



“A Grand Tradition”: Discovery Day’s Storied Past, Bright Future

Discovery Day, the College of Medicine’s annual day of research, was held on October 27, 2022, at the Pennsylvania Convention Center, with more than 350 students and trainees sharing their research with faculty, alumni and peers. This year’s keynote speaker was Veronica A. Alvarez, PhD, acting chief of the National Institute of Alcohol Abuse and Alcoholism Section on Neuronal Structure, and lab chief of NIAAA’s Laboratory on Neurobiology of Compulsive Behaviors. The poster and platform award recipients are listed at bit.ly/DUCOMDiscoveryDay2022.

Discovery Day 2022 culminated with a dinner and awards ceremony, a tradition that hasn’t taken place since the COVID-19 pandemic. The excitement in the air and the spirited awards dinner were a reminder of and testament to the long and illustrious history of the celebration of research at our institution and its legacy schools.

For many years, Hahnemann University held Grad School Day, an opportunity for biomedical graduate students to share their research with their peers. Elizabeth Blankenhorn, PhD, professor of microbiology and immunology, has fond memories of the

event’s earlier days, which included a day of graduate student research presentations at Hahnemann University followed by an elegant evening celebration at the Franklin Institute. She describes Grad School Day as “a grand tradition.”

Alumna Sharon Stranford, PhD microbiology and immunology ‘92, now the faculty co-director for the Institute for Inclusive Excellence and a professor of biology at Pomona College, was mentored by Blankenhorn. Stranford also remembers Grad School Day fondly. She recalls the event being an important opportunity for graduate students to practice professional presentation of their research findings to other scientists within and outside their departments. “That was a

valuable experience for us, especially those of us who were graduating and starting our professional lives.” She adds that the celebration that followed was something many students, especially those graduating, looked forward to for months. “Grad School Day in the year that we graduated was extra special. We were finally the most senior students, and mentors to more junior grad students, presenting the culmination of years of work.” She describes vivid memories of the celebration afterward: “We had a lovely, catered meal, with lots of dancing and celebration in the main hall that went well into the night. It was very special to have the place all to ourselves.” Stranford specifically remembers exploring the Giant Heart exhibit and being part of a photo of a group of students sitting on the Ben Franklin statue, which she describes as “a rite of passage.”



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pulse

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Looking Ahead to 2023

There is a great deal to be excited about as we head into this new year together, including our move to the new Drexel Health Sciences Building in University City.

First up is our Graduate School of Biomedical Sciences and Professional Studies. Our pre-medical post-baccalaureate, Master of Science, and many of the career-focused academic programs just moved in January. The research-intensive doctoral and graduate biomedical research training will continue at both the New College Building in Center City and the Queen Lane Campus, while plans are being made for their eventual move to a new research facility in University City.



Charles B. Cairns, MD

Next, our MD program will move into the Health Sciences Building starting in the 2023 academic year this summer. I want to thank everyone who has been working toward this phenomenal evolution of the

College of Medicine. Our students, professional staff and faculty will surely benefit from newfound proximity to the existing vibrant and innovative community in University City.

This year will also bring the launch of our new Faculty Affairs Dashboard and data system, a powerful online tool that will support and streamline aspects of the faculty lifecycle including onboarding, appointments and promotions, the annual review process, and more. It will also help with CV maintenance; it allows faculty to import publications directly from SCOPUS and PubMed, and offers the option to download content from the database into an automatically formatted PDF or rich text CV. Importantly, this system will enable our students and faculty to virtually network, facilitating new collaborations, partnership and mentoring opportunities.

Finally, it's hard to believe that Match Day is right around the corner in March, with Commencement following closely behind in May. While we look ahead to what's next for our College of Medicine community, it is bittersweet to consider that we will be saying goodbye to the class of 2023 very soon. I hope all are feeling energized and optimistic for the new beginnings and developments that 2023 has in store for us.

Charles B. Cairns, MD

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

Meet Two Janssen-Drexel 4D Fellows

Hieu Jeromy, First-Year Pharmacology & Physiology Master's Student

I moved here to the United States from Vietnam when I was a 10-year-old. I got my undergraduate degree in health sciences from Drexel. During that time, I became interested in pharmacology and physiology because I lost my dad to cancer. He was on so many treatments like chemotherapy, and it made me interested to find out what he was taking. I had wanted to go to medical school, but my perspective changed after I saw how his treatment went. I wanted to understand what all those medications with the weird names did.

At my interview I met everyone in the Pharmacology & Physiology program. They were very welcoming and the environment was very supportive. I felt that I would be able to achieve my goals there.

I also wanted to stay in Philly to support my mom. We don't have any relatives in the area and she doesn't speak English, so I did not think I could leave her. I went on the College of Medicine website and saw that the Department of Pharmacology & Physiology has the 4D Fellowship. I looked at the description and thought I might not be qualified, because Asians are not considered a minority in science. But first-generation immigrants and low-income students are, so I decided to apply. Everything happened very fast. I interviewed for the program and then got my acceptance a week later. Then I applied for the fellowship and found out the next week that I was accepted for that. I was so excited.

In the future, I may want to go to medical school,

but financially it's hard. In addition to that cost, I have a lot of loans from undergrad. After my master's I want to go out, find a job, earn a salary and help my mom. She did a lot for me, so I want to give her something back. Later on, I may pursue more education, but right now my goal is financial independence.



So far the program has been a roller coaster. There have been some great moments, some smiles, but also some tears. In this program we have to take core courses like biochemistry, molecular biology and genetics, for example. It was very hard but not impossible. And I passed! Next semester the courses will be more specific to pharmacology and physiology. It's been a very supportive environment. I know I can go to a professor and express my fears that

I might fail. I've also made some friends that are very supportive of me. It's important to have someone there in the hard times.

The 4D Fellowship program has helped me financially so much. The stipend is wonderful. In a master's program, to be able to have a privilege like this fellowship is hard to find. My friends in master's programs are having to pay their own tuition, so I am so happy to have gotten this scholarship. I feel more financially stable. It has helped me a lot, and also allowed me to support my mom. Career-wise it is also helpful. After I graduate, I will have one and a half years of experience working in the industry. It's a privilege to have the opportunity to work alongside the professionals at a place like Janssen.

Desmond Lewis, Second-Year Drug Discovery and Development Student

For undergrad, I went to the Citadel in South Carolina. I was always passionate about studying cancer. My grandfather's passing made me interested to learn more about it. Even in undergrad, I was doing research with professors there that was related to cancer and developing drugs. Once I found Drexel's program in Drug Discovery and Development, it seemed like the perfect fit. Then I got to talk to Dr. McGonigle and Dr. Mathiasen, and they seemed like great people.

The experience of being a 4D fellow has been amazing. They always ask "What can we do better? What would you change?" I think our only advice was to start our time at Janssen earlier. The first semester we did a rotation at Drexel, and then we went over to Janssen. Being there has been such an amazing experience, with the mentoring, input on

the research, and interacting with the team.

The financial support has meant a lot. Initially I was deciding between Drexel and another school. I really wanted to come here for the DDD program, but Drexel wasn't offering any money. The other school actually offered more money, but I really wanted to come to the program at Drexel. I talked to my parents and prayed about it, and ended up just deciding with my heart and coming to Drexel. My dad said, "We'll find a way to pay for it," but I was really stressed about it right before I found out about the fellowship. When Dr. McGonigle told me about it, and I applied and was accepted, it was huge. It made everything easier, because not only were they offering to fully pay for the degree and allow me to do research and

• *continued on page 4*

Discovery Day Then and Now

• *continued from the cover*

In 1993, Hahnemann and Medical College of Pennsylvania merged to become MCP-Hahnemann University (MPCHU). In 1998, when the parent organization of MCPHU – Allegheny Health System – declared bankruptcy, the future of what was by then known as MCPHU Research Day was very uncertain. Drexel University, which assumed leadership of the school after the bankruptcy, had its own Research Day, which was also held each spring. MCPHU leadership ultimately voted to stop funding the event.

A group of concerned faculty and students had different plans, though. They felt that it was important to maintain this piece of the school's history, despite the lack of funding. Then-MD/PhD student John Po (MD '03, PhD '02) was president of the Student Government Association at the time, and he and supportive faculty members,



including Blankenhorn and Richard Rest, PhD, emeritus professor of microbiology and immunology, decided to hold their own event. In a 2011 *Alumni Magazine* article, Po said the event was "important as a legacy for MCP-Hahnemann."

While the determination and drive were bountiful, many logistical barriers stood in the way, including finding a location, paying for food and supplies, and attracting presenters. Eventually, the event was held in the fall of 1999, and included about 25 posters, a few platform presentations and a keynote address. Considered a success, the event was renamed Discovery Day shortly thereafter.

In addition to support from key faculty and leaders, the event received logistical assistance from faculty, including Kirsten Larson, PhD, professor of microbiology and immunology, who volunteered to organize the student poster competition for the 1999 event. She has continued to recruit and coordinate volunteer judges ever since. She says, "It is exciting that over 135 faculty members, alums and guests each year help with judging poster and platform presentations. These assignments foster collegiality and ensure poster presenters meet and share their work with scientists from their departments and other programs, departments, schools and institutions."

Discovery Day flourished in the following years under the guidance of Barry Waterhouse, PhD, who served as vice dean of biomedical graduate and postgraduate studies from 2006 to 2014 and vice dean of the Graduate School of Biomedical Sciences and Professional Studies from 2014 to 2015, and the support of L.M. Bill Stevenson, PhD, who was a powerful force for the advancement of research at Drexel during his time as vice provost for research and graduate policy. Their contributions were recognized through the creation of the Barry Waterhouse Platform Award and the Bill Stephenson Keynote Address.

Rest, who was dean of biomedical graduate studies at the time, expressed pride at the event over the years in the 2011 article. "I tout Discovery Day to a lot of my

Destination Excellence

• *continued from page 3*

be mentored at Janssen, but they were offering a stipend at the time of \$10,000 per year. In September they increased it to \$25,000 a year. It truly has been a blessing. It's meant everything to be able to actually study, focus on what I want to do, and not have to worry about finances.

My relationships with the other fellows have been really good. When we started going to Janssen, we all carpoled every time. We're all pretty close. It's made it easier because we can talk to each other and work things out. The fellowship is a unique experience, and it does make it easier when the people who are also in the fellowship are



great, and they're super passionate about cancer as well.

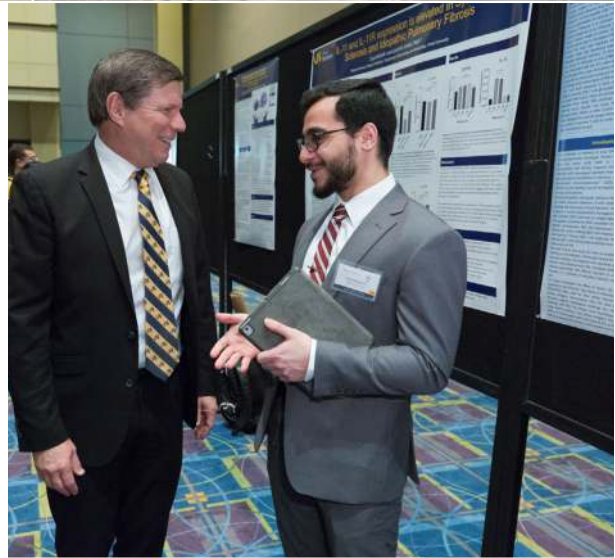
I really appreciate the mentoring I've received as part of the fellowship. It's been amazing. I feel like I can ask about any drug project that they're working on, and get input on how things actually work, how they bring drugs to market. I can also ask about my project — developing a 3D spheroid model to assess penetration of different antibody designs — and help them with their research. It's a lot of guidance that I didn't expect initially. In my mind, I was going to be working on my thesis while they worked on actual drug portfolios, but I can see how my project can help their work. This kind of mentorship really develops you as a scientist. It's an awesome environment.



colleagues outside of Drexel. There are very few places that spend the money and the effort to have a research day like this," he said.

Discovery Day has grown greatly in size and reach. Since 2009, the event has averaged 350 to 400 posters, a fifteen-fold increase from the first event. In 2016, under the guidance of Elizabeth Van Bockstaele, PhD, founding dean of the Graduate School of Biomedical Sciences and Professional Studies, the event was moved to the Pennsylvania Convention Center to provide much-needed space and the logistical experience of professional conference attendance for all who participate.

The College of Medicine remains committed to recognizing and supporting scholarly research. Plans for Discovery Day 2023 are underway, and the event is slated for the fall at the Pennsylvania Convention Center.



WHAT WE'RE DOING



Seena Ajit, PhD, associate professor, Department of Pharmacology & Physiology, received an RF1 grant from the NIH National Institute of Neurological Disorders and Stroke (NINDS). The grant will fund a new project, "Immune Modulating Therapies to Treat Complex

Regional Pain Syndrome," which is part of the NIH Helping to End Addiction Long-term (HEAL) Initiative. Ajit was also awarded a new R01 from NINDS, which will support her project "Small Extracellular Vesicles Mediated Signaling and Pain."



Baas



Qiang

Peter Baas, PhD, professor, Department of Neurobiology & Anatomy, chaired a symposium, "Microtubules in Nervous System Development and Disease" and presented

a speech titled "Microtubule Basis of Hereditary Spastic Paraplegia" at the 2022 meeting of the International Society for Neurochemistry in Honolulu, Hawaii, on August 30. Baas and **Liang Oscar Qiang, MD, PhD**, assistant professor, Department of Neurobiology & Anatomy, are co-investigators on a new Department of Defense Grant awarded to Kimberly Sullivan, PhD, of Boston University (\$1,200,000 direct costs). The project is "Are Tau Proteins in Blood and PET Images Related to Gulf War Illness and Risk of Comorbid Neurological Disorders?"

Emanuela Piermarini, PhD, research associate, Department of Neurobiology & Anatomy, presented a poster, "Gene Therapy Approach for SPG4-based Hereditary Spastic Paraplegia," at the 2022 meeting of the International Society for Neurochemistry in Honolulu, Hawaii, on September 1. Baas and Qiang, her mentors, were co-authors on the poster. Qiang also presented a speech, "Microtubule Defect Led by Pathological Tau Is a Potential Contributor to Axonal Degeneration in FTD-Tau" in the meeting's Microtubules in Nervous System Development and Disease Symposium on August 30, 2022. Baas received support (\$28,000 direct costs) for his project on gene therapy for hereditary spastic paraplegia from the SPG4 Foundation, with Piermarini and Qiang as collaborators on the project.



Barker

Jacqueline Barker, PhD, associate professor of pharmacology and physiology, received a new DP2 supplement from the National Institute on Drug Abuse. The supplement will support the work of a postdoctoral fellow,

Mark Namba, PhD, on a project titled "Investigating the Effects of Cocaine Exposure and Abstinence in a Model of Preclinical HIV Infection."



Blankenhorn

Frank Bearoff, PhD microbiology and immunology '17, postdoctoral research fellow, and **Elizabeth Blankenhorn, PhD**, professor, both in the Department of Microbiology & Immunology, were among the authors of "Identification of Quantitative Trait Loci for Survival in the Mutant Dynactin p150Glued Mouse Model of Motor Neuron Disease," which was published in *PLoS One* online September 15, 2022.



Karen Berkowitz, MD, associate professor in the Departments of Biochemistry & Molecular Biology and Obstetrics & Gynecology, received an R03 grant (\$100,000 direct costs) from NIH for her project "Generation and Characterization of a Novel Mouse Line to Elucidate CHTF18 Function in Male and Female Meiosis." The grant period is 2022-2024.



Alison Carey, MD, associate professor of pediatrics, received a one-year grant from NIH for "Mechanisms of Age-specific Differences in the Type I IFN Response to Respiratory Viral Infection." The total award was \$450,642.



Irwin Chaiken, PhD, professor of biochemistry and molecular biology, receive a one-year NIH grant for his project "HIV-1 Env Trimer Antagonism and Inactivation by Small Molecule Peptidomimetics," with a total award of \$343,785.



Reginato

Alexej Dick, PhD, postdoctoral researcher, and **Mauricio Reginato, PhD**, professor and interim chair, both in Department of Biochemistry & Molecular Biology, were awarded a Coulter-Drexel Translational Research Partnership Seed Grant. The funds will support their project "Pharmacological Inhibition of the Human ACSS2 Protein for Therapeutic Intervention for Breast Cancer Brain Metastatic Tumor Growth."



Dougherty



Rybak

Kimberly Dougherty, PhD, associate professor, and **Ilya Rybak, PhD**, professor, together with co-investigator **Natalia Shevtsova, PhD**, research assistant professor, all in the Department of Neurobiology & Anatomy, were awarded a \$2.6 million, multi-principal investigator R01 grant from the National Institute on Neurological Disease and Stroke for their project



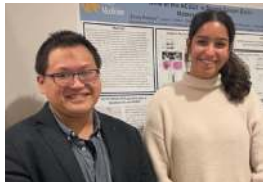
Shevtsova



Singh

"Mechanisms of Locomotor Rhythm Generation in Rodent Spinal Cord." **Leonardo Garcia-Ramirez, PhD**, a postdoctoral fellow in neurobiology and anatomy; Neuroscience PhD students **Shayna Singh** and **Jenna**

McGrath; Ngoc Ha, PhD neuroscience '20; and Dougherty published "Identification of Adult Spinal Shox2 Neuronal Subpopulations Based on Unbiased Computational Clustering of Electrophysiological Properties" in the August 4, 2022, issue of *Frontiers in Neural Circuits*.



Emily Esquea, PhD candidate in the Molecular & Cell Biology & Genetics program, received first place in the poster presentation at the Sidney Kimmel Cancer Center Trainee Retreat in December 2022.

Giang Le Minh, PhD candidate in the Biochemistry of Health & Disease program, was chosen for a short talk at the retreat. Esquea also received a 2022 Award for Excellence in Research from the College of Medicine for her master's thesis, as well as the inaugural Jane Clifford Best PhD or MS Dissertation Award.



Fatatis

Meucci

Alessandro Fatatis, MD, PhD, professor of pharmacology and physiology, was awarded a new R01 grant for his project "Interleukin-1 beta and AR-negative Tumor

Cells in Metastatic Castrate-Resistant Prostate Cancer."

Anthony DiNatale, MD, PhD pharmacology and physiology '21, Maria Sofia Castelli, MS drug discovery and development '20, Brad Nash, PhD pharmacology and physiology '17, director of scientific communications, Department of Pharmacology & Physiology, **Olimpia Meucci, MD, PhD**, professor and chair, Department of Pharmacology & Physiology, and Fatatis authored "Regulation of Tumor and Metastasis Initiation by Chemokine Receptors," which appeared in the *Journal of Cancer* online on August 27, 2022.



Fahmy

Samuel Flashner, PhD molecular and cell biology and genetics '20, Michelle Swift, PhD molecular and cell biology and genetics '21, Aislinn Sowash, PhD molecular and cell biology and genetics '16, Alexander Fahmy, first-year MD student, and **Jane**

Azizkhan-Clifford, PhD, professor emerita of biochemistry and molecular biology and associate dean for medical student research, published "Transcription Factor Sp1 Regulates Mitotic Chromosome Assembly and Segregation" in the August 2, 2022, issue of *Chromosoma*.



Pirino

Barson

Andrew Gargiolo, PhD neuroscience '19, Preeti Badve, MS interdisciplinary health sciences '15, Genevieve Curtis, PhD neuroscience '22, Breanne Pirino, Neuroscience PhD

student, and **Jessica Barson, PhD**, associate professor of neurobiology and anatomy, authored "Inactivation of the Thalamic Paraventricular Nucleus Promotes Place Preference and Sucrose Seeking in Male Rats," which was published in the August 2022 issue of *Psychopharmacology*.



Gaskill

Klase

Peter J. Gaskill, PhD, associate professor, Department of Pharmacology & Physiology, and a colleague at the University of Florida College of Medicine were

the authors of "Dopamine and Norepinephrine Are Embracing Their Immune Side and So Should We," which was published online September 1, 2022, in *Current Opinion in Neurobiology*. Gaskill and **Zachary Klase, PhD**, associate professor, Department of Pharmacology & Physiology, were awarded a new R01 grant from the National Institute on Drug Abuse. The award will fund a collaborative project, "Benzodiazepine Mediated Mechanisms of Transcriptional Semi-quiescence in Discrete Myeloid Populations," that leverages the strengths of both labs.



Neurobiology & Anatomy Pioneers Honored

The Department of Neurobiology & Anatomy dedicated a Wall of Fame to honor and remember the department's pioneers and leaders of the last 50 years, from the time of Hahnemann University and the Woman's Medical College of Pennsylvania to the current Drexel University College of Medicine. The ceremony took place on October 10, 2022, and included a memorial for E. Hazel Murphy, PhD, who passed away recently.

The Wall of Fame honors:

Michael E. Goldberger, PhD, founding member of the Neurobiology & Anatomy Spinal Cord Research Center

Marion Murray, PhD, founding member of the Department of Neurobiology & Anatomy, director of the Spinal Cord Research Group

Donald S. Faber, PhD, endowed chair, Department of Neurobiology & Anatomy, president of the Committee to Save the University

John Houlié, PhD, director of the Spinal Cord Research Center

Dennis DePace, PhD, pioneer of medical education – gross anatomy

E. Hazel Murphy, PhD, founding member of the Department of Neurobiology & Anatomy

WHAT WE'RE DOING



Guha

Shrobona Guha, MS, Neuroscience PhD student, presented a poster, "Investigating the Role of Microtubule-associated Motor Protein KIFC1 at the Synapse," at the Gordon Research Conference on Cell Biology of the Neuron in Waterville Valley, New Hampshire, on June 27,

2022. Co-authors on the poster were her mentor, **Peter Baas, PhD**, professor of neurobiology and anatomy, and **Hemalatha Muralidharan, PhD neuroscience '20**.

Guha also published an illustration titled "Neuronal Blossoms" on the front cover of the July 2022 issue of the journal *Biological Psychiatry*, "Molecular and Clinical Markers of Neurodegeneration."



Toyooka



Patil

Muralidharan, Guha,



Sun

Baas, **Kazuhito Toyooka, PhD**, assistant professor, Department of Neurobiology & Anatomy, **Ankita Patil, PhD neuroscience '21**, postdoctoral researcher, **Sarah Bennison, PhD neuroscience '22**, and **Xiaohuan Sun, MS**, Neuroscience PhD student, published

"KIFC1 Regulates the Trajectory of Migratory Neurons" in the *Journal of Neuroscience* on March 16, 2022.



Haddad



Cairns

Elias K. El Haddad, PhD, professor of medicine, was one of the authors of "Long-term Antiretroviral Therapy Initiated in Acute HIV Infection Prevents Residual Dysfunction

of HIV-specific CD8+ T Cells," which appeared in the October 2022 issue of *eBioMedicine*. Haddad and **Charles B. Cairns, MD**, Walter H. and Leonore Annenberg Dean and senior vice president of medical affairs, were among the authors of "Phenotypes of Disease Severity in a Cohort of Hospitalized COVID-19 Patients: Results From the IMPACC Study" in the September 2022 issue of *eBioMedicine*.



Hall



McGrath

Adam Hall and Jenna McGrath, Neuroscience PhD students, have been awarded two years of stipend and other support funding through the T32 Training Grant on Innovative

Approaches to Spinal Cord Injury. **Peter Baas, PhD**, professor, Department of Neurobiology & Anatomy, is principal investigator on the grant and director of the T32 program. **Michael Lane, PhD**, associate professor, Department of Neurobiology & Anatomy, is co-PI and co-director.



Edward Hartsough, PhD, assistant professor of pharmacology and physiology, was one of the authors of "Multi-omics Profiling Shows BAP1 Loss Is Associated With Upregulated Cell Adhesion Molecules in Uveal Melanoma," which appeared in *Molecular Cancer Research* on August 5, 2022.



Jain

Julie Joseph, a senior PhD candidate in the Microbiology & Immunology program, training in the laboratory of **Pooja Jain, PhD**, professor of microbiology and immunology, is a predoctoral fellow of Drexel University's Interdisciplinary and Translational Research Training Grant in

NeuroAIDS, funded by the National Institute of Mental Health. She received a third-place poster award at the 31st Philadelphia Infection & Immunity Forum in December 2022, and a second-place poster award at the HTLV22 Conference in Melbourne, Australia. She is also the recipient of a Drexel University Dean's Travel Award for Spring 2022 and was a T32 trainee platform presenter during the 26th Annual SNIP Conference in Memphis, Tennessee, in June 2022.

Joseph, Jain, **Kiran Madugula, PhD microbiology and immunology '22**, **Rashida Ginwala, PhD microbiology and immunology '18**, **Zafar Khan, PhD**, professor of microbiology and immunology, and **Dominic Sales, MS microbiology and immunology '21**, published "Regulation of Human T-cell Leukemia Virus Type 1 Antisense Promoter by Myocyte Enhancer Factor-2C in the Context of Adult T-cell Leukemia and Lymphoma," which appeared the December 2022 issue of *Haematologica*.



Locke



Lane

Katherine C. Locke, MS medical science '19, fourth-year MD student; **Margo Randelman, PhD neuroscience '21**; **Lyandysa Zholudeva, PhD neuroscience '18**;

and **Michael Lane, PhD**, associate professor, Department of Neurobiology & Anatomy, published "Respiratory Plasticity Following Spinal Cord Injury: Perspectives From Mouse to Man" in the October 2022 issue of *Neural Regeneration*.

Xuan Luo, a PhD candidate in the Ajit Lab, was invited by Canopy Biosciences to give a webinar presentation on her research. She discussed how she uses ChipCytometry technology in her talk, "Investigating Immune Regulation by Small Extracellular Vesicles to Attenuate Chronic Pain Using High-Plex Spatial Imaging."



Vandana Miller, MD, associate professor of microbiology and immunology, was profiled as a Leader of the Low Temperature Plasma Community in the August 2022 issue of the International Low Temperature Plasma Community newsletter.



Tell your colleagues what you're doing. Email CoM_Pulse@drexel.edu.

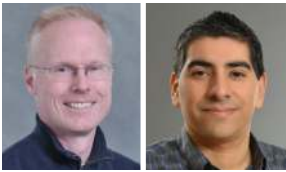


Mortensen Temmermand

Andréia C. Mortensen, PhD, assistant professor of pharmacology and physiology, and colleagues at the University of São Paulo and Instituto de Neurociências e

Comportamento published “Neuroprotective Properties of Chlorogenic Acid and 4,5-Caffeoylquinic Acid From Brazilian Arnica (*Lychnophora ericoides*) After Acute Retinal Ischemia” in *Planta Medica* on October 11, 2022.

Rhea Temmermand, Pharmacology & Physiology PhD student, **James Barrett, PhD**, emeritus professor of neurology, and Mortensen authored “Glutamatergic Systems in Neuropathic Pain and Emerging Non-opioid Therapies,” which was published in *Pharmacological Research* online October 10, 2022. Mortensen and Pharmacology & Physiology PhD student **Katelyn Reeb** were among the authors of “Discovery of (R)-N-Benzyl-2-(2,5-dioxopyrrolidin-1-yl) Propanamide [(R)-AS-1], a Novel Orally Bioavailable EAAT2 Modulator With Drug-like Properties and Potent Antiseizure Activity in Vivo,” which was published in the *Journal of Medicinal Chemistry* on August 19, 2022.



Mortensen España

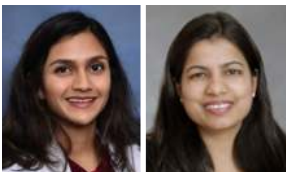
Ole Mortensen, PhD, associate professor of pharmacology and physiology, and **Rodrigo España, PhD**, associate professor of neurobiology and anatomy, received an

R21 award from the National Institute on Drug Abuse. The award will fund a new collaborative project, “Selective Real-Time Activation of ERK1/2 Signaling in Dopamine Neurons.” **Pamela Alonso, PhD neuroscience '21**, **Bethan O'Connor**, former España Lab research



Bryant

assistant, **Kathleen Bryant**, Neuroscience PhD student, **Rushi K. Mandalaywala, BS biology '21**, and España published “Incubation of Cocaine Craving Coincides With Changes in Dopamine Terminal Neurotransmission” in *Addiction Neuroscience* in September 2022.



Mulherkar Jain

Tania H. Mulherkar, third-year MD student, **Daniel Joseph Gómez**, research associate, **Grace Sandel**, Interdisciplinary Health Sciences MS student, and **Pooja Jain, PhD**,

professor of microbiology and immunology, published “Co-Infection and Cancer: Host-Pathogen Interaction Between Dendritic Cells and HIV-1, HTLV-1, and Other Oncogenic Viruses,” which appeared in the September 2022 issue of *Viruses*.



Mell

Timothy Nacarelli, PhD molecular and cell biology and genetics '16, **Ashley Azar, PhD biomedical science '17**, **Manali Potnis, PhD molecular and cell biology and genetics '22**, **Joshua Chang Mell, PhD**, assistant professor of microbiology and immunology,



Noguchi

Eishi Noguchi, PhD, professor of biochemistry and molecular biology, **Christian Sell, PhD**, associate professor of biochemistry and molecular biology, and colleagues from Absorption Systems LLC, the University of Pennsylvania and the University of North Dakota School of Medicine and Health Sciences published “The Methyltransferase Enzymes KMT2D, SETD1B, and ASH1L Are Key Mediators of Both Metabolic and Epigenetic Changes During Cellular Senescence” in the May 1, 2022, issue of *Molecular Biology of the Cell*.



Sell

Theodore T. Nguyen and **Flaviane N. Silva**, PhD students in the Molecular & Cell Biology & Genetics program, and **Erica A. Golemis, PhD**, assistant professor of biochemistry and molecular biology, authored “Aurora Kinases as Therapeutic Targets in Head and Neck Cancer,” which was published in the September/October 2022 issue of the *Cancer Journal*.



Gabriele Romano, PhD, assistant professor, Department of Pharmacology & Physiology, was one of the authors of “Tumor Microenvironment and Immune Escape in the Time Course of Glioblastoma,” which was published in *Molecular Neurobiology* online

September 1, 2022. Romano was also selected to receive an Institutional Research Grant from the American Cancer Society. This grant provides seed funding that will support his project, “Inhibition of CCR5/CCL5 Recruitment Axis as an Adjuvant Strategy to Treat Melanoma in People Living with HIV.”



Alessandro Fatatis, MD, PhD, professor of pharmacology and physiology, has been named associate director for basic research at Jefferson Health’s Sidney Kimmel Cancer Center (SKCC). He previously served as co-leader for SKCC’s

Translational and Cellular Oncology Research Program. SKCC is a National Cancer Research (NCI)-recognized consortium cancer center with Drexel University.

In his new role, Fatatis will be responsible for coordinating all cancer-focused basic research at SKCC and aligning these efforts with strategic priorities. He will advance collaborative basic research across the cancer center’s Translational and Cellular Oncology, Immune Cell Regulation and Targeting, and Molecular Oncology Regulation and Approaches Research Programs and promote strong partnerships with the population science-oriented members in the Cancer Research and Control Program.

WHAT WE'RE DOING



Jennifer Ross, PhD, research assistant professor of pharmacology and physiology, **Elisabeth Van Bockstaele, PhD**, founding dean, Graduate School of Biomedical Sciences and Professional Studies and professor of pharmacology, and a colleague at Philadelphia College

Van Bockstaele

of Osteopathic Medicine published "Targeting the Cannabinoid System to Counteract the Deleterious Effects of Stress in Alzheimer's Disease," in the October 4, 2022, issue of *Frontiers in Aging Neuroscience*.



Socarras



Haslund-Gourley

Kayla Socarras, Microbiology and Immunology PhD student, **Benjamin Haslund-Gourley, MD/PhD** student in the Microbiology & Immunology program,



Comunale



Ehrlich

Mary Ann Comunale, EdD, MS, assistant professor of microbiology and immunology, **Garth Ehrlich, PhD**, professor of microbiology and immunology, and

colleagues from Virginia Commonwealth University published "Large-Scale Sequencing of Borreliaecae for the Construction of Pan-genomic-based Diagnostics" in *Genes* on September 8, 2022.



Nancy Spector, MD, senior vice dean for faculty, professor of pediatrics, and executive director of the Executive Leadership in Academic Medicine program, the Executive Leadership in Health Care program, and the Institute for Women's Health and Leadership, was

quoted in a whitepaper, "Women in Medicine: Setting the Agenda for Change," authored by the American Medical Women's Association and Korn Ferry.



Vaidya



Mather

Akhil Vaidya, PhD, professor of microbiology and immunology, **Swati Dass, PhD microbiology and immunology '22**, **Michael Mather, PhD**,

research associate professor of microbiology and immunology, **Joanne Morrisey**, research instructor, **Liqin Ling**, former visiting graduate student, and **Hangjun Ke, PhD**, assistant professor of microbiology

and immunology, published "Transcriptional Changes in *Plasmodium falciparum* Upon Conditional Knock Down of Mitochondrial Ribosomal Proteins RSM22 and L23" in *PLoS One* online October 6, 2022.



Morrisey



Ke

Ian M. Lamb, Microbiology & Immunology PhD student, **Anurag Shukla, PhD**, postdoctoral researcher, **Avantika Ahiya, PhD microbiology and immunology '21**, Morrisey, **Joshua Chang Mell, PhD**, assistant professor of microbiology and immunology, Mather, Vaidya, and colleagues from Penn State University authored "Mitochondrially Targeted Proximity Biotinylation and Proteomic Analysis in *Plasmodium falciparum*," which appeared in *PLoS One* online on August 19, 2022.



John Walker, MS, Neuroscience PhD student in the Detloff Lab, delivered a DataBlitz, "Nociception Impedes Grasping Recovery in the Spinal Cord Injured Rat," at the Society for the Neural Control of Movement Conference 2022 in Dublin, Ireland, on August 28.

Jason Wheeler, Neuroscience master's student in the Detloff Lab, presented a poster, "Intrathecal Injection of Polarized Macrophage Exosomes Reduces Mechanical and Thermal Pain Sensation in Spinal Cord Injured Rats," at the World Congress for the International Association for the Study of Pain in Toronto, Ontario, on September 21, 2022.



Michael White, PhD, professor and vice chair of education, Department of Pharmacology & Physiology, was named an associate editor for *Frontiers in Physiology* in the Membrane Physiology & Membrane Biophysics section.



Zhai



Sato

Ruxu Zhai, Pharmacology & Physiology PhD student, and **Priscila Sato, PhD**, assistant professor of pharmacology and physiology, were among the authors of "Loss of Nuclear

Envelope Integrity and Increased Oxidant Production Cause DNA Damage in Adult Hearts Deficient in PKP2: A Molecular Substrate of ARVC," which appeared in *Circulation* on August 12, 2022.

In Memoriam

Charlie Puglia, PhD, emeritus professor of pharmacology, died on November 2, 2022, at age 81. He spent 30 years at Drexel and its predecessor institutions. In 1992, Puglia created the Program for Integrated Learning (PIL) curriculum, serving as its director until he retired in 2007. In 1996 he was named associate dean for medical education. A beloved educator, Puglia received more than a dozen Golden Apple Awards between 1980 and 1998. He is survived by his wife, Joanne, his daughter and son-in-law, Allison and Stephen Bauer, his brother, Michael, and two grandchildren, Tyler and Chloe Anne, as well as many close members of his extended family.



Get Ready for the New Faculty Affairs Dashboard!

This year, the Office of Faculty is implementing a new Faculty Affairs Dashboard (FAD). This system was chosen with input from faculty and the support of the University. It offers a versatile, dynamic way for the College of Medicine to streamline processes related to every aspect of the faculty lifecycle.

When it is fully up and running, FAD will allow faculty to update their CVs via the platform. Publications can be directly imported from PubMed or SCOPUS using author ID numbers. Once the data is entered, a CV can be downloaded as a PDF or rich text document that aligns with the Drexel University College of Medicine template.

Information about publications and other accomplishments can be imported from other sites automatically and entered into the faculty annual review section of the site, ensuring recent scholarly activities are included as part of the review process. Faculty annual reviews will be managed through a streamlined process including automated email reminders and electronic signatures in FAD.

FAD allows faculty to apply for initial appointments or promotions electronically and track the status of their applications via the platform. Users can also send requests for letters of reference electronically through the system. The dashboard has similar functionality for managing the tenure process.

Once all the data has been entered, the system will allow faculty to search for the contact information and campus locations of colleagues, based on research or teaching interests, department or specialty. This will foster intercampus and interdisciplinary collaboration among our talented researchers, educators and clinicians.

What's Next?

The system is launching in early spring, starting with a group of test users. Then it will be rolled out to academic campuses one at a time, so that the Office of Faculty can provide support and needed customer service as faculty learn to navigate the platform and enter their information.

Now is an ideal time to review and update your CV so that the process of entering your information will be easy and your information will be current.



The Office of Faculty will be holding virtual information sessions and office hours as the rollout progresses. Please look out for these events on the College of Medicine calendar and in emails from Drexel Medicine Official Notice.

The selection of the Faculty Affairs Dashboard software product and planning for implementation has been successful thanks to the tireless efforts of many key stakeholders, including our senators and steering committee members, as well as these individuals, who served on the task force:

- Alli Cain – Faculty Database and Program Assessment Coordinator, Office of Faculty
- Verdi J. DiSesa, MD, MBA – Senior Vice Dean and Chief Operating Officer
- Gabriel Doncel – Director of Information Security
- Dana Farabaugh, MD – Associate Dean of Clinical Education
- Elizabeth Kopen – Department Administrator, Pharmacology & Physiology
- Michele Kutzler, PhD – Associate Dean for Faculty
- David Logan, MBA – Associate Dean for Financial Affairs
- Kathryn Matuch – Associate Vice President, Core Enterprise Systems
- Donna McNelis, PhD – Associate Dean for Professionalism and Continuing Education
- James Reilly, MD – Regional Dean of Allegheny Health Network
- Eddie Ruiz – Senior Financial Analyst
- Seema Sidhu, MD – Regional Dean of Kaiser Permanente
- Robin Smith – Director, Division of Clinical Education
- Arnold Smolen, PhD – Associate Dean for Information Technology



“Mothers and Baby Dragons” Program Takes New Path Following Pandemic

The Mothers and Baby Dragons organization’s work may look different as a result of the COVID-19 pandemic, but the student-run group has stayed true to its original mission to help facilitate healthier pregnancies for parents from underserved communities. And in the 2022-2023 academic year, a partnership with the Maternity Care Coalition (MCC) is bringing Drexel medical students and expecting parents together in a whole new way.

Two to three times a month, medical student volunteers from Drexel University College of Medicine join MCC at community events or at a City of Philadelphia health center to assist in sharing health information and resources with pregnant people and their families.

“We met with MCC at the beginning of this year, and their big need was in patient education,” says Emma Beale, MD ’25, a Mothers and Baby Dragons steering coordinator. “Patient education is obviously a very big component of being a physician, and learning how to do that while we’re providing a service to the community is a really cool opportunity.”

MCC has been active in Philadelphia since 1980, with various programs aimed at improving health and wellness for families facing health disparities, financial need and other inequities. This fall, they provided Mothers and Baby Dragons medical student volunteers with a list of topics, from mindfulness during pregnancy to postpartum mental health, to share with community members through fliers, brochures and conversations.

Mothers and Baby Dragons, as created by Allison Gutierrez, MD ’18, paired medical students with expecting parents to act as health navigators during pregnancy. The medical students attended patients’ prenatal appointments and provided emotional support, health guidance, postpartum support and more.

That work was put on pause due to safety concerns amid the COVID-19 pandemic, and last year, Mothers and Baby Dragons’ student leaders began planning for a new partnership with MCC.

Beale and a classmate staffed an information table at the City of Philadelphia’s Health Center 5 with MCC at the beginning of fall 2022, using MCC’s own educational materials to talk with pregnant people about nutrition during pregnancy. They also helped

share information on other local resources with expecting parents in need.

“I think it was really neat to be able to talk with different pregnant individuals and share information that’s so easy to spread, but that people don’t necessarily hear if they don’t have a primary care physician, or if they’ve never been pregnant before,” Beale says.

Maryam Durosinmi, MD ’25, an events and advocacy coordinator for Mothers and Baby Dragons, says these outreach opportunities help medical students gain real-world experience with the values and skills around patient communication that they have learned in the classroom. While working with MCC, students meet patients from different races and ethnic backgrounds, with various ages, levels of education, levels of parenting experience and the like.

“We get experience in meeting patients where they are, in the sense that everyone comes with different levels of understanding, and needs,” Durosinmi says. “And meeting people where they are is something we’re learning in our Foundations of Patient Care curriculum.”

Beale agrees, adding that in the field, medical students are not only practicing patient education, but they are also working on determining how well they have communicated information. For instance, Beale says, the medical students might have patients repeat the information they have learned to determine whether everything has been communicated effectively.

Simone Udeh, MD ’25, a Mothers and Baby Dragons steering coordinator, says creating educational materials for expecting parents helps medical students develop a deeper understanding of prenatal care topics

ahead of their clinical training. Thanks to her time with Mothers and Baby Dragons, Udeh is prepared if a future patient asks whether it is safe to exercise during pregnancy or needs help finding community resources.

“If a patient says to me, ‘I can’t afford this, but it would be really nice to have a doula,’ I know MCC has doulas, and I could recommend them to my patient,” Udeh says. “Of course, passing on clinical information to your patients is really helpful, but it’s also about the little things that make their pregnancies less complicated and stressful.”



Second-year MD students Emma Beale (center) and Maryam Durosinmi (right), who both serve as Mothers and Baby Dragons coordinators, staffing an information table at Philadelphia’s Health Center 5 with Kayesha Willis from MCC.



First-year MD students Jennie Reisman and Ifrah Malik volunteering at an information table at Philadelphia's Health Center 5.

Some resources to which a physician could direct a patient in need have more complex eligibility requirements than others, says Emily Kou, MD '25, a Mothers and Baby Dragons events coordinator. "For instance, MCC facilitates helping pregnant people get free car

seats, but in order to qualify for that, you need to already be approved to receive certain government assistance," Kou says. "That really goes to show that there are a lot of moving parts, and a physician who has exposure to that can really benefit patients."

The student leaders say they were grateful not only for what they have been learning through their work alongside MCC, but also for the opportunity to make a difference in the lives of pregnant people facing health inequities and barriers to care.

The focus on patient outreach initially brought Udeh to Mothers and Baby Dragons. She says patients may not know about all the resources available to them to help as they grow their families, or know how to access every program, but MCC and Mothers and Baby Dragons can help them find what they need.

"I wanted to spread the word on these resources that are accessible now but haven't historically been accessible to underserved communities," Udeh says. "A lot of this boils down to lack of access: lack of clinical access, lack of access to resources. Each of us is just doing our part to bridge that gap, which is something that I definitely want to be part of."

— Lisa Ryan

To learn more about Mothers and Baby Dragons, follow the group on Instagram at [ducom_mbd](#).

HOP Broadens Reach in Berks County

While the Health Outreach Project (HOP) has been part of the College of Medicine's culture for more than 25 years, the programming only expanded to Berks County, Pennsylvania, in 2021, when the College of Medicine at Tower Health opened in West Reading. HOP faculty advisor Eugene York, MD, is impressed with the work students have done to grow HOP programming around the campus. "It has been amazing, in a little over a year, to see what they have started and what they've accomplished so far," York says.

Students from the West Reading Campus are engaged in patient care activities with three local clinics and participate in projects to support the health of people experiencing homelessness, and members of the local LGBTQ+ and Hispanic and Latinx communities. The students have initiated a lifesaving Narcan distribution program, undertaken a vaccine education and distribution program, and teamed up with volunteer services at Reading Hospital in the No One Dies Alone program.

York said he was especially excited to see the students take the initiative to create eye health and respiratory sub-clinics within the Hope Rescue Mission. Now, people experiencing homelessness

can not only receive basic primary care from a physician who is in person at the clinic, but also take advantage of telehealth visits, in which students take patients' vital signs and perform basic examinations for a doctor who has called in virtually.

Earlier this fall, students partnered with the Hispanic Center of Reading and Berks County to hold a health fair for the region's Hispanic and Latinx community. Over 100 community members attended the event, where they were able to receive eye screenings, blood pressure screenings, diabetes education, connections to locally available primary care and more.

York said community organizations have been enthusiastic about partnering with students, who create most HOP partnerships themselves and manage the projects throughout the year. Students have also seen a remarkable response from the broader community, according to York. "Not only have the students benefited from their work with HOP, but I think the community has also benefited," he says. "The community has been really receptive to what the students have been doing. The response has been fantastic in so many ways."

Transformative Neurologist and Neuroscientist Honored With Marion Spencer Fay Award

The annual Marion Spencer Fay Award was presented to Nina Schor, MD, PhD, by the Lynn Yeakel Institute for Women's Health and Leadership on Thursday, November 3, 2022.

At the time of her nomination, Schor was the deputy director and acting scientific director of the National Institute of Neurological Disorders and Stroke (NINDS) at the National Institutes of Health (NIH). For 27 years in academia, her research on neural crest development and neoplasia was continuously funded by NIH. At NINDS, she led the Division of Intramural Research and the UltraRare GENE-targeted Therapies (URGenT) Network, and strategic planning and career development programs. On the day of the Marion Spencer Fay event, she was announced as deputy director of intramural research at NIH.

Schor was honored with the 2022 Marion Spencer Fay Award for her transformative, uniquely impactful, ongoing research and leadership contributions in neurology and neuroscience; for her work on building and sustaining innovative systems and programs designed to expand the understanding of neurological disease mechanisms that enhance patient access to cutting-edge therapies; for her efforts to inspire and empower the full diversity of the neuroscience workforce; and for her demonstrated commitment to mentorship.

As part of the award event, Schor presented a lecture, "Development Is Forever: A Career in Science and Medicine." She described the highlights of her own career and lessons she has learned along the way. Noting that all careers have bumps in the road, she encouraged the audience, who attended in person and via Zoom, to

embrace the challenge, stay engaged and remain useful. She also stressed the importance of relationships, noting, "It is the people that you meet along the way, and the relationships that you have the privilege to create" that serve as a driving force in difficult times. She cited mentorship relationships, often reciprocal ones, as among the greatest joys of her career.

The national Marion Spencer Fay Award, now in its 59th year, is presented annually by the Lynn Yeakel Institute for Women's Health and Leadership to an outstanding woman physician and/or scientist who has made an exceptionally significant contribution to health care as a practitioner, medical educator, administrator and/or research scientist and who exhibits significant future potential. The award includes a \$10,000 honorarium* to support the recipient's work. Nominations for the award open annually in February.

*As a government employee, Schor was not able to accept the honorarium.

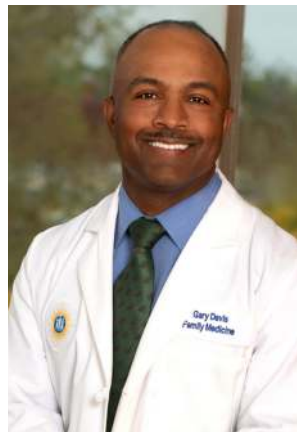


Marion Spencer Fay honoree Nina Schor, MD, PhD, (center) with Ramesh Raghupathi, PhD, chair of the Marion Spencer Fay Award Selection Committee, and Nancy Spector, MD, executive director, Lynn Yeakel Institute for Women's Health and Leadership.

Student Health Center Welcomes Gary Davis, MD

Gary Davis, MD, has been appointed medical director of the Drexel Student Health Center. He is board certified in family medicine and is a staunch advocate for engaged, compassionate care for all, striving to become an ever-improving servant leader. Prior to coming to Drexel, he held leadership positions at several Federally Qualified Health Centers in southeastern Pennsylvania; he served as chief medical officer at Community Health and Dental and Spectrum Health Services, and then most recently as president and CEO of ChesPenn Health Services.

Davis has also been an attending physician at Paoli Family Medicine,



the Philadelphia Health Department and the Branch Clinic at the Naval Air Station Oceana, as well as an assistant professor of family medicine at the University of Pennsylvania. He earned a bachelor's degree in biology and his MD at Dartmouth, and then completed family medicine postgraduate training at the Naval Hospital of Bremerton, Washington, and Abington Memorial Hospital. He is a member of the American Academy of Family Physicians and the Pennsylvania Academy of Family Physicians, and received an Achievement Medal and Commendation Medal from the Naval and Marine Corps.

In his role as medical director, Davis is responsible for overseeing the Student Health Center's services, which include vaccinations, wellness visits, STI testing, and treatment of injuries and illness for Drexel students.

Department of Public Health Grant Supports Mpox Vaccine Outreach

Last fall, the Drexel Medicine clinical practices received grant funding in the amount of \$50,000 from the Philadelphia Department of Public Health to expand mpox* vaccination services and related outreach activities for populations who are at high risk for mpox, particularly those that have been disproportionately affected by the 2022 mpox outbreak. The Partnership Comprehensive Care Practice has been providing vaccines to eligible patients since August 2022, and this grant will provide support for their ongoing efforts.

The intent of this program is to promote equitable access to vaccines, as well as to ensure that accurate and timely information is available to people at high risk for mpox, particularly those who may be difficult to reach through traditional means and social media.

The mpox vaccine outreach team will provide vaccinations at Drexel Medicine practices as well as at various pop-up sites associated with community-based

organizations, such as the Dornsife Center's Community Wellness HUB and others affiliated with Drexel's student-led Health Outreach Projects. Drexel Medicine will be partnering with Sunray Pharmacy, as well as students and faculty from other Drexel health professions programs, to administer the vaccine in the community.

The goals of this project include:

- Offering mpox vaccination in Philadelphia communities most impacted by mpox and where vaccination rates are anticipated to be low.
- Providing education to the community about mpox including transmission, prevention and vaccination.
- Combining mpox vaccination with other community engagement and outreach initiatives such as health screenings and education events to further connect those who may not otherwise engage with health care and resources.

**In November 2022, the World Health Organization began using the term mpox instead of monkeypox due to reports of racist and stigmatizing language appearing online and elsewhere. The decision was made in consultation with a range of global experts and the general public.*

Coach Joni Taylor on Leadership and Returning to Your “Why”

On December 14, 2022, the Executive Leadership in Academic Medicine® (ELAM) program hosted Coach Joni Taylor as part of the program's speaker series. Taylor is head women's college basketball coach for Texas A&M University. In 2021 she was named SEC Coach of the Year. She served as assistant coach for the gold medalist U.S. women's team during the 2022 FIBA World Cup. Nancy Spector, MD, executive director of the program, opened the event with an introduction of Taylor and the evening's moderator, Cathie Siders, PhD, a psychologist specializing in organizational consulting and executive coaching. Siders has been a consultant for and faculty member of the ELAM program.

Taylor began by recounting the trajectory of her career. After planning to become a counselor, she eventually realized that her goal was to someday be a head coach. At that point, she started being intentional about the roles she would accept and the opportunities she needed to make for herself. Her mentors, both formal and informal, helped fill in the gaps in her knowledge by including her in those aspects of the management of the team. Taylor also made those opportunities for herself. “Anything that I was lacking, I just asked for, or made sure I put myself in a position to learn it, so that I was as prepared as possible,” she said.

Siders asked Taylor to reflect on what she has learned about advocating for gender and racial equality. Taylor noted that she has spent her career at predominantly white institutions. When looking at the leadership of those institutions, she reminds herself that “people hire who they know.” She called on the attendees to surround themselves with a diverse array of people. She also noted that she endeavors to take the opportunity to be the representation she wants to see. For example, as the only Black head

coach on her campus, she recently volunteered to serve on a hiring panel so that there was greater diversity in the group. At the same time, she acknowledged the importance of “challenging our leadership to make sure they start being inclusive in their hiring practices.”

In addressing the question of how she uses her position to support women colleagues and athletes, Taylor noted that early in her career she experienced colleagues who were not particularly welcoming of her. “My heart got broken a few times,” she said. “I vowed that whenever I had the opportunity to be a mentor, I would.” She recently offered to meet remotely with two colleagues who just got head coaching jobs this year, giving them the chance to ask her questions and share ideas.

Taylor's closing advice addressed those leaders who are questioning their empowerment. She encouraged people to know who they are as leader. “People don't want to follow someone who is different every day,” she said. “I can't ask you to be consistent, and unflinching, and fluid, if I'm not that same person.” In addition, she emphasized the importance of delegating, saying, “I hire people who are smarter than me, and then I get out of the way.” She concluded with the advice to return to the “why” in times of uncertainty: “What was my purpose in doing this? If those things are still true, then

I continue to move forward.”

The event ended with a Q&A, with audience members asking questions about interviewing effectively, managing a team of highly talented and ambitious individuals, striking the balance between leadership and vulnerability, and moving the needle on the disparity between men's and women's sports.

This event was recorded, and the video is available at bit.ly/CoachJoniTaylor.



The Sooner the Better: Work in Early Lyme Detection Wins LymeX Diagnostic Prize

Nearly half a million people become infected with Lyme disease in the United States each year — a number expected to grow as climate change expands the habitat of the black-legged ticks that carry the disease-causing bacteria. But despite its status as the country's most common vector-borne disease, there is no reliable way to detect the infection in its early stages when treatment is most effective.

College of Medicine researchers have proposed a way to detect the bacterial infection by looking for a unique indicator that occurs before the immune system is able to launch a specific response. A team led by Mary Ann Comunale, EdD, MS, is a recipient of the Phase 1 LymeX Diagnostic Prize sponsored by the U.S. Department of Health and Human Services and the Steve & Alexandra Cohen Foundation. The prize competition was created to accelerate the development of a new Lyme disease diagnostic toward FDA approval. Comunale's submission was selected from 52 entries. The competition was judged by a panel of experts in vector-borne disease biology, technology transfer, and patient experience and advocacy. Comunale is now eligible to compete in Phase 2 of the accelerator.

The challenge of detecting Lyme disease lies in the evasiveness of the *Borrelia burgdorferi* bacteria. The bacteria quickly leave the bloodstream and move into surrounding tissue, becoming virtually undetectable. As a result, diagnosis relies on a specific immune response toward the bacteria; this response doesn't show up until weeks into the infection. Even then, current tests miss the infection about half the time. As a further complication, people can become reinfected, but diagnostic tests will not work on subsequent infections because there is no

way to know if an immune response is from the first infection or a new one.

"Antibiotic treatment in the early stage of Lyme disease is necessary. Without it, the disease can quickly progress and cause irreversible damage to the body," says Comunale, an assistant professor of microbiology and immunology. "But in many cases, the patient is not aware they have been bitten by a tick or does not display the tell-tale bull's-eye rash. Since Lyme symptoms are nonspecific, and tests perform so poorly in the early stages, patients often go undiagnosed beyond the window during which antibiotics would be most effective."

The researchers have taken a unique approach to tracking *B. burgdorferi*, one that looks closely at carbohydrate molecules called glycans. Glycans are found on many serum proteins, including those that play an important role in the immune response. During disease, these glycans often change, and this change plays a role in the protein's function. When it comes to proteins involved in the immune response, the glycans can make the proteins either more or less efficient at clearing the infection.

This altered response is key to the team's approach to early detection of Lyme disease. "Because the glycan pattern is different from what is seen in other diseases that have clinical symptoms similar to Lyme, we can use it as a reliable biomarker," Comunale says. "Importantly, we see these differences early, when current tests would produce false negative results. We also see the same changes in reinfections, so we can differentiate a new infection from an old one."

According to Comunale, results from early phases of testing indicate that her method could be more than 80% sensitive at detecting a Lyme infection in its early stages. This is a tremendous improvement over the current FDA-cleared tests, which are only about 48% accurate during early acute Lyme disease. Her team is building on the early results and using machine learning to develop the final test algorithm. Comunale acknowledges the hard work of the Bay Area Lyme Disease Foundation Biobank and all the patients who donated blood to support research. She emphasizes that "without their donations, this work would not be possible."

Comunale has worked in glycobiology and diagnostics for over two decades. She holds four patents in liver pathology and is a co-inventor of a glycobiology-based diagnostic for the detection of early-stage liver cancer.

The initial Lyme disease work was supported by an award from the Mary DeWitt Pettit, MD Fellowship, and follow-up funding from the Drexel-Coulter Translational Research Partnership Program. The team includes two PhD students, Benjamin Haslund-Gourley (Microbiology & Immunology), and Jintong Hou (Biostatistics); Joris Beld, PhD, assistant professor of microbiology and immunology, College of Medicine; Kevin Owens, PhD, associate professor of chemistry, College of Arts and Sciences; Anand Mehta, DPhil, professor of cell and molecular pharmacology, the Medical University of South Carolina; and George Dempsey, MD, medical director, East Hampton Family Medicine in East Hampton, New York.



Members of the research team Jintong Hou, a Biostatistics PhD student, Mary Ann Comunale, EdD, MS, assistant professor of microbiology and immunology, and Benjamin Haslund-Gourley, a Microbiology & Immunology PhD student in the MD/PhD program.



Back row: Viliami Tillage, MD '25, Pooja Balar, MD '26, Mina Ebrahimi, MD '26, Jackey Tang, MD '26, Andy Liao, MD '26, Sanya Ailani, MD '26, Anjali Pradhan, MD '26
Front row: Paris Shaw, MD '25, Lumnie Lika, MD '26, Meghan Schilken, MD '25, and Coral Caceres, MD '26

Students Bring Halloween to St. Chris Patients

On October 31, 2022, volunteers at St. Christopher's Hospital for Children brought Halloween celebrations to young inpatients and their families who would have otherwise missed trick-or-treating due to their hospital stays. The Child Life Department at St. Chris organized the event and recruited the volunteers, including Drexel MD students, to deliver and assist with costumes for any children who wanted to wear them. The volunteers and members of the medical staff, many in costumes themselves, visited the children's rooms in a "reverse trick-or-treating" event that brought smiles and good cheer to the patients and their families, as well as to the staff and volunteers.



First-year MD students Pooja Balar, Mina Ebrahimi and Jackey Tang



First-year MD students Andy Liao and Coral Caceres

Calendar

March

17 **Match Day**

May

10 **Batts Diversity Dinner**
Germantown Cricket Club
400 Manheim Street
Philadelphia, PA 19144
Contact: Bernadette Campoli, bc858@drexel.edu

12 **College of Medicine Commencement**

Kimmel Center for the Performing Arts
300 South Broad Street
Philadelphia, PA 19102
Contact: DUCOMmilestones@drexel.edu

19-21 **Alumni Weekend 2023**

Contact: Nikki Bromberg, nlb67@drexel.edu

29 **Memorial Day**

June

2 **Faculty Professional Development Day & Faculty Awards**

Queen Lane Campus, SAC Hall
2900 W. Queen Lane
Philadelphia, PA 19129
Contact: Caitlin Curcio, cak332@drexel.edu

12 **ScholarSip Featuring Nathalie S. May, MD**
"Climate Change and Sustainability"

Online event
Contact: Stacy Stanislaw, sv22@drexel.edu

19 **Juneteenth**

July

4 **Independence Day**

Ongoing

2022-2023 Population Health Spotlight Series

Nesbitt Hall, 3215 Market Street
Philadelphia, PA 19104
Monthly on Wednesdays
Contact: Rory Schonning, rs3628@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.

Janssen-Drexel 4D Fellows: Fresh Faces Join Venerated Veterans

The inaugural class of Janssen-Drexel 4D fellows completed their first year in Drexel graduate programs, capping off a successful start to their educational journey and to the entire 4D program. The occasion was marked by a 4D Fellowship event at Janssen's Spring House, Pennsylvania, facility, where the inaugural fellows presented their research progress and the incoming fellows introduced themselves to Janssen scientists.

Olimpia Meucci, MD, PhD, professor and chair of pharmacology and physiology and executive director of the 4D Fellowship at Drexel, attended the event, noting, "I enjoyed seeing the transformation of the inaugural 4D fellows after their first year in the program, and it was exciting to welcome a larger and more diverse incoming class this year."

Alessandro Fatatis, MD, PhD, professor of pharmacology and physiology and chair of the 4D Admission and Steering Committee at Drexel, concurred. "Last week's event provided an invaluable opportunity to assess how much the inaugural 4D fellows have grown — both scientifically and personally — since they joined our graduate programs at Drexel less than a year ago. All three fellows showed a sense of pride for conducting biomedical research aimed to advance human health and welfare. They presented the results of their research with confidence. Notably, all the Janssen mentors made a point

of emphasizing how impressed they were with the progress made by each of the fellows."

Janssen's 4D Fellowship event also set the stage for the incoming 4D fellows, who received a preview of the scientific and mentorship opportunities provided by the Janssen-Drexel partnership. Fatatis said, "The event had a crucial impact on the '24 4D fellows. Still getting acquainted with their new scientific and educational commitments — and for some in a new country — they could see themselves in their peers and were clearly excited and eager to start their new journey."

The incoming class includes five new fellows: Alani Hairston, Hieu Jeromy, Diego Jimenez Trejo, Zoila Moreano Villena and Nicolas Wilson. The new fellows recently started their studies in Drexel's graduate programs and began their first lab rotation in a Drexel or Janssen lab. In the future, fellows may participate in additional Janssen or Drexel lab rotations prior to beginning thesis research in their lab of choice.

Meucci expressed pride not just in the fellows, but in the fellowship program itself. "Creating the 4D Fellowship program with Fei [Shen, PhD pharmacology and physiology '17] and the Janssen Oncology team during the pandemic has been reinvigorating and a wonderful opportunity to employ the basic elements of academic science — innovation, mentorship and leadership — toward a single selfless goal. I look forward to continuing this important work and expanding the program to other therapeutic areas and academic units. The partnership with Janssen offers a life-changing opportunity to underrepresented students enrolled at Drexel and will change the fabric of the pharmaceutical industry workforce. I expect others will soon follow our visionary example."

The Janssen-Drexel 4D Fellowship is just beginning its important work to diversify the industry workforce and biological sciences more broadly. Crucially, the program has earned ample positive feedback from Drexel and Janssen mentors as well as the fellows themselves, which highlights the future potential of the 4D Fellowship. All involved are looking forward to the continued growth of the program, celebrating the first 4D graduates in 2023, and continuing to diversify the biomedical science community.



Society for Neuroscience Honors Legacy of Marion Murray, PhD

The Society for Neuroscience named Marion Murray, PhD, to the Patricia Goldman-Rakic Hall of Honor. The award posthumously recognizes a neuroscientist who pursued career excellence and exhibited dedication to the advancement of women in neuroscience.

A pioneer in the field of axonal regeneration, Murray helped establish the Medical College of Pennsylvania's Spinal Cord Research Center, which she led for 30 years.

It was and remains one of the most prominent spinal cord research centers in the U.S. and has been renamed the Marion Murray Spinal Cord Research Center in her honor. She inspired and mentored countless students, fellows and faculty members, established a world-class research program, and published more than 150 scientific articles and reviews.

Among Murray's honors were a National Institutes of Health Javits Neuroscience Investigator Award, a Fogarty Fellowship, and a Reeve-Irvine Research Award. At the time of her death in 2018, she was an emeritus professor in the Department of Neurobiology & Anatomy.

Get to Know...

What is your official title at Drexel?

I am an Academic Administrator II in the Graduate School of Biomedical Sciences and Professional Studies at the College of Medicine.

Explain what you do in under 50 words.

I provide academic support services to current students and faculty in the Biomedical Sciences and Professional Studies programs. I provide administrative support to graduate program directors. I also have some responsibilities related to the recruitment process of prospective MS and PhD students.

Who do you interact with most on a daily basis?

Daily, I interact with prospective students, current students, faculty and my colleagues. My interactions with students mainly relate to course scheduling concerns, student billing questions and academic issues. Faculty interactions usually involve developing student communications, completing reports and student class registration information. In addition, I work with my peers to provide adequate support to help resolve any issues and questions faculty and students may have.

What is your typical day like?

At least a third of my day is spent responding to admissions and enrollment questions via email. Usually, the fall and winter season is heavily devoted to recruitment, consisting of many communication points with prospective students and a significant amount of time planning and executing PhD program interview logistics. I also spend a good deal of time organizing our monthly committee meetings, documenting meeting minutes, editing our annual dean's report and compiling information from our students' progress reports.

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

My work fits the big picture of the College's mission because students need a support system. Students often feel uncertain or overwhelmed by unfamiliar circumstances. We provide the support they need by helping them access the resources available. Any time a student has a question or is lost about a process or procedure, we are there to support them. We do everything we can to assist them or connect them to the person who is able to. Additionally, they need to have someone they know they can count on, someone who will do their best to resolve their academic problems or refer them to the correct person to do so.

What are your favorite and least favorite tasks?

My favorite part of my job is helping students resolve issues with class registration or their billing statement. I enjoy complicated tasks and problem solving, figuring out solutions to application issues and uncovering the root of the problem. My least favorite task is completing meeting minutes because it requires attending the meetings and then listening to recordings multiple times to ensure the minutes are comprehensive.

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

I graduated with a Bachelor of Science in Agribusiness Management from Penn State University in University Park. During my undergraduate studies, I always held work-study jobs. These ranged from working with preschool children to working at the University Bursar's Office. I also worked at the student activities center and the student cultural center. In addition, I served as a resident assistant. After completing my bachelor's degree, I worked at the University of Pennsylvania for seven years providing administrative support to students, and at the Perelman School of Medicine as a diversity and inclusion recruitment coordinator.

Throughout my career, I have always provided student (customer) support services and have been tasked with problem-solving, which has been a blessing for the field of education. These skills have equipped me with the tools needed to succeed as a resource for students.

Currently, I am enrolled as a non-matriculant student at the Drexel School of Education. I intend to apply to the MS program in Human Resource Development with a concentration in Higher Education Leadership.

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

Before the pandemic, I used to work several days in Center City, where I usually bought lunch. My colleague and I were obsessed with Sweet Green, so we usually would treat ourselves to that. However, I spend most of my time at Queen Lane, and with the limited food options, it is better to bring lunch.

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

Outside of family photos and artwork from my kids, Claudia and August, I keep earrings in my office. I feel weird without them so in case I forget them at home I am always prepared.



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Celebrating the Health Sciences Building



On December 7, 2022, the Drexel community gathered for a ribbon cutting and celebration of the ceremonial opening of the new Health Sciences Building in University City.