



SAMHSA Grant Supports Caring Together's Critical Mission

Thanks to a \$2.6 million, five-year grant from the Substance Abuse and Mental Health Services Administration (SAMHSA), the Caring Together program will be better able to treat substance use disorders across the lifespan.

The grant will allow Caring Together to expand its network of peer support specialists and its community screening for substance use disorder, as well as continuing its decades-long work to help women and their children engage in and sustain their recovery from substance use disorders.

Caring Together was founded in 1990 and utilizes a patient-centered, multidisciplinary treatment approach. The program also helps patients with underlying and co-occurring conditions including psychiatric disorders that are contributing to their substance use disorder or that may result from it.

"We provide medication-assisted treatment, addiction counseling and trauma-informed care, and we actively treat patients' co-occurring psychiatric disorders," said Barbara Schindler, MD, a professor of psychiatry and pediatrics and a founder of Caring Together.

Schindler said that grant support from organizations like SAMHSA help the program to maintain services that are not covered by patients' insurance. The new grant will help maintain and expand Caring Together's roster of peer support specialists, whose own experience with substance use disorder and recovery guide program participants in their processes.

"Peer support specialists are crucial because they can connect with people and can say, 'I've been where you are; I know what you're going through,'" Schindler said. "They're available to provide peer support 24/7, and program participants feel very connected to them."

Early members of the Caring Together treatment team including one of the program's founders, Barbara Schindler, MD, front row center.

Some of Caring Together's new peer specialists will help to expand the program's community outreach and screening for substance use disorders to more families with children, as well as to a new population of adults and their families. Reaching these new groups is important because substance use disorder is often a pediatric disease, beginning in childhood, and is also a familial and intergenerational disease, according to Schindler.

Schindler said that she often meets mothers whose substance use disorder began when they were in their early teen years and used substances to help themselves cope with trauma and other mental health challenges.

"When I interview mothers in the Caring Together program, the story I most often hear

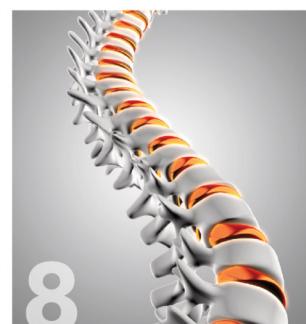
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7 Drexel Medicine makes connections in Philly communities



Discovery Day celebrates Drexel's research excellence



8 Spinal cord research gets \$1 million from state grant funds

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pulse

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Dean's Message

As we close out 2021, we should reflect on our remarkable accomplishments despite the challenges of the pandemic, as well as our many blessings. Indeed, we all have much to be thankful for!

I am proud to announce that the Liaison Committee on Medical Education (LCME) has renewed our full medical school accreditation for eight years, the maximum time allowable. This extraordinary achievement would not have been possible without the diligent work of our LCME Steering Committee, chaired by Donna Russo, PhD, and a number of self-study committees chaired by faculty and students. This recognition highlights our dedication to providing an outstanding medical education, and it reinforces the value of our transformative

community-integrated approach to clinical education, training, research and care across our regional campuses. My profound gratitude to everyone who is involved in medical student education, departmental leaders, regional campus leaders and particularly to the students, faculty and professional staff who participated in the reaccreditation process.

Another cause for both pride and gratitude: Discovery Day — our annual day of research — was held in person at the Pennsylvania Convention Center in October. More than 270 students, postdoctoral researchers, medical residents and fellows presented posters outlining their research on a range of fascinating topics. Six PhD students also gave platform presentations. We are grateful to the mentors who guide these promising investigators, to alumni and others who volunteered their time and wisdom to serve as judges for the event, and to the faculty, staff and student organizers who made it run smoothly for all in attendance.

The College's research enterprise is core to who we are, and we are all so proud of those who shared their work with us at the event. Our research productivity has also been reflected in the growth of our research expenditures to \$42.5M (up 30% from 2020).

We are excited about the progress being made on the new Health Sciences Building, which will bring our educational and administrative areas together in University City, allowing for greater ease of collaboration and cooperation with Drexel colleagues across the University. We expect the building to be finished in the fall of 2022 and to have everyone in their new locations by the beginning of the 2023 academic year. In addition, the planning for the new research tower is proceeding on schedule, with the goal of moving our entire research enterprise to University City by 2027.

The last two years have also been marked by profound challenges and loss. In October, our community was devastated by the unexpected death of Anthony Romano, PhD, who was a driving force in medical education at Drexel and its predecessor institutions for more than 30 years. He was a warm, kind and generous educator and colleague. Many of us have experienced losses during this time, and it is important to acknowledge these, and to care for ourselves and each other. All Drexel faculty, professional staff and graduate students, as well as members of their family and household, can reach Drexel's Employee Assistance Program at 888.881.5462.

I hope that you find the holidays to be restful, fulfilling and rejuvenating. We have much more to accomplish together in the new year and beyond.

Charles B. Cairns, MD

Walter H. and Leonore Annenberg Dean
Senior Vice President of Medical Affairs

Meet the Newest Members of the Diversity Committee

In this installment of Destination Excellence, we asked the three newest members of the College of Medicine's Diversity Committee to share their experiences: how and why they joined the committee, how they feel about serving and what they hope to achieve. The Diversity Committee meets monthly, advising College of Medicine leadership on processes, policies, and implementation and evaluation issues. The group includes mentors, clinicians, educators and experts within their fields.

Thomas Butler, MD

Clinical Associate Professor of Surgery,
Crozer-Chester Medical Center



I nominated myself for the Diversity Committee because I wanted to become more involved on the medical student side. I felt I could add something to the committee, being an underrepresented minority and having served on national diversity committees prior. I am enjoying the comradery and

wonderful insight from an extremely diverse committee. There is support in all facets, from intra-committee support for projects to specific tasks for the students and faculty. I think serving is one of the great honors of attaining an MD. It is the extra things in medicine that make the field special. Certainly we know that diversity and inclusion lead to better outlooks and outcomes in what was an extremely vanilla (pun intended) field years ago. I look forward to progress on this committee; there is a lot of work to do.

Folasade Kehinde, MD, MPH

Assistant Professor of Pediatrics, St. Christopher's Hospital for Children



I received notification of my nomination from the Office of Faculty along with information regarding the mission of the committee, meeting times, time commitment, term, etc. I filled out a survey regarding my interest and was notified a few weeks later about my acceptance onto the commit-

tee. As a member that identifies as part of underrepresented communities in academic medicine, I wanted to lend my voice in helping to continue the tradition of excellence at the College of Medicine through diversity and inclusion that Drexel University is known for. It has been very illuminating and humbling to be

able to serve in a position that influences university policies. Meetings usually take about an hour and a half each month, and the term is for four years. There can be an additional time commitment when serving on a subcommittee or a special project. During my term, I hope to assist the committee and the College of Medicine in creating and implementing programs for the professional development of staff, medical students, graduate students, and postgraduate fellows and residents who are underrepresented in medicine and science. Working as part of a committee is a way to lend our voices and effect the change we would like to see. This includes improving faculty and student diversity and inclusion in our colleges.

Liang Oscar Qiang, MD, PhD

Assistant Professor of Neurobiology and Anatomy



During a departmental faculty meeting, there was consensus that they wanted to nominate me for the Diversity Committee. After I was nominated, I wrote a paragraph to describe why I want to be on the committee. In academia, I'm not a minority, because my race is not underrepresented, but in

society I am a minority. So, to have an Asian voice on the committee is really important. In the first meeting, I realized I was the only Asian there, so to be there is meaningful for me and the whole Asian community at Drexel. It's also important for there to be representation on the committee for the Graduate School.

In addition to the monthly meetings, there are subcommittees some members serve on. Also, students want to have faculty to lead interest groups, so they can have a robust discussion with us as facilitators. My goal is to make the environment at Drexel even more friendly to people who are underrepresented, and to be a voice to push our university to do more. Serving on the committee gives us all an opportunity to hear personal stories from the committee members, sometimes from when they were young and were bullied. Hearing those stories can be useful when talking to students about times they encountered similar situations. One goal I have for my time on the committee is to work toward greater diversity in the Graduate School faculty. I think Drexel is doing a really good job overall with diversity, especially at the student level. My department has a lot of underrepresented minority students, and we have done well recruiting female faculty members. We will continue working hard to recruit more faculty members from underrepresented minority groups.

Caring Together

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is that they have a family history of substance abuse, may have even been exposed to maternal substance use in utero, experienced physical or sexual trauma growing up, and started using alcohol and marijuana in their early teens," Schindler said. "So it's really important to identify and start to work with young people and with their families to help identify their risk factors for substance use disorders, especially when we know it is something their parents have experienced as well."

To connect with more young people and their families, peer specialists will work in the waiting rooms of St. Christopher's Hospital for Children and at Drexel University's student health facility. Peer specialists will talk with patients — and, at St. Christopher's, with their family members — about their experience with substance use, help identify risk factors for substance use disorder, and assess whether they have family members experiencing substance use disorder.

If patients or their family members need support to recover from substance use disorder, they'll be referred to Caring Together or other local treatment programs.

During these screenings, peer support specialists will also distribute Narcan, an overdose-reversal drug, and test strips for the highly potent, extremely dangerous and readily-available opioid fentanyl. The logic, Schindler said, is that even if patients being screened for substance use disorder do not have the illness themselves, it's statistically likely that they know someone else who does.

Although the Caring Together program only serves women and their children directly, its whole-family approach means that peer specialists and other program staff can help connect other family members to substance use disorder treatment through Merakey and other local treatment programs.

Additionally, the SAMHSA grant will help Caring Together focus on family reunification in circumstances where a family has been separated due to a parent's

substance use disorder. Grant funds will support the program's continued collaboration with students and faculty in the Drexel University College of Nursing and Health Professions to provide family therapy and work with Caring Together participants toward the goal of reunification.

"We want to bring together extended family members who might be struggling because of a participant's substance abuse and who have lost custody of their children," Schindler said. "Of course, bringing mothers and kids back together is a very large piece. Many of our moms have teenage kids, while others have newborn babies or even adult children — but they all have the goal of re-establishing relationships with their children if they have lost custody of their kids."

In addition to reunification and community outreach expansion, SAMHSA grant funds will support Caring Together in growing its outreach to adult patients in various local health care practices, especially mothers who have delivered substance-exposed babies. The program will also provide more training on substance use disorder risk assessment and various evidence-based treatment modalities to Drexel University-based health care students and providers.

Caring Together was founded with SAMHSA grant funds 30 years ago and has benefited many times over the years from the organization's support. Today, Schindler and her colleagues still provide psychiatric care and medication-assisted treatment to many program graduates; Schindler said it has been powerful to maintain relationships with participants who graduated from Caring Together's core program 10 or 15 years ago.

"It's very gratifying, because when people first come in, they're unsure about recovery, and sometimes it takes a few tries until they finally engage," Schindler said. "For some of our most successful participants, their connection to the program wasn't easily developed — but they finally connected and were successful in their recovery."

— Lisa Ryan



In the Spring 2021 print issue of *Pulse*, we erroneously described Bridging the Gaps and the Mentor program as "UUH Outreach programs." Bridging the Gaps is a citywide consortium, and Drexel is one of the universities involved. Elissa Goldberg, MSS, LSW, program director, Office of Community Engagement, directs Bridging the Gaps for Drexel. The Mentor program is a collaboration between Drexel's Office of Community Engagement and UUH Outreach. It is one of over 70 community sites that contribute to the education of our medical students. The Office of Community Engagement is responsible for coordinating service-learning placements for more than 300 medical students during the academic year as part of their Health Advocacy Practicum course, and more than 50 Drexel students from multiple academic programs for the seven-week Bridging the Gaps community health internship program. We regret that we did not give due acknowledgement to Elissa Goldberg and the Office of Community Engagement in the article. Their work is critical to the success of our students' engagement with the community during their time at the College of Medicine.

NEWS & EVENTS

Drexel Medicine in the Community

AIDS Walk Philly

On October 17, 2021, the Partnership Comprehensive Care Practice joined hundreds from the Philadelphia area for the annual AIDS Walk Philly. This year's theme, "Be a Lifeline," emphasized how community support for this very important event raises awareness about HIV/AIDS and helps to make financial assistance available to those living with HIV disease. The 15-member Drexel team raised more than \$1,000.



Primary Care Health Fair

On October 2, 2021, Drexel students and Drexel/Tower Health Family Medicine providers held a primary care outreach event at the West Philadelphia YMCA. The event included COVID-19 testing from the Drexel HOPE mobile unit and vaccinations provided by Sunray Drugs; health education provided by multiple student groups including Primary Care Progress, the Health Outreach Project clinics, and Health Literacy Community Partners; English-Spanish translation and Latinx community engagement through Drexel's Latino Medical Student Association; distribution of HIV home test kits by Drexel's Partnership Comprehensive Care Practice; and Narcan provided by the student-led Narcan Outreach Program.



Drexel HOPE Mobile Services

The Drexel HOPE mobile medical unit travels to neighborhoods hit hardest by the opioid crisis, increasing access to services for communities of color. Practitioners provide medication for opioid use disorder, wound care, and HIV/HCV services such as rapid testing, prevention and treatment. Social service workers link clients to resources like food, housing and long-term medical care. Since the program started, they have seen over 100 patients, and distributed 250 home HIV test kits, 550 doses of Narcan and 350 fentanyl test strips. Currently, the unit is stationed at 24th Street and Snyder Avenue Thursdays from 10 a.m. to 2:30 p.m.



Conference Addresses Gun Violence Prevention

St. Christopher's Hospital for Children held a virtual Gun Violence Prevention Conference on October 1, 2021. The program was directed by Jeremiah Goldstein, MD, and Daniel R. Taylor, DO, both associate professors in the Department of Pediatrics. The daylong event had 600 registrants and included a keynote presentation by Roger Mitchell, MD, chair of pathology and vice chair of clinical affairs at the Howard University College of Medicine. With gun violence on the rise in Philadelphia and nationwide, Taylor acknowledged the timeliness of the event: "We have lost too many children, mothers, fathers

and communities to violence." He also stressed the importance of working within the communities affected by this epidemic. "We have to change the narrative and let the community guide us with strategies to help curb this epidemic," he said. While the topic was a somber one, Goldstein noted that there is reason to be hopeful. He said, "There are so many people doing heroic, extraordinary work, both here and in other parts of the country, to help care for the impacted and to create a positive presence in our often neglected neighborhoods." He encouraged his colleagues to join forces in tackling the issue of gun violence, noting, "The conference reminded me how important it is for us to break out of our professional silos and collaborate."

2021 Marion Spencer Fay Award and Lecture

The annual Marion Spencer Fay Award was presented to Consuelo Wilkins, MD, MSCI, by the Institute for Women's Health and Leadership on November 4, 2021. Before the award presentation, Wilkins presented a lecture, "It Takes a Village: Why Equity and Engagement Are Needed to Transform Science and Health

Care." Wilkins is the senior vice president and senior associate dean for health equity and inclusive excellence, and professor of medicine at Vanderbilt University Medical Center. She was honored with the 2021 Marion Spencer Fay Award for her groundbreaking accomplishments in advancing innovative, high-impact health equity work spanning research, education and health delivery; her pioneering approaches to engaging underrepresented populations in research; and her contributions to community-engaged research and health equity that will

positively impact health outcomes for generations.



Consuelo Wilkins, MD, MSCI, and Lynn H. Yeakel, director of the Institute for Women's Health and Leadership

Full LCME Accreditation for College of Medicine

Drexel University College of Medicine has received full accreditation for eight years from the Liaison Committee on Medical Education. The next accreditation survey will take place in the 2028-29 academic year. This achievement would not have been possible without the participation of faculty, students and administrators who served on the LCME Steering Committee, chaired by Donna Russo, PhD, and the faculty and students who co-chaired our self-study committees: Michael White, PhD, Michael Nonnemacher, PhD, Kathleen Ryan, MD, Michele Kutzler, PhD, Ramesh Raghupathi, PhD, Amy Baranoski, MD, Esther Chernak, MD, MPH, Cheryl Hanau, MD, Vanessa Pirrone, PhD, Lauren Skerrit, MD '20, Temi Daramola, MD '21, and Jayesh Gupta, MD '21. In addition to these committee leaders, many faculty members and students served on the self-study committees and participated in the site survey visit.

New Interim Chairs

Mauricio Reginato, PhD, has been named interim chair of the Department of Biochemistry & Molecular Biology. Reginato is also director of the Cancer Biology master's program in the Graduate School of Biomedical Sciences and Professional Studies. Reginato earned his PhD in

pharmacology from the University of Pennsylvania and completed a postdoctoral fellowship at Harvard Medical School. His research interests include the molecular mechanisms underlying breast cancer growth, survival and spread to distinct organs, in particular how cancer cells alter metabolic pathways and how these

pathways may be exploited to target cancers.

Reginato has received the Young Investigator Award, the Elias Abrutyn Mentoring Award and the Julian Marsh Faculty Scholar Award. His students and mentees have received honors including the Amedeo Bondi, PhD, Endowed Graduate Award, Dean's Fellowship for Excellence, National Institutes of Health and Department of Defense predoctoral fellowships, and numerous other recognitions.

Reginato's research has garnered funding from the National Cancer Institute, Department of Defense, Pennsylvania Breast Cancer Coalition, and other private and government entities. He is a frequent invited speaker at national and international symposiums, most recently the NIH Glycobiology of Cancer Symposium and the 6th Latin American Glycobiology Congress. In 2020, Reginato was appointed as a program leader for the Translational Cellular Oncology Program at the Sidney Kimmel Cancer Center, of which Drexel is a consortium partner.



Mark Trombetta, MD, has been appointed interim academic chair of the Department of Radiologic Sciences. Trombetta has longstanding ties to the College of Medicine, having earned his medical degree from Hahnemann University in 1985. He has served as a faculty member in the Department of Radiation Oncology since 2002 and has been a valued member on numerous College of Medicine committees.

Trombetta currently serves as system director of clinical programs, Department of Oncology at Allegheny Health Network's Cancer Institute. He also leads the department's breast cancer, cardiac radiation and brachytherapy programs. He is nationally and internationally known for his work in making radiation treatments easier, less toxic and more effective for cancer patients.

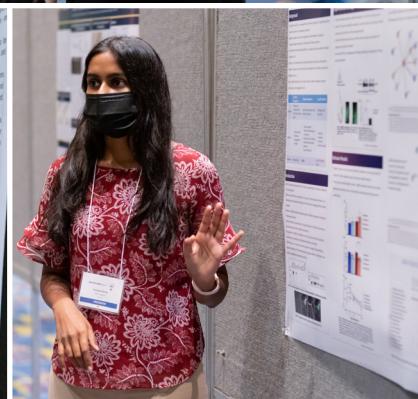
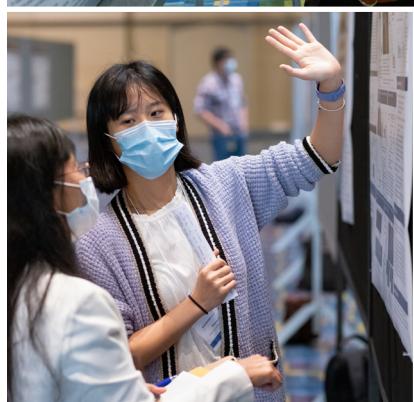
Trombetta leads Allegheny Health Network's GammaPod project. The GammaPod is a radiosurgical device used to target breast cancers, lessening treatment duration and possibly eliminating surgical procedures. He has also instituted a Permanent Breast Seed Implant program at AHN. The program is recognized as a leader in breast preservation for women who redevelop breast cancers after breast preservation therapy.

In collaboration with other AHN researchers, Dr. Trombetta is also working to develop a gene therapy technique to alleviate severe dry mouth for cancer patients, which is a common and devastating effect of radiation therapy, also affecting 5 million patients with Sjogren's syndrome. The research is funded by a \$1.7 million National Institutes of Health grant and multiple sub-grants.



Discovery Day

Members of the College of Medicine community gathered at the Pennsylvania Convention Center on Thursday, October 21, for Discovery Day, the annual day of research. The event's poster and platform presentations showcased a variety of biomedical science and clinical research topics. The winners are listed at drexel.edu/medicine/discoveryday.



Spinal Cord Injury Research Funded by PA Department of Health

Across the United States, there are approximately a quarter of a million residents living with spinal cord injuries, with permanent changes in motor, sensory and autonomic functions below the site of the injury. These changes affect quality of life, often with life-threatening risks that involve high costs to families and society.

The Marion Murray Spinal Cord Research Center, named for one of its founders, Marion Murray, PhD, has evolved into one of the premier spinal cord injury research centers in the world, with innovative and multidisciplinary programs for studying brain and spinal cord circuitry, the pathophysiology of spinal cord injury, and the development of therapeutic strategies to promote recovery of function. It remains the only center of its kind in Pennsylvania and the Mid-Atlantic region. The mission of the Center is to bridge the gap between the discovery phase and clinical application by developing and translating promising research strategies to treat patients whose function has been limited by spinal cord injury.

Investigators in the Center (15 primary faculty members, 10 affiliated members and a staff of more than 20 postdoctoral fellows, graduate students and technicians) apply recent advances in stem cell transplantation, physiology of locomotion, rehabilitation protocols, neuromodulation, neuroengineering, robotic rehabilitation and pharmacological interventions to open new avenues for more effective treatments. These include those lost after spinal cord injury, such as locomotion, sensation and bladder control. Additionally, investigators seek to diminish the secondary consequences of these injuries that affect quality of life, such as pain, autonomic dysreflexia and susceptibility to infection.

Center investigators have collaborated with scientists and clinicians in a variety of disciplines, including neurologists, neurosurgeons, orthopedic surgeons, neuro-radiologists, physical therapists, physiatrists and neuro-urologists, who collectively contribute to the goals of translational research. The Center and its members have been continuously funded by agencies such as the NIH, the Department of Defense, the Pennsylvania Department of Health, Paralyzed Veterans of America, United Spinal Association, International Spinal Research Trust, Christopher and Dana Reeve Paralysis Foundation, and the Craig H. Neilsen Foundation.

The Commonwealth of Pennsylvania's Department of Health announced in 2019 that they would allocate \$1 million per year to fund research in spinal cord injury. The intent is to "provide important new insights into the nature and course of spinal cord injury" and ultimately "promote basic and clinical research for the functional improvement of people with spinal cord injuries."

Six of the Center's faculty members were awarded two-year grants, for a total of \$1 million in direct research costs, during this program's recent inaugural funding cycle. These funded projects span a wide variety of high-priority areas related to spinal cord injury, including bladder function, respiration and

breathing control, spasticity, enhancing axon regeneration by transplantation of neural stem cells, and enhancing recovery of function and regeneration using robotic rehabilitation and neurostimulation.

The investigators and their projects are:

Tatiana Bezdudnaya, PhD

"Improving Breathing With Limb Muscle Stimulation After Cervical SCI"



Deficits in breathing following cervical spinal cord injury (as was the case for Christopher Reeve, who needed a ventilator) are a life-threatening problem needing urgent attention. Physical exercise can be used as an activity-based therapy to improve breathing after cervical spinal cord injury, but exercise is not always possible for people with these injuries. The

objective of the grant is to use electrical stimulation of limbs instead of exercise to treat respiratory dysfunction post-injury. We know that respiratory muscles are controlled by respiratory centers located in the brain-stem; injury of the cervical spinal cord disrupts that control, leading to muscle weakness and respiratory deficits. However, neuronal circuits in the spinal cord can also modulate respiration. We hypothesize that limb muscle electrical stimulation can directly activate spinal respiratory circuits, train the whole respiratory network and improve breathing. Therefore, our study will lead to understanding the spinal mechanisms of breathing and developing a new treatment for respiratory dysfunction post-spinal cord injury.

Simon Giszter, PhD

"Enhancing Regeneration Efficacy After SCI With Robot-Rehab Coupled Optogenetics"



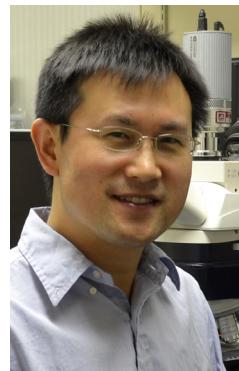
The project will examine cortical neurons that have been enhanced by viral therapies to promote regeneration of the tracts important for motor control. First, the project will discover whether this specific treatment also increases the neuron cell body and dendritic arbor size, which could reduce the ease of activation of regenerated pathways, weakening their effectiveness

in recovery of function. The working hypothesis is that this undesired effect might then be mitigated by appropriate brain stimulation. The proposed experiments on mitigation will examine the use of imperceptible light delivery (a method called "optogenetics") to activate

the motor cortex — which controls voluntary movement — in rats with spinal cord injury, mimicking stimulation therapies that might be used in the clinic. The objective is to show that the combined regenerative, neurostimulation and robotic rehab therapies will promote the best functional motor outcomes in the spinal cord injury model being investigated.

Shaoping Hou, PhD

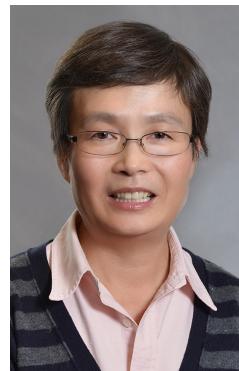
"Rebuilding Supraspinal Regulation to Restore Voluntary Micturition Reflex"



This research will examine whether transplanting brain-stem neural stem cells into the injured spinal cord of a rat model will reestablish the micturition reflex pathways, which control urination. This would help restore voluntary urinary function, which is an important issue of overall quality of life, as well as for prevention of urinary infections, for patients with spinal cord injury. This project combines a variety of expertise in basic and pre-clinical neuroscience and urology with the goal of forming a relay to allow signals from higher brain centers across the site of injury to the lower spinal cord in order to restore or improve voluntary micturition function.

Ying Jin, PhD

"Glial Progenitor Grafts to Promote Regeneration and Functional Recovery After SCI"



Cell transplantation is one of the most promising approaches to spinal cord injury because of the potential for cell replacement, neuroprotection and restoration of connectivity leading to recovery of function. The purpose of this proposal is to test the efficacy of a combination strategy for therapeutic intervention using transplants of human glial restricted progenitor (GRP) cells that have already been approved for clinical trials. We will combine these GRP cells with a bio-scaffold that improves survival of transplants, together with clinically relevant exercise/training that can influence the remodeling of axonal connections. The working hypothesis is that this combination will promote functional recovery in cervical contusion injury in an animal model. The experiments will also test whether efficacy varies based on the sex and age of the animal models.



Michael Lane, PhD

"Respiratory Training Promotes Plasticity and Recovery After SCI"



One of the most devastating consequences of cervical-level spinal cord injury is damage to the phrenic motor network, which controls the diaphragm (the primary muscle of breathing). This leads to life-threatening impairments in breathing and can result in a need for ventilator assistance. Impaired breathing remains a leading cause of morbidity and mortality post-spinal cord injury, and consequently there is an urgent need to develop strategies for improving function for people with acute and chronic spinal cord injury. This research aims to test a novel approach for promoting recovery of breathing by a unique training strategy that intermittently stimulates breathing, driving the respiratory muscles and networks that control them to be more active. This increased activity harnesses any spared residual networks and muscle function, to promote greater recovery of function.

Liang Oscar Qiang, MD, PhD

"Gene Therapy via Spastin Overexpression to Promote Axon Regrowth for SCI Repair"



The injured adult spinal cord is incapable of self-repairing the damaged neurons and reconnecting disrupted axons, which leads to paralysis and other functional deficits. We are studying microtubules that form the architecture of the cell and act like tracks to move along critical cell constituents including spastin, which cuts long microtubules into mobile sections. The hypothesis of this grant is that higher spastin levels will lead to greater mobility of microtubules, which renders the axon more capacity to regrow after injury. The plan is to test whether increased spastin levels via a gene-therapy method will promote nerve regeneration in a rat spinal cord injury model. The longer-term plan is to use combinatorial therapies in which spastin-based gene therapy will be combined with another approach of proven benefit for spinal cord injury.

WHAT WE'RE DOING

Charles Ang, PhD, postdoctoral researcher; Microbiology & Immunology PhD student **Erik Carter**; Biochemistry of Health & Disease PhD candidate **Giang Le Minh**; Chemical and Biology Engineering Professor and Department Head Cameron Abrams, PhD; and **Irwin Chaiken, PhD**, professor of biochemistry and molecular biology, presented a poster, "HIV-1 Env/Membrane Transformation by Peptide Triazole Thiols Mimics Native Fusion Enzymatic Disulfide Exchange" at Functional Disulfides in Health & Disease, a virtual meeting held by the Weizmann Institute of Science June 14-16, 2021.



Ausborn



Rybak

Science Foundation Collaborative Research in Computational Neuroscience grant in October 2021 for their project "Brainstem-Spinal Circuits for Control of Locomotor Steering."



Peter Baas, PhD, professor, Department of Neurobiology & Anatomy, was awarded a Department of Defense grant in the amount of \$889,619 for three years for "Microtubule-Based Therapies for Memory Loss in Gulf War Illness: Studies Using Human Mini-Brain Organoids from Veteran-Derived Human Pluripotent Cells." Baas was also awarded a subcontract on a Department of Defense grant to Texas A&M University in the amount of \$64,347 for three years for "Inferring Single-Cell Regulatory Networks in Neurons Derived From Veterans Afflicted With GWI."



Jessica Barson, PhD, associate professor, Department of Neurobiology & Anatomy, along with colleagues at Binghamton University and the University of Washington, was awarded a \$2.59 million R01 grant from the National Institute on Alcohol Abuse and Alcoholism for "Mechanisms of Rostrocaudal Differences in Accumbal Kappa Opioid Receptor Effects on Ethanol Drinking."



Karen Berkowitz, MD, associate dean for medical student research and associate professor, Departments of Biochemistry & Molecular Biology and Obstetrics & Gynecology, **Selena Park, MD '19**, and **Leann Walsh, MS molecular and cell biology and genetics '17**, published "Mechanisms of Ovarian Aging" in the May 1, 2021, issue of *Reproduction*.



Christina Besada, a Pharmacology & Physiology PhD student, earned second place in the poster competition at the Mid-Atlantic Pharmacology Society meeting held October 29, 2021.

Konstantin Budagyan, MD/PhD student in the Molecular & Cell Biology & Genetics program, and adjunct faculty member **Jonathan Chernoff, PhD**, authored "A Facile Method to Engineer Mutant Kras Alleles in an Isogenic Cell Background," which appeared in the May 2021 issue of *Methods in Molecular Biology*.



Canziani



Nangarlia



Chaiken

Gabriela Canziani, senior research scientist; **Shiya Nangarlia**, former research assistant; Biomedical Engineering program students **Aakansha Nangarlia** and **Jackie Tang**; Microbiology & Immunology PhD students **Jennifer Connors**, **Gina Cusimano** and **Matt Bell**; **Mariana Bernui, PhD**, assistant professor of medicine; **Michele Kutzler, PhD**, associate dean for faculty and professor of medicine, and microbiology and immunology; **Elias El Haddad, PhD**, professor of medicine; **Charles Cairns, MD**, dean; **Irwin Chaiken, PhD**, professor of biochemistry and molecular biology; and colleagues at the Wistar Institute including **Ebony Gary, PhD microbiology and immunology '19**,

presented "Tracking SARS-CoV-2 Spike Domain Antibodies in Plasma of Convalescent COVID-19 Patients by SPR" at AFFINITY 2021, the International Society of Molecular Recognition's annual meeting, held June 22-24. At the same event, Zhang; Canziani; Chaiken; **Andrew Holmes, PhD microbiology and immunology '16**; **Alexej Dick, PhD**, postdoctoral researcher; former Chaiken Lab members **Adel A. Rashad, PhD**, and **Lucía Enríquez Rodríguez**; and a colleague at The Ohio State University, presented "Altered Env Conformational Dynamics as a Mechanism of Resistance to Peptide-Triazole HIV-1 Inactivators." In addition, Nangarlia, Canziani, Tang, Chaiken, and **Farah Fazloon**, research assistant, presented "Irreversible Inactivators of HIV-1 and SARS-CoV-2 by Targeting Metastable Virus Spike proteins."



Ciraku



Esquea

Lorela Ciraku and **Emily Esquea**, both PhD students in the Molecular & Cell Biology & Genetics program; **Rebecca Moeller, MS cancer biology '20**; **Wiktoria Gocal**, third-year



Gocal

MD student; **Edward Hartsoough, PhD**, and **Joshua Jackson, PhD**, assistant professors, Department of Pharmacology & Physiology; **Mauricio Reginato, PhD**, professor and interim chair, Department of Biochemistry & Molecular Biology; and a colleague at Thomas Jefferson University authored "An Ex Vivo Brain Slice Model to Study and Target Breast Cancer Brain Metastatic Tumor Growth,"

which was published in the *Journal of Visualized Experiments* in September 2021.



Giszter



Kim

Simon Giszter PhD, professor, Department of Neurobiology & Anatomy, **Taegyo Kim, PhD**, postdoctoral fellow, and Benjamin Binder-Markey, PT, PhD, assistant professor, College

Drexel Translational Research Partnership Program Award of \$125,667 for their project "Braided Electrodiagnostic Probes," which will leverage patented technology developed in the Giszter Lab to build commercialization proof-of-concept for new and improved needle EMG probes for electrodiagnostics tests used in neurology, orthopedics/sports medicine, and physical medicine and rehabilitation applications.



Binder-Markey

Shrobona Guha, MS, Neuroscience PhD student, **Ankita Patil, PhD neuroscience '21**, postdoctoral researcher, and **Hemalatha Muralidharan, PhD neuroscience '20**, published a paper with their mentor, **Peter W. Baas, PhD**, professor, Department of Neurobiology &

Anatomy, "Mini-review: Microtubule Sliding in Neurons" in the May 14, 2021, issue of *Neuroscience Letters* as part of a special issue on neuronal microtubules.



Hartsough



Jackson

Edward Hartsough, PhD, and **Joshua Jackson, PhD**, both assistant professors in the Department of Pharmacology & Physiology, and a colleague at Thomas

Jefferson University received a pilot grant from the Sidney Kimmel Cancer Center at Thomas Jefferson University to support their project "The Role of CADM1 in Mutant BAP1 Uveal Melanoma." Hartsough, Jackson and another Thomas Jefferson University colleague were awarded a three-year grant from the Melanoma Research Program at the U.S. Department of Defense. The funding will support their project "The Role of GSDME in Melanoma Brain Metastases." Jackson also received a three-year grant from the Whitehall Foundation to support his project "Role and Regulation of Astrocytic Mitochondria at the Synapse."

Marilyn Jorns, PhD, professor of biochemistry and molecular biology, **Kristie Cox, PhD biochemistry of health and disease '20**, **Luke Wakeen**, fourth-year MD student, and colleagues at Fox Chase Chemical Diversity Center, Eli Lilly and Strella Biotechnology published "Discovery of a First-in-Class Inhibitor of Sulfide:Quinone Oxidoreductase That Protects Against Adverse Cardiac Remodeling and Heart Failure" in *Cardiovascular Research* online June 16, 2021.

Calendar

Ongoing

Now–March

Seat at the Table Exhibition

Kimmel Cultural Campus, 300 S. Broad Street
View the multimedia segment at women100.org/seatasthetable
Contact: visionforward@drexel.edu

January

17 **Martin Luther King Jr. Day**

28 **Maria Delivoria-Papadopoulos, MD, "A Day With the Newborn" Symposium**
Online event
7:45 a.m.–2:30 p.m.
Contact: Alma Barberena, alma.barberena@towerhealth.org

February

12 **Pediatric AIDS Benefit Concert**

Learn more at: ducompabc.wixsite.com/pabc

March

18 **Match Day**

Contact: Caitlin Curcio, cak332@drexel.edu

April

25 **Woman One Award Ceremony**

The Rittenhouse, 210 West Rittenhouse Square
5:30 p.m.
Contact: Janine Barber, jkbarber48@drexel.edu

Save the Date

Alumni Weekend

May 19–21, 2022

Contact: Nikki Bromberg, nlb67@drexel.edu

Full calendar: All College of Medicine events are available at drexel.edu/medicine/news-events/events.

Alumni: For information about alumni events, please call toll-free **888.DUGRADS (888.384.7237)**, email medical.alumni@drexel.edu or visit drexel.edu/medicine/alumni/events.

WHAT WE'RE DOING



Peter Liu, a second-year MD student, gave an oral presentation at the American Association for the Study of Liver Diseases' Liver Meeting 2021 titled "Outreach Pilot to Understand and Overcome Barriers to COVID-19 Vaccination in Liver Transplant Recipients"

on November 13, 2021. Liu is first author on the project. Liu and co-authors from the University of Pennsylvania published "A Pragmatic Outreach Pilot to Understand and Overcome Barriers to COVID-19 Vaccination in Abdominal Organ Transplant" in *Transplant Infectious Disease* on September 8, 2021. He was also the first author of a review paper, "Sarcopenia in Non-alcoholic Steatohepatitis (NASH)," which was co-authored by colleagues from Thomas Jefferson University Hospital and published in *Current Hepatology Reports* in October 2021.



Loll

Patrick Loll, PhD, professor of biochemistry and molecular biology, co-authored "A Useful Epitope Tag Derived From Maltose-Binding Protein" with **Megan Meuser, PhD biochemistry '21**, and colleagues at New England Biolabs. The paper appeared in *Protein Science* April 25, 2021. Loll and **Lina Maciunas, PhD biochemistry '20**, published "Structures of Full-length VanR from *Streptomyces coelicolor* in Both the Inactive and Activated States" in the journal *Acta Crystallographica* on August 1, 2021. He and **Alexandra Guffey, MS molecular and cell biology and genetics '20**, published "Regulation of Resistance in Vancomycin-Resistant Enterococci: The VanRS Two-Component System" in the September 25, 2021, issue of *Microorganisms*.



Meucci



Gaskill

students **Emily Nickoloff-Bybel, PhD pharmacology and physiology '21**, and **Lindsay Festa, PhD pharmacology and physiology '18**, published a review article, "Co-receptor Signaling in the Pathogenesis of NeuroHIV" in the journal *Retrovirology* on August 24, 2021. Meucci was selected as one of the inaugural recipients of the Italian American Medical Awards, which recognize outstanding Italian Americans who have honored their country of origin and meaningfully contributed to research, leadership and mentorship in the medical community.



Mitchell Nothem, PhD pharmacology and physiology '20, a postdoctoral fellow, was selected to participate in a data blitz event organized by the International Association for the Study of Pain's Special Interest Group on Neuropathic Pain. He presented "Primary Somatosensory and Anterior Cingulate Single-Unit Activity Is Increased After Peripheral Nerve Injury and Altered by Gabapentin" on October 4, 2021.



Dennis Novack, MD, professor of medicine and associate dean of medical education, presented a virtual talk, "Teaching Communication in a Pandemic," at the 10th annual National Forum on Active Teaching-Learning Methodologies in Health Training, held at the Faculdades Pequeno Príncipe in Brazil July 29, 2021. Novack was a visiting professor at Emory College of Medicine October 6-8, during which he gave the William T. Branch Jr.

Innovations in Primary Care Lecture, presenting "Realizing Our Potential as Healers: Professional Identity Formation." He also presented on the topic of personal and professional identity formation as part of the Educator's Salon, hosted by Emory's Woodruff Health Educators Academy.



Carey



El Haddad

Margaret O'Connor, an MD/PhD student in the Molecular & Cell Biology & Genetics program; **Roshell Muir, PhD**, postdoctoral fellow; **Marita Chakhtoura, PhD**, former postdoctoral fellow; **Alison Carey, MD**, associate professor of pediatrics; **Alyssa Terk, MD**, assistant professor of pediatrics; **Talibah Metcalf, PhD**, former research manager;

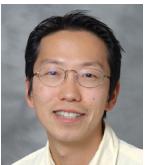
Virginie Tardif, PhD, former postdoctoral fellow; and **Elias El Haddad, PhD**, professor of medicine, published "A Follicular Regulatory Innate Lymphoid Cell Population Impairs Interactions Between Germinal Center Tfh and B Cells" in *Communications Biology* on May 12, 2021.

Richa Pande, a Microbiology & Immunology PhD student, earned third place in the poster competition at the Mid-Atlantic Pharmacology Society meeting held October 29, 2021.

Mitchell Parker, MD/PhD student in the Molecular & Cell Biology & Genetics program, received an F30 Kirschstein National Research Service Award individual fellowship for his project "Creating a Unified RAS Structural Nomenclature to Compare the Impact of Oncogenic Mutations on KRAS, NRAS, and HRAS."



Peake



Noguchi

Jasmine Peake, Molecular & Cell Biology & Genetics PhD student; **Chiaki Noguchi**, research assistant; **Baicheng Lin, MS molecular and cell biology and genetics '18; Amber Theriault, MS cancer biology '17; Margaret O'Connor, MD/PhD student in the Molecular & Cell Biology & Genetics program; Shivani Sheth, MS cancer biology '20; Eishi Noguchi, PhD**, associate professor of

biochemistry and molecular biology; and colleagues at the University of Pennsylvania and Columbia University published "FANCD2 Limits Acetaldehyde-Induced Genomic Instability During DNA Replication in Esophageal Keratinocytes" in *Molecular Oncology* on July 30, 2021.



Manali Potnis, Molecular & Cell Biology & Genetics PhD student, received the Meritorious Award to Support Diversity in Biology of Aging Research during the 2021 American Aging Association Meeting.



Qiang



Patil

Liang Oscar Qiang, MD, PhD, assistant professor, and **Peter W. Baas, PhD**, professor, both in the Department of Neurobiology & Anatomy; **Philip L. Yates, MD, PhD neuroscience '21**; postdoctoral fellows **Ankita Patil, PhD neuroscience '21**, **Alessia Niceforo, PhD**, and **Emanuela Piermarini, PhD**; and **Xiaohuan Sun**,

Neuroscience PhD student,

published "A Cellular Approach to Understanding and Treating Gulf War Illness" in *Cellular and Molecular Life Sciences*, online September 27, 2021. Qiang and Baas were coauthors of "Boston Biorepository, Recruitment and Integrative Network (BBRAIN): A Resource for the Gulf War Illness Scientific Community," published in *Life Science* online November 1, 2021.

Baas, Qiang and **Neha Mohan**, Pharmacology & Physiology PhD student, authored "Therapeutic Strategies for Mutant SPAST-Based Hereditary Spastic Paraparesis" in *Brain Science*, which appeared online August 18, 2021. The paper was part of a special issue on upper motor neuron diseases.

Qiang also received a 2021-2022 Louis and Bessie Stein Family Fellowship, and he was awarded a two-year, \$150,000 research grant for "Elucidate Impaired Autophagy as One of the Major Contributors to SPG4-Based Hereditary Spastic Paraparesis" from the Spastic Paraparesis Foundation.



Mauricio Reginato, PhD, professor and interim chair, Department of Biochemistry & Molecular Biology, was an invited speaker at the NIH Glycobiology of Cancer Symposium on September 17, 2021. Reginato was also a keynote speaker at the 6th Latin American Glycobiology Congress held virtually in Mexico City October 5-8, 2021. His talk was "O-GlcNAcylation: Linking Signaling and Metabolism in Cancer."



Priscila Sato, PhD, assistant professor in the Department of Pharmacology & Physiology, was awarded second place in the Academy of Cardiovascular Research Excellence's Junior Faculty Platform Competition, which was held at the American Heart Association's Basic Cardiovascular Sciences Meeting. Sato presented work from Pharmacology & Physiology PhD student **Ruxu Zhai**, who also presented a poster at the conference, "Myocardial GRK2 Negatively Impacts Fatty Acid Metabolic Flux and β -adrenergic Receptor-Mediated Mitochondrial

Responses." Sato was also awarded an R56 grant from the NIH National Heart, Lung and Blood Institute to support her project "Non-canonical Role of GRK2 in Mediating Cardiac Function."



Todd Strochlic, PhD, VMD, gave a talk on September 30, 2021, as part of a colloquium series for Swarthmore College's Department of Chemistry and Biochemistry. The title of the talk was "Redefining the Regulatory Mechanism of a Master Kinase."



Donna Sudak, MD, professor and vice chair for education, Department of Psychiatry, presented "Professional Burnout," a plenary talk at the Executive Leadership in Academic Medicine fall conference, held in Wilmington, Delaware, on September 21, 2021.

Michelle Swift, Molecular & Cell Biology & Genetics PhD student; **Christian Sell, PhD**, associate professor, and **Jane Clifford, PhD**, emeritus professor, both in the Department of Biochemistry & Molecular Biology, published "DNA Damage-Induced Degradation of Sp1 Promotes Cellular Senescence" in *Geroscience* on September 22, 2021.



Swift



Sell



Clifford



Tom

Veronica Tom, PhD, professor, Department of Neurobiology & Anatomy, presented a seminar at the Louis J. Fox Center for Vision Restoration Conference on October 20, 2021. Tom and **Marisa Jeffries, PhD**, postdoctoral fellow, published "Peripheral Immune Dysfunction: a Problem of Central Importance After Spinal Cord Injury" in the September 17, 2021, issue of *Biology*.



Walker



Detloff

John Walker, MS, Neuroscience PhD candidate, and **Megan Detloff, PhD**, assistant professor, Department of Neurobiology & Anatomy, published a review article in the September 2021 issue of *Biology* titled "Plasticity in Cervical Motor Circuits Following Spinal Cord Injury and Rehabilitation."



Jeremy Weinberger, MS, Neuroscience PhD student, received the Carl Storm Fellowship to support his participation in the Gordon Research Conference on Central Nervous System Injury and Repair on March 20-25, 2022, in Oxnard, California.

WHAT WE'RE DOING



Michael White, PhD, professor of pharmacology and physiology, was the recipient of the Mid-Atlantic Pharmacology Society's George B. Koelle Award, which is presented each year to a local scientist who most closely emulates the qualities exemplified by Dr. Koelle: a profound commitment to teaching, a fondness for encouraging students, excellence in research and a strong devotion to the science of pharmacology.



Jason Wickman, a Pharmacology & Physiology PhD student, was selected for an oral presentation of his research at the Mid-Atlantic Pharmacology Society meeting, held October 29, 2021.

Allison Yankey, Molecular & Cell Biology & Genetics PhD student, **Sean C. Clark**, former research technician, **Michael Owens**, MS molecular and cell biology and genetics '18, and **Srinivas Somarowthu**, PhD, assistant professor, Department of Biochemistry & Molecular Biology, published "Purification and Structural Characterization of the Long Noncoding RNAs" in the August 2021 issue of *Methods in Molecular Biology*.



Vision 2020 Becomes VisionForward

After leading a national, year-long celebration of the 100-year anniversary of women's suffrage, Vision 2020 has relaunched as VisionForward. The change was made official during the Toast to Tenacity and City of Sisterly Love celebrations in August. With its new name came an updated mission statement: *To achieve gender equity by increasing the number and power of women leaders to accelerate economic, political and social change.*

VisionForward also has new areas of focus, including valuing caregiving and increasing civic participation in order to advance gender equity. To achieve these goals, VisionForward will:

- Connect leaders and organizations with complementary agendas to collaborate for collective impact, especially in areas of economic equity and civic engagement
- Amplify voices and messages for positive change
- Focus on timely issues and opportunities that support the mission
- Propel progress through partnerships, programs, events and media

To learn more about VisionForward, visit drexel.edu/visionforward.



Tell your colleagues what you're doing.

Email CoM_Pulse@drexel.edu.

In Memoriam



Anthony Romano, PhD, associate professor of pharmacology and physiology, died on November 1, 2021, at the age of 68, after suffering a heart attack. Romano earned his undergraduate degree in psychology from Fairfield University, a master's in biopsychology from the University of Massachusetts, and his PhD in experimental psychology from Ohio University. He completed his postdoctoral work in psychology at the University of Iowa, and then came to MCP Hahnemann University in 1988. He remained at Drexel and its predecessor schools for more than 30 years.

In 2010, he became the associate director of the Program for Integrated Learning, in which he also served for many years as a facilitator for Years 1 and 2. In 2017, he was appointed the course director for Case-Based Learning in the Foundations and Frontiers curriculum. Romano was the chair of the Admissions Committee and shouldered many other admissions-related responsibilities. He also worked with students in small-group learning activities, simulations and research projects. Prior to his shift to medical education, he conducted research on learning and memory, in particular the influence of the serotonergic system on associative learning and the long-term behavioral consequences of prenatal cocaine exposure. Romano is survived by his wife, Megan; their daughters, Alexis and Alyssa; and two grandchildren.



Allan B. Schwartz, MD HU '64, professor of medicine, died on September 27, 2021, after a long illness. He was 83 years old. Schwartz earned his bachelor's degree from Temple University School of Pharmacy before matriculating at Hahnemann Medical College. He completed an internship at Albert Einstein Medical Center in Philadelphia, followed by an internal medicine residency and nephrology fellowship at Hahnemann Medical College and Hospital. He also completed a research fellowship with the National Institutes of Health. After serving in the U.S. Army Medical Corps in San Francisco, he taught medicine and nephrology at UC San Francisco, and then relocated to Philadelphia to teach at Hahnemann.

Schwartz established the animal and human hypertension laboratories at Hahnemann, and directed the Nephrology Service B for 15 years. He later served as vice chair of the Department of Medicine and director of the Internal Medicine Residency program. In addition to his expertise caring for patients with severe kidney disease and hypertension, he was an avid historian. For many years he authored a "Medical Mystery" series for the *Philadelphia Inquirer*, discussing the health issues of key figures in United States history.

Schwartz is survived by his wife, Barbara; their daughters, Michelle and Cindy; and four grandchildren, Megan, Sam, Avi and Micah.

Get to Know...

Welcome to Get to Know..., a new feature of Pulse, in which we introduce you to someone from the Drexel community. If you'd like be featured, email CoM_Pulse@drexel.edu.

Who are you, and what is your official title at Drexel?

My name is Brad Nash, and my title is Director, Scientific Communications in the Department of Physiology at the College of Medicine.

Have you ever wished you could make up a more accurate title for yourself? If so, what would it have been?

I considered that in the past. My previous title was "Scientific Writer," but I was involved in several other communications initiatives beyond writing. I think my current title better reflects what I do day to day since it has more wiggle room.

Explain what you do in under 50 words.

I currently help faculty develop grant proposals and scientific manuscripts, teach students the principles of clear and coherent scientific communication, and keep the department up to date with our latest news and accomplishments. I'm also working on new initiatives to enhance the way we communicate science — stay tuned!

Who do you interact with most on a daily basis?

I interact with our faculty most of the time, since faculty grant proposals and manuscripts are major projects that take time and effort to get right. Depending on the task at hand, I also interact with our students, staff and other offices at Drexel.

What is your typical day like?

Most of my time is spent at the computer either writing, editing, reading or thinking about a particular project. Since this type of work benefits from long periods of focus, I try to schedule other tasks like email, phone and Zoom sessions in the same block of time to minimize the cost of task-switching. I also take a short walk in the afternoon for a little mental and physical refreshment.

How do you see your work fitting into the big picture of the missions of the College?

In my view, science is made up of two major components. First, and most obvious, is the experimental work, and second is how each

investigator interprets and communicates their work. I've noticed that the second component is sometimes underappreciated, and I suspect this is part of why scientific literature can be difficult to read and understand. I think that my focus on scientific communications can elevate the quality of science that we produce and better position our students for successful careers in the sciences. Thus, I see my work as in line with both the scientific and educational missions of the College.

What are your favorite and least favorite tasks?

I'm not sure that I have a least favorite task. I do sometimes feel the typical uncertainty about how to begin when I first sit down to write or create some-

thing, but this is always transient. On the flip side, I love interacting with faculty, students and staff and being involved in a variety of scientific and educational projects. The Department of Pharmacology & Physiology is a fun place to work since it hosts a variety of investigators with diverse research interests and perspectives.

What is your educational and previous work background? How did those prepare you for what you do now?

I earned a BS in pharmaceutical sciences from The University of Toledo and a PhD in pharmacology and physiology from Drexel. After a short stint of freelance work, I returned to Drexel as a scientific writer focused on grant proposals. As I took on more work and gained experience over time, this initial role ended up evolving into my current position. So I would say that my scientific training and later focus on communications were definitely formative experiences.

When you were working on site, did you bring your own lunch or eat out?

I almost always brought my own lunch. Usually a modest sandwich and some fresh produce. Nothing fancy.

What's one unusual or unexpected item in your home work space or your office?

Next to my desk is an almost 40-year-old synthesizer. Yes, it still works. Yes, it's older than me. And yes, it very much sounds like the 80s. I also have a small collection of art made by various friends.



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