Hill, Pa., was featured in *The Leading Physicians of the World* published by The International Association of HealthCare Professionals.

Ketan M. Desai, MD, HU '98, a vascular surgeon with Mercy Clinic Vascular Specialists at Mercy Heart and Vascular Hospital in St. Louis, Mo., has expanded his practice to Troy, Mo. He also sees patients at Mercy Clinic Heart and Vascular in St. Charles.

'00s

Jennifer Lord, MD, MCPHU '00, was inducted into the United States Pony Clubs Academy of Achievement at the USPC Equine Symposium and Convention.

Mohan Thomas, MD, MCPHU '00, a cosmetic surgeon in private practice at the Cosmetic Surgery Institute in Mumbai, India, was elected to the board of trustees of the American Academy of Cosmetic Surgery.

David Kashmer, MD, MCPHU '01, MBA, has written a second book, *Volume to Value: Proven Methods for Achieving High Quality in Healthcare* (Lioncrest Publishing, 2016), which describes proven methods that can ensure patient safety and positive outcomes. A trauma and acute care surgeon, Kashmer contributes to TheHill.com and the Healthcare Quality Blog.

Jennifer S. Episcopio, MD '05, an obstetrician-gynecologist, has joined Sacred Heart OB/GYN Services, part of Sacred Heart HealthCare System, Allentown, Pa.

Angelo Lepore, PhD Neuroscience '06, see What We're Doing, page 15.

Steven Tizio, MD '06, a surgeon who specializes in general surgery and colorectal surgery, has been inducted as a fellow of the American College of Surgeons.

Elizabeth A. Reetz, MD '07, a family physician affiliated with MDVIP, has joined a primary care practice in Chestertown, Md., affiliated with the University of Maryland Shore Medical Center at Chestertown.

Lauren Tormey, MD '09, a board-certified gastroenterologist, joined Mt. Ascutney Hospital and Health Center in Windsor, Vt. She completed a gastroenterology fellowship at Boston Medical Center in 2016, following her residency at Yale-New Haven Hospital.

'10s

Nahreen Husna Ahmed, MD '10, a pulmonary and critical care fellow of New York Medical College, was featured in *The Daily Star* regarding workshops she has organized on point of care ultrasounds.

Paul O. Phelps, MD '10, an ophthalmic plastic and reconstructive surgeon, has joined NorthShore University HealthSystem in Evanston, Ill.

Jessica Brumfield, MS Biological Science '11; DO, was appointed to the Georgia Academy of Family Physicians board of directors. Brumfield is a resident in the Georgia South Family Medicine Residency program at Colquitt Regional Medical Center, Moultrie. She earned her DO degree from Philadelphia College of Osteopathic Medicine.

Iqra Javeed, MD '11, joined the endocrinology department at Saint Vincent Hospital in Worcester, Mass. Javeed completed a fellowship in endocrinology at Tufts Medical Center in Boston after completing her residency in internal medicine at Rutgers-Robert Wood Johnson Medical School.

Ananda Nandakumar Rao, PhD Neuroscience '17, is a postdoctoral fellow at Stanford Medical School, working in the laboratory of Creed Stary, an MD/PhD anesthesiologist, focusing on the discovery and development of molecular-based therapies that bolster neurogenesis after stroke and brain injury.

Interns, Residents and Fellows

Lingyi Chen, MD, Drexel/Hahnemann Oncology Fellowship '10, joined Genesis Cancer Center in Hot Springs, Ark.

Charmaine Edwards, MD, Internal Medicine Residency, MCP '95, joined Red Bud Regional Hospital in Red Bud, Ill., as a gastroenterologist/hepatologist.

Mark A. Goldstein, MD, Cardiology Fellowship, HU '92, joined The Heart Center at Mercy Personal Physicians in Reisterstown and Lutherville, Md.

Francisco Gomez, MD, Orthopedic Surgery Residency, MCP, an orthopedic surgeon at Gomez & Gomez MDs in Tampa, Fla., joined Physician Partners of America.

Lynne Kitei, MD, Psychiatry Residency, MCP, a physician at the Arizona Heart Institute and former actor, published a book, *The Phoenix Lights: A Skeptic's Discovery That We Are Not Alone* (Waterfront Digital Press 2017), and directed and produced the film *The Phoenix Lights Documentary*.

Tahir Maqsood, MD, Psychiatry Residency, MCPHU '98, see What We're Doing, page 17.

Altha Stewart, MD, Psychiatry Residency, HU, was named president-elect of the American Psychiatric Association. She is an associate professor of psychiatry and the director of the Center for Health in Justice Involved Youth at the University of Tennessee Health Science Center in Memphis. She will be the first African American to lead the association when she assumes the presidency in May 2018.

WE WANT TO HEAR FROM YOU!

Share your professional accomplishments in Alumni Notes — just email pulse@drexelmed.edu.

In Memoriam

Rosalie Albers, MD, WMC '47, February 2, 2017

Robert Charles Ashton Jr., MD, MCP '92,
February 11, 2017

Thomas D. Cherubini, MD, HU '64, April 17, 2017

Gertrude Cooperman, MD, WMC '49, March 1, 2017

Donald G. Crawford, MD, HU '63, May 6, 2017

Angelo M. DiBello, MD, HU '54, March 28, 2017

Peter Ditoro, MD, HU '46, March 26, 2017

Mary Dochios-Kamberos, MD, HU '51, March 30, 2017

Leonard S. Dreifus, MD, HU '51, March 30, 2017

Sherman H. Esterson, MD, HU '55, February 6, 2017

Morton Felsenstein, MD, HU '54, January 4, 2017

Helen S. Griffen, MD, HU '53, March 21, 2017

Robert J. Jaffe, MD, HU '53, April 17, 2017

Elizabeth Jean Knapper, MD, WMC '67,
February 17, 2017

B. Michael Kraynick, MD, HU '53, January 29, 2017

Barry C. Lembersky, MD, MCP '81, April 13, 2017

James R. McCole, MD, HU '71, February 6, 2017

Gilbert Meltsner, MD, HU '57, February 11, 2017

Kathleen Mirante, MD, MCP '71, April 10, 2017

Anthony Nicassio, MD, HU '76, May 6, 2017

Jean Nienstadt, MD, WMC '54, January 20, 2017

William Norman Pigozzi, MD, HU '44,
February 24, 2017

Scott F. Recker, MD, HU '80, March 15, 2017

Louise Sabol-Rubel, MD, WMC '59, March 12, 2017

Paul J. Salvo, MD, HU '48, April 29, 2017

William J. Slavery, MD, HU '54, January 6, 2017

James P. Slovak, MD, HU '72, March 26, 2017

Larry S. Ticer, MD, MCP '93, September 23, 2016

Lorraine J. Torkelson, MD, WMC '51, January 24, 2017

Arlene Brown Townsend, MD, HU '79, March 16, 2017

J. Michael Whitaker, MD, HU '76, February 3, 2017

Frederick G. Wiegand, MD, HU '46, February 10, 2017

Herbert J. Eichel, PhD, a former faculty member, passed away on February 15, one month short of his 93rd birthday. He was an associate professor of biochemistry at Hahnemann from the early 1950s to approximately 1980. He mentored four PhD candidates and one MS student. A veteran, he served on Attu Island in the Aleutian Island chain during WWII.

Zigmunt (Zigmund) C. Kaminski, PhD, HU '57, died on March 16 at home in Madison, New Jersey. He was an assistant professor of microbiology and associate professor of pathology and laboratory medicine at UMDNJ. A diplomate of the American Board of Medical Microbiology, he served on the advisory committee for the New York Academy of Sciences. He is survived by his wife, Janet, of Summerville, South Carolina, his sister and a brother.



Christos D. Katsetos, MD, PhD, a faculty member since 1990, when he joined Hahnemann University, passed away on March 21. He was a professor in the College of Medicine's Department of Pathology & Laboratory Medicine, a research professor in the Departments of Pediatrics and Neurology, and the neuropathologist for the Departments of Pathology & Laboratory Medicine at Hahnemann University Hospital and St. Christopher's Hospital for Children. He made many important contributions to research in neonatal neurology and mitochondrial disorders. His main contribution to science was in the study of brain tumors. He published more than 100 papers in high-impact scientific journals and received many international honors and recognitions for his work.

Marilyn Sohn Mahon, MD, WMC '50, passed away in April. She practiced family medicine and obstetrics in Harrisburg, Pennsylvania, for 42 years. During her long career, she served as president of the staff of Polyclinic Hospital in Harrisburg and delivered more than 2,000 babies, including one on an airplane. She will be remembered as an exceptional physician who put her patients and medical practice above all else.

Sandor Paskin, MD, HU '63, died at home in West Long Branch, New Jersey, on February 6. Paskin served in the U.S. Public Health Service at the National Institutes of Health, before joining Monmouth Medical Center in 1969 as an anesthesiologist. He became chair and program director of Monmouth's Department of Anesthesiology and was appointed associate professor of clinical anesthesiology at the College of Medicine. Before retiring in January of this year, he was the medical director of perioperative medicine at Monmouth.

Genomics Reveal How Bacteria Evolve in Cystic Fibrosis Patients

Drexel scientists have made new headway in understanding how a deadly pathogen evolves during chronic lung infections in cystic fibrosis patients.

Cystic fibrosis is the most common fatal genetic disorder in the world. It is caused by a gene mutation that leads to a buildup of mucus in the lungs, creating an optimal environment for bacteria to thrive.

Among these pathogens is *Burkholderia cenocepacia* — one of the most common and life-threatening species found in CF patients that is also easily transmitted and often resistant to antibiotics.

This bacterium is also protected by a sticky biofilm formed by groups of the organism, which strengthens its resistance to antibiotics. Until now, researchers had only a poor understanding of how *B. cenocepacia* adapts to the CF lung to sustain long-term chronic infections.

But Drexel University College of Medicine and University of British Columbia scientists have now shown how long-term infection leads to genetic and physical changes in this species. Their study, published in *Genome Research** in March, provides the first comprehensive genome-phenome analyses of *B. cenocepacia* infection in cystic fibrosis lungs.

“By looking at changes in the genome over time, we were able to see patterns — common themes that help us to better understand how this particular species evolves in its environment and how CF patients become chronically infected,” says study co-corresponding author Joshua Chang Mell, PhD, an assistant professor in the Department of Microbiology & Immunology at the College of Medicine.

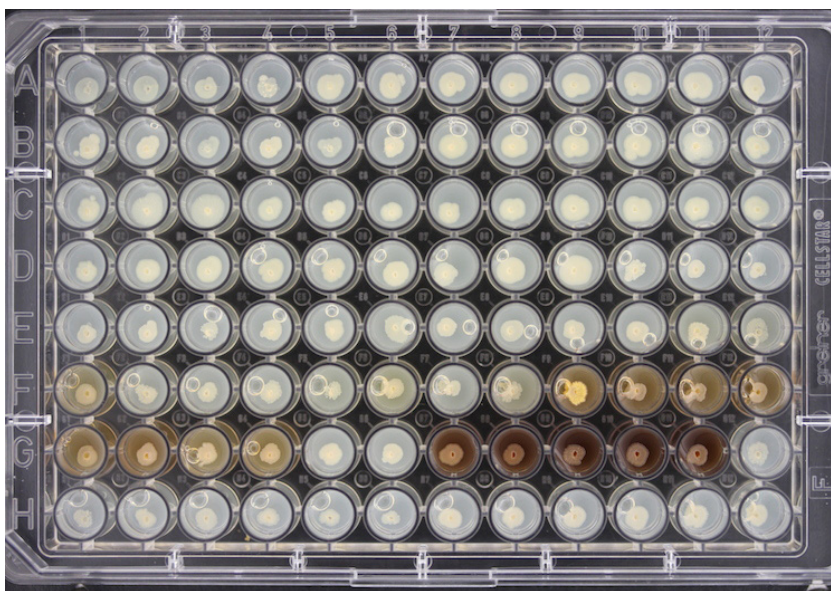
The researchers collected 215 bacterial samples isolated from 16 cystic fibrosis patients over a period of time, spanning up to 20 years for each patient. After using whole genome sequencing, they found that long-term infection leads to significant genetic changes, as well as physical changes, such as progressive declines in bacterial motility, and changes in biofilm formation over time. The researchers also observed broad phenotypic and genotypic variation for samples obtained from the same patient at the same time.

The study increases the number of genome sequences for the species by more than 10-fold, and by coupling these genomes with extensive

phenotypic tests, it offers a unique resource for understanding how the species evolves in the context of chronic lung infection.

Based on anecdotal observations and single strain reports, the researchers expected that the genome of *B. cenocepacia* was flexible, but had no idea of the scope and scale of how promiscuous the gene content and genome architecture would be in a modest-sized patient cohort.

What they found most surprising was that some bacterial traits typically associated with pathogenesis (namely motility and biofilm formation) actually became less pronounced over time.



Colony morphologies of 96 *Burkholderia cenocepacia* isolates from cystic fibrosis patients (University of British Columbia)

“This suggests that one way the bacterium may be adapting to long-term chronic lung infection is by becoming less aggressive and thus potentially more able to avoid the immune system,” says Mell.

The researchers also identified numerous genes associated with swimming motility and biofilm formation. Future work will show whether these might be promising targets for future drugs.

“We expect this rich resource will provide for interrogating clinical isolates of *B. cenocepacia* both to address basic biological questions about how bacteria evolve within infections and to help characterize future outbreaks,” the authors conclude.

**Phenotypic Diversity and Genotypic Flexibility of Burkholderia cenocepacia During Long-term Chronic Infection of Cystic Fibrosis Lungs* (PMCID: PMC5378182). For other authors, see page 17.



American Women Physicians in World War I

April 6 marked the centennial of the United States' entry into World War I, and the American Medical Women's Association has launched an online exhibition, *American Women Physicians in World War I*, to highlight the contributions of women physicians during that period (amwa-doc.org/wwi-exhibition). Many of the images in the exhibition were provided by the College of Medicine's Legacy Center: Archives and Special Collections, particularly from the American Women's Hospitals Collection. An alumna, Rosalie Slaughter Morton, MD, WMC 1897, was instrumental in organizing and raising money for the American Women's Hospitals Service, which

provided medical care to civilians devastated by the war in Europe.

The Legacy Center's collections on women in medicine include a rich variety of resources on women's caregiving during the war. Although 56 women physicians served in the military, they were not commissioned officers as men were. Instead they worked as "contract surgeons," and only 11 of them served at the front. The Archives has the letters of one of those 11 women, Elizabeth Hocker, MD. Read

the blog post by Legacy Center Director Joanne Murray (archives.drexelmed.edu/blog/?p=2339) to learn more and explore the photo album of Diana Lewis, who graduated from the Woman's Medical College of Pennsylvania's Nurse's Training School in 1912.

There is also a World War I story, about the American Women's Hospitals in France, on the Legacy Center's *Doctor or Doctress?* student/teacher resource site (doctordoctress.org/islandora/object/islandora:1868).



Letters to and from Elizabeth Van Cortlandt Hocker (left), one of the rare women physicians to serve in the U.S. military in World War I, are archived in the College of Medicine's Legacy Center.