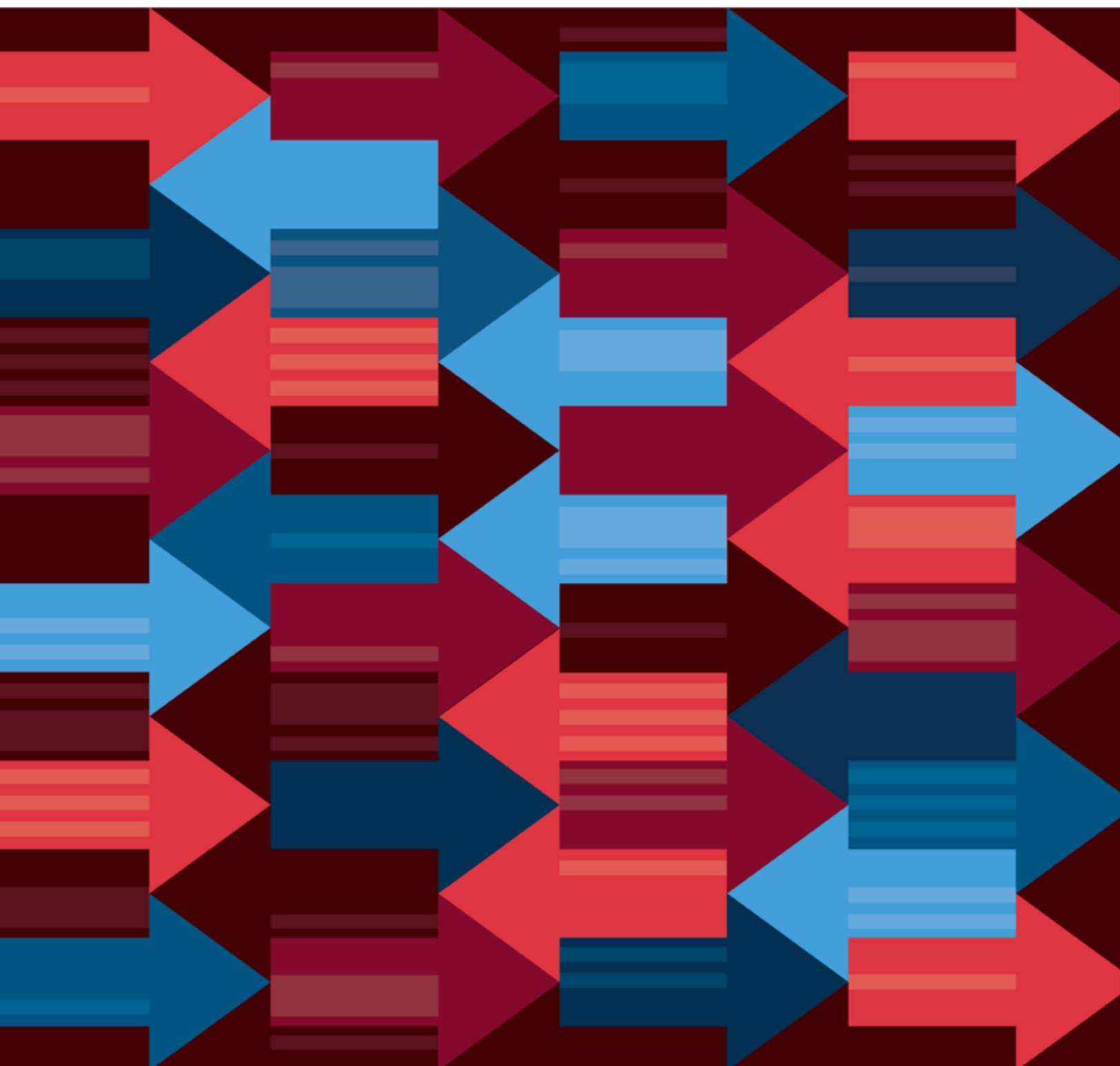


2025

Hypothesis

School of Graduate and Postdoctoral Studies



ROSALIND FRANKLIN UNIVERSITY *of* MEDICINE AND SCIENCE



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OUR FOCUS ON **CHANGE**



In 2013, the theme of the first issue of *Hypothesis* was "Change." This theme was intended to call out the central change in graduate education and training from a mentor-based apprenticeship model to a mentee–mentor-based model with the mentee as the focus of education, training and career development. Specifically, the issue highlighted a number of changes in SGPS over the previous two years.

School of Postdoctoral and Graduate Studies developed and launched its first multi-year Strategic Plan, installed the Teaching Scholar Program, developed the Career Enhancement and Development Program for graduate students and postdocs, and started the Grant Incentive Programs for SGPS trainees. The SGPS mission, vision and values were established to define the future of SGPS. These statements and values have been the lighthouses guiding our progress. Importantly, SGPS reframed the purpose of graduate education within a culture that is student-focused, with particular attention to individual student success during graduate school and beyond. SGPS was an early adopter of the use of Individual Development Plans (IDPs) to provide graduate student self-assessment tools and help formulate their own expectations for graduate school and career goals. The school was one of the first in the country to implement the use of graduate student competencies for professional growth. These include proficiencies in communication, leadership, responsible conduct of research, as well as research skills and discipline-specific knowledge.

To provide evidence and understanding of the progress of the Graduate School in meeting its mission, robust tools and processes of program self-assessment were installed. The data served to inform SGPS how to best foster success of our students. Such data reshaped our required first-year curriculum and prioritized our strategic initiatives. The results indicate improved student satisfaction and success. In 2011, only 67% of students indicated that they would repeat their degree choice and do so in SGPS. At that time, only 55% of students rated their experience in SGPS as very good or excellent. In 2025, 90% of students would repeat their degree in SGPS, and 81% rated their experience as very good or excellent.

Part of this satisfaction may be reflected by SGPS' time-to-degree and retention rates. Over the past five years, doctoral students have earned their degree in 5.7 years, on average. This is below the national average of 6.4 years for students in biological sciences. Over the past three years, doctoral students' retention at year 3 of the degree program has been 100%, far above the national average of 79% for first-year retention. Overall, these metrics speak not only to attention to individual student success, but a pervasive culture that prioritizes the individual student as a student–scientist while advancing cutting-edge research.

Against the ever-changing environment of biomedical research and graduate education, SGPS will certainly continue to change and evolve to ensure the success of our students and maintain the highest quality of its academic programs. With exceptional graduate school faculty, staff and students to inform, advise and lead SGPS into the future, the School of Graduate and Postdoctoral Studies is very well-positioned to meet the challenges of the future and excel in our shared and individual "Life in Discovery."

With the most sincere and heartfelt recognition to all who have contributed to our school,
Thank You!

Joseph X. DiMario, PhD

Dean, School of Graduate and Postdoctoral Studies



TAYLOR LYONS

First-Year Student

A Whole New World

When she started her college journey, Taylor Lyons thought she had only one path forward: she was aiming for medical school, locked in on a clinical career trajectory. But on that clinical pathway, her first taste of bench research changed the course of her life.

“The experience of running an experiment, failing and failing, and the adrenaline rush of finally getting it to work — that was something I’d never experienced before. The rush of figuring it out, solving the puzzle, as opposed to memorizing what’s already known — I fell in love with that.”

Taylor’s path to SGPS started at Lake Forest College, where she had the opportunity to participate in the Summer Intern Scholarship Program and learn directly from Primary Investigators among SGPS’ research faculty. “My first project was developing a confocal protocol for the lab to update theirs, which was out of date. My whole summer was figuring out what was wrong and updating it.” That troubleshooting process fascinated Taylor, and she fell in love with the dual engagement of working with her hands to learn lab techniques while challenging her mind with novel problems.

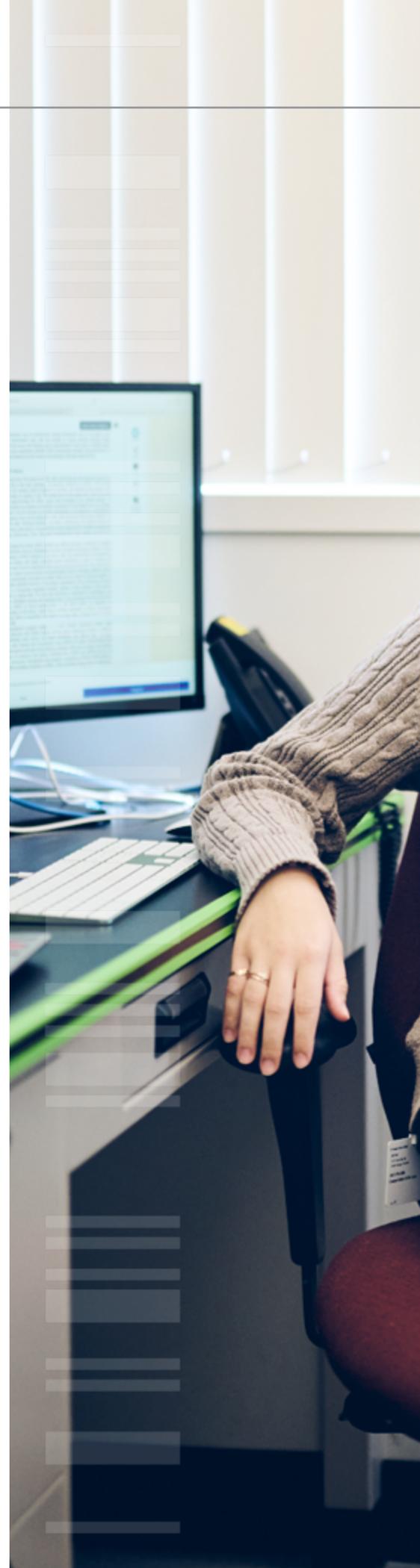
She eventually transitioned to the role of lab technician, and it was the best possible training to determine whether the PhD path was right for her. “Nothing could prepare me more than being in the lab and getting my hands busy. You don’t know what you’re getting into until you do it. Getting your hands dirty, working around problems —

something always happens, and then you’re stuck there figuring out what to do when the protocol fails. How do I improvise? You have to think your way out of it.

“But slowly I started wanting more; I wanted to take on a bigger role, to do experiments and learn flow cytometry. It’s one thing to do a task, learn it and not have to think further about it. But learning about the fundamentals of what you’re doing to create an experiment, gather data, analyze it, get results and determine what they mean — that’s a whole new world!”

Now a first-year student at SGPS, Taylor is embracing the change within her research rotations and taking on the role of First-Year Representative within the Graduate Student Association. She hopes to connect with the larger community and find ways to support her cohort as she learns the ropes. “We’re in the drafts phase for now. First-year representative is a smaller role, which I don’t mind, because I’ve never been part of a student body organization before. I tend to stick to my own corner being happy doing my own thing, but I think it’s important to create community and be around my peers and help them, especially in a small school. I’m looking forward to doing all I can for them.”

Whatever comes over the horizon, Taylor came to SGPS with a love of troubleshooting and a willingness to face any challenge. Each rotation, project and student request is an opportunity to improve the protocol, building a better paradigm for everyone.



“It’s so easy to be lost in the data itself, but I want my work to be significant, to impact people, to help people.”

Finding the Flow

In her current rotation, Taylor is working on a review paper and studying malaria comorbidity in virally-induced cancers. Beyond the foundational knowledge of her coursework, Taylor is also grappling with the eternal questions of relevance, significance and how to communicate the value of her work to the world.

“It’s so easy to be lost in the data itself, but I want my work to be significant, to impact people, to help people. Finding a project that does that is important to me. I’m also learning how to structure my data in a meaningful way. It’s easy to just throw everything on a paper, but it takes skill to make it cohesive and legible, flowing from one data set to the next, so someone who has never touched my work before can easily follow the narrative of my work.”





LYZZI STOLARIK

Second-Year PhD Student, Neuropharmacology



“I fell in love with each of my projects. It showed me that it didn’t actually matter what the project was, I could fall for it.”

The Path of Empathy

Far from the traditional calling to bench research, Lyzzi Stolarik's first love was working with patients experiencing mental illness. After completing her undergrad in clinical psychology, she worked at a residency with a caseload of 30 residents in group and individual therapy, charting individual needs for those whose schizophrenia or bipolar disorder prevented them from living independently.

In caring for her residents, Lyzzi developed an abiding interest in the neuroscience behind their behaviors. "There's only so much we can do currently with therapeutic efforts, and to create lasting effects and understanding I became more interested in neuroscience. I would see people go from a catatonic state to high functioning and vice versa with a medication change; without a thorough understanding of these drugs it's hard to treat these things."

Pursuing that greater understanding, Lyzzi fell into a volunteer role at the biotech startup Creative Biotherapeutics. There she was introduced to bench research with preclinical cancer *in vitro* studies on pediatric glioblastoma. She supplemented her learning with online tools, code academy, YouTube videos, scholarly articles — every foothold available to enhance her climb into the world of research. Her volunteer role became a full-time research science position after the company earned NSF SBIR Phase I and II funding. Lyzzi dove into immunotherapy research on SARS-CoV-2 and the cognitive effects of Long COVID; that work confirmed for her that it was time to pursue further education.

Chasing her initial vision, Lyzzi joined her IGPBS cohort and began exploring new research opportunities through the lab rotation process. "I enjoyed the lab rotation experience, I truly did. I fell in love with each of my projects. It showed me that it didn't actually matter what the project was, I could fall for it. So it was more important to choose the mentor. Picking the mentor was crucial. I had a really tough time deciding, but I'm really grateful I chose the lab I did."

Now that she's completed her first year, Lyzzi has begun her own project in neuroscience and neuropharmacology in the lab of Dr. Amiel Rosenkranz. The research uses all new models and techniques from her previous work, but that only fills Lyzzi with the joy of new discoveries.

"I'm investigating underlying empathy pathways in a rodent model. We use a knockout model implicated in autism spectrum disorder and schizophrenia, both of which have dysregulation of empathy as symptoms. In a fear context, we're using odor pheromones for an individual rodent to distinguish sense of self-smell versus other-smell, and how a stress pheromone — your own, or a predator's, or another rodent's — how those things play out in the brain. We're investigating whether it's the same pathway or parallel pathway or otherwise."

Lyzzi is now investigating the underlying mechanisms of the same mental health challenges her patients experienced during her clinical work. Motivated by curiosity and compassion, Lyzzi will continue to chart her own course and find new ways to help patients the deeper she dives into the mysteries of the brain.



Clarity in the Community

Though the world of research is in a tumultuous time, Lyzzi is reassured by the camaraderie she shares with her lab and her SGPS cohort. That open communication has defined her experience at RFU: "Don't be afraid to say, 'Where are things going, where do we stand?' Ask for clarity and transparency, not just in the lab but the whole university. We're in a good place here; everything's changing, but we'll move forward together. That's a source of peace and comfort, at least for now."

"Still, don't let anything fester. When in doubt, talk it out. If you need to get anything off your chest, find the right person to talk to about it. I have a wonderful cohort full of completely different backgrounds, personalities and research interests. Navigating the first year together really helped. Talk to your peers, to faculty and the Dean's Office! They can't help you if you don't share with them."

JORDAN VILLA

MD/PhD Neuroscience Student

Finding Your Voice and Lending an Ear

Jordan Villa was ready to dive into organic and medicinal chemistry, hoping to spend his life pursuing pharmacological research ... but just as he entered his undergrad lab, the COVID-19 pandemic stopped everything in its tracks.

“COVID was basically the peak of my college time. I’d just gotten my feet wet in the lab and then they sent everyone home. I was pretty bummed about missing that opportunity. But in the pandemic, I ended up working at a hospital and vaccine clinic, and I loved the patient care side of things.” Though he had planned to enter graduate school immediately after undergrad, his newfound love for patient care inspired Jordan to chase a career that would allow him to use both his skill sets. “The combination of the two really appealed to me, so I threw myself into the long road of the combined MD/PhD degree.”

Despite a turbulent research environment, Jordan has confidence in his path forward due to the unwavering support of his lab members, especially his mentor. “Dr. Stutzmann is incredibly supportive. If we need something, she will make it happen. She’s also a very good advocate; many of us want to stay in academia and right now is a very discouraging time to have that as a goal. So she sat down with us, advised us on how to navigate this time and how to bounce back. She encourages us to not give up on our goals. She told us, ‘You should do what you want with your PhD, you’ve worked hard for it.’”

Dr. Stutzmann strongly encourages presenting at scientific conferences whenever possible, catalyzing the greatest moments of growth and change for Jordan

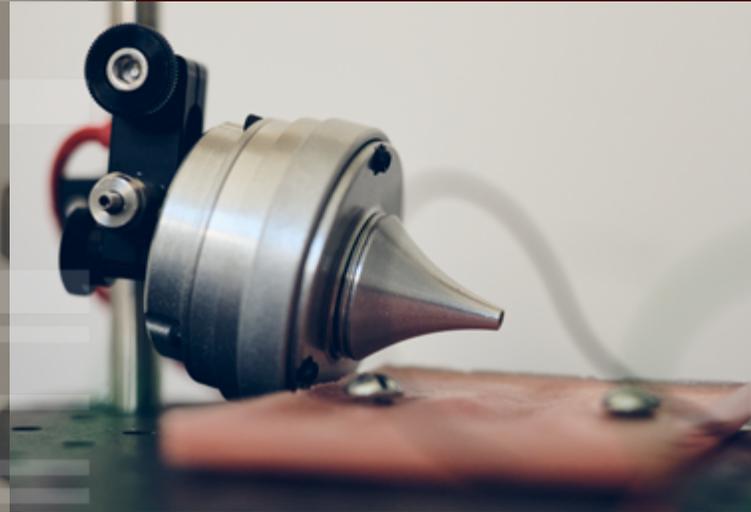
since coming to SGPS: in his first year, Jordan presented at the 2025 Midwinter Meeting for the Association for Research in Otolaryngology.

“I met a lot of big players, both MDs and PhDs. Because I do work on otitis, someone recommended that I submit a poster for the Symposium in Advancements in Otitis Media. I applied, and they actually invited me to speak! I gave a speech regarding the Birefringence changes in the eardrum and how we evaluate structural damage and ruptures. But because I went alone, I had to network alone, too. So I had to just go up to people and say, ‘Hey, I’m Jordan, look out for me in a few years.’”

Currently, Jordan is focused on a human study project exploring how artificial intelligence and machine learning can be implemented in medicine, creating a standardized database for machine learning models to determine the best use cases for new otoscopy technology. “A lot of people have explored otoscopes looking at the eardrum, taking images and video and determining what is normal or abnormal. I think that’s a very cool thing for a computer to be able to do; however, at the end of the day, I think people are not acknowledging that the doctor still prescribes or makes decisions. So many people have made models, but it’s not helpful if we don’t determine, together, the quality standards and application process.”

In pursuing these questions, Jordan is shaping the future of medicine through compassionate patient care and data-driven improvements in imaging.





Why Take the Long Road?

"I get asked so frequently at conferences, 'What can you do with the combined degree that you can't do with just the MD?' I think that's a completely fair question! But I'm really interested in biotech and device development, and this allows me to learn both the process of developing a device and implementing it for humans, but also getting IRB approvals, creating forms, the whole logistical side of things that's really important.

"You have to love science and the questions you're pursuing, or you'll have a very rough time. And make sure that you have emotional and physical support! Talk to the people you love and trust, make sure that they support you. And pick a mentor who supports you! Find someone who will not only push you to learn new things but will allow you to explore."

"You have to love science and the questions you're pursuing, or you'll have a very rough time."

CHRIS KYWE

Third-Year Student, Microbiology
and Immunology, Graduate Student
Association President Emeritus



“As long as I come into a discussion with some scientific reasoning, she’ll (Dr. Sharma-Walia) hear me out and give my ideas a chance to flourish.”

Adapting to Autonomy

Amidst premed undergrad courses and night shifts at a bustling hospital, Chris Kywe realized that his solace was at the bench as a lab volunteer. “I was working with *C. elegans*, looking at how genetic differences affect survival following bacterial infection. The highlight of my time was going to the lab every day, picking up millimeter long worms, reading scholarly articles and getting to know my lab mates.” Chasing the work where he felt the most fulfilled, Chris applied to SGPS directly out of undergrad.

Through a variety of lab rotations in his first year, Chris had to rewire his thinking from the task-oriented mindset of an undergraduate volunteer to the autonomous work of a PhD student. In the end, he selected the lab of the PI who challenged his thinking the most: Dr. Neelam Sharma-Walia.

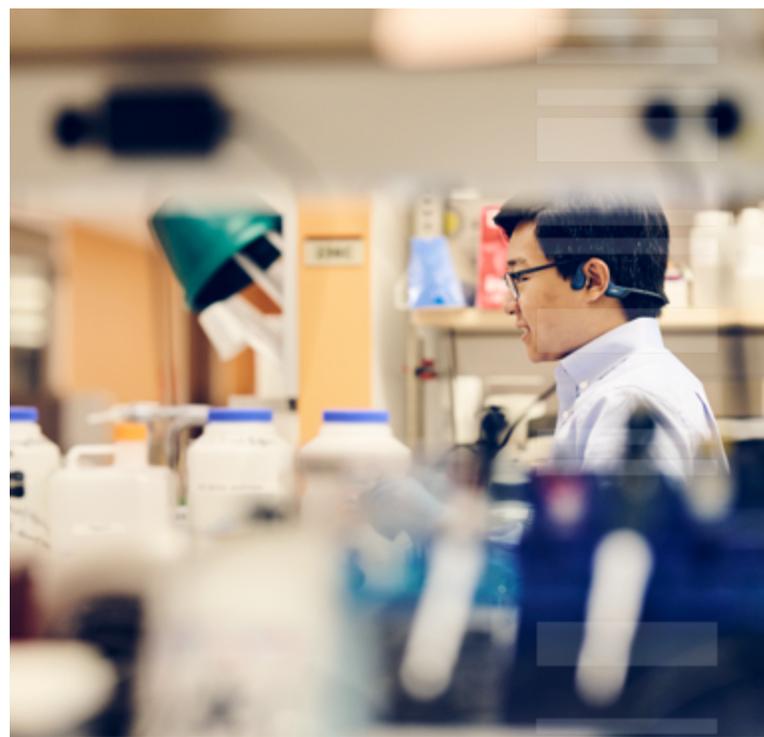
“I was used to the PI’s word being law, with a lot less autonomy. With Dr. Sharma-Walia, she was more interested in priming my brain as a scientist rather than teaching techniques. It’s more about asking ‘why are we doing this, why use this technique?’ and seeing how my own limited knowledge and biases influence the type of questions I ask. She treated me more like a colleague than a subordinate. The balance of power was completely different.”

Chris is now engaged in every aspect of his own project, from initial conceptual ideas to experimental design and data analysis. It’s forced him to level up his discipline knowledge and lab techniques as he pursues new questions. “I wanted to study human-related pathogens, and my interests shifted from basic biology and genetics to the development of disease and host-pathogen interactions. So I went from knowing a lot about worms to knowing very little about cell culture. Turns out, cells are a lot different (and harder) than worms: you can manipulate gene expression, protein, RNA, and this lets us ask much more complex questions.”

In the midst of a challenging and competitive environment for grants, Chris’s mentor has adapted and sought new avenues for funding to support their work. “Dr. Sharma-Walia’s broadening the scope of her research. She’s interested in B-cell malignancies affected by KSHV, but when she applied to expand that grant she encountered difficulties despite good reviews. So in the meantime

while revising her R01, she’s expanding her scope of research, thinking about ways KSHV affects other cells in the body. She’s now looking into how KSHV can affect cardiac endothelial cells, and was able to get funding through RFU’s focus on cardiac research. Engaging with the NIH is increasingly difficult, but she’s found a way to support the lab through internal grant funding at RFU during that process.”

A solid mentor-student relationship can be absolutely transformative, and working with Dr. Sharma-Walia has permanently changed how Chris sees himself as a researcher. “She doesn’t treat me like a minion; she treats me as someone whose opinion is valuable. As long as I come into a discussion with some scientific reasoning, she’ll hear me out and give my ideas a chance to flourish. I don’t know where my brain would be without her mentorship and the conversations we’ve had.”



The Third-Person Perspective

Chris is preparing to take his candidacy exam; as he steps into his role as an independent researcher, he reaches for an outside perspective. “Analyze your own data as critically as possible. Identify the weaknesses — if you can identify them, a committee member will as well! Take a third-person perspective and remove any sort of attachment, rather than being precious about the data you’ve collected.

“For example, one of the cell lines I’m working with is a monocytic leukemia cell line. These cells are a model

for monocytes, a subset of circulating white blood cells. To do studies with them, I have to differentiate them into macrophages. Macrophages are a more mature cell type that protect organisms against disease-causing agents. For me, it’s natural to convert one cell type to another. However, someone might wonder why you would bother differentiating them. When you can identify these logic gaps, it becomes much easier to prepare.”



SAM GATESY

Fourth-Year Student,
Biochemistry and Molecular Biology

Battling with Batten

Sam Gatesy has always been fascinated by the simple act of crafting a question and chasing the answer. “Asking the question is the puzzle I enjoy most. My problem is that I ask a million questions, and you should really focus on just one or two. But I most enjoy asking the question and building up the base of knowledge to try to answer it. You can’t always answer it, but at least you have a new direction to pursue.”

Sam cut his teeth on research at Northwestern University looking into infectious disease and molecular diagnostics. “I was focused on molecular mechanisms of antimicrobial resistance. That gave me an opportunity to learn the whole process — question, experimental design, analysis, as well as communicating results and connecting with the scientific community.”

Continuing to chase his eternal questions with new tools in his kit, Sam’s research led him to SGPS. After completing his first-year lab

rotations, Sam found a new home in the lab of Dr. David Mueller; there, he and his new lab mates investigate the structure and function of the gene product detected in the juvenile form of Batten disease.

“I think my transition into the Mueller lab was kind of like seeing an old friend again. My background is in prokaryotes and bacteria; I had to switch to a eukaryotic mentality and I was not terribly familiar with that biology. So it was a paradigm shift, but the Mueller lab works with yeast, so the methods were very similar to the ones I used on bacteria previously. That helped me ease into the research. I’m using tools I’ve used for a long time, I’m just applying them in a different setting. And I’m learning new tools as well — you never stop learning new stuff!”

Now a fourth-year graduate student, Sam is preparing for his candidacy exam, taking time each day to gradually dissect his work to share with his research committee and the SGPS community.



“Asking the question is the puzzle I enjoy most. My problem is that I ask a million questions, and you should really focus on just one or two.”

“My strategy, since I’ve never had to do anything like this before, is just to do a little bit at a time. Work at it, chip at it each day. More than anything else, doing the research and writing for the exam, I actually understand the work that I’m doing for this project much better than a few months ago. Quite often, someone enters a lab and is given a project, and they don’t necessarily grasp the necessity or importance of it right away. Writing and preparing for this exam has really deepened my understanding of my work and its impact.”

When faced with a challenge like the candidacy exam, Sam recommends a combination of flexibility and humility. “Everyone approaches a topic differently, they study differently, retain information differently. Find what works best for you. Remember that you don’t know everything; stay humble and find what works best for you. I don’t expect anyone to remain static. You’re going to be changing, and everything around you is changing. No matter what challenge you’re facing, approach every day with that open mind.”

Hope for the Future

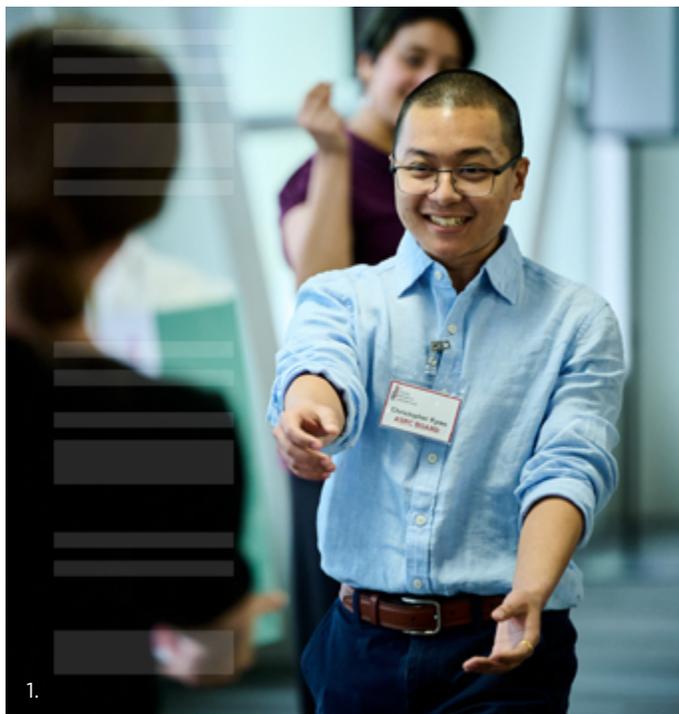
Having previously worked in a children’s hospital in Atlanta, Sam’s research has long focused on improving outcomes for pediatric disease. In the Mueller lab, his focus is on Batten disease: “I’m trying to define the regulation of the yeast homologue of the gene CLN-3, which causes Batten disease — and by defining the regulation of how the gene is normally expressed, we hope to define its role in normal cellular physiology. There’s no current cure or treatment, and the patient stories and images are heartbreaking; these children develop normally and then suddenly crash. And because I have two young daughters of that age, it’s impossible not to project and see the impact this would have on a family. It’s devastating.

“The fact that I’m doing research into a pediatric disease that may yield therapeutic targets down the road — that’s what’s most exciting, most compelling for me. It gives me the warm fuzzies when it doesn’t absolutely tear me up inside.”





ASRC CELEBRATES 20 YEARS



RFU marked its 20th Annual All School Research Consortium (ASRC) on March 19 with a robust showcase of research excellence and interprofessionalism. This year’s event featured more than 80 research posters representing the work of RFU students and postdoctoral trainees from all six RFU colleges and schools, as well as resident clinicians and undergraduate interns.

ASRC serves as an important milestone in students’ personal and professional development. Preparing and delivering a poster or oral presentation to a wide range of audiences is a crucial part of communication skills development, and ASRC is a prime opportunity for students to demonstrate their abilities as effective science communicators. RFU’s Graduate Student Association puts together the entire program, giving student organizers valuable insights into planning a scientific conference.

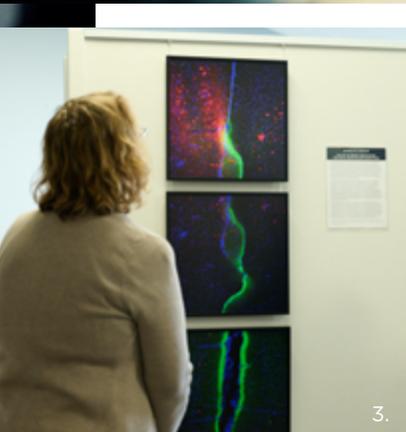
“ASRC 2025 was my first experience of the event as a new student, and it was very inspiring to see such a wide range of research on display. Being the marketing intern and working behind the scenes taught me how much planning and coordination it takes to make this showcase run smoothly. It also gave me the opportunity to connect with students from diverse research fields at RFU,” said Khushi Tekale, SGPS ’29, member of the ASRC 2025 organizing committee.



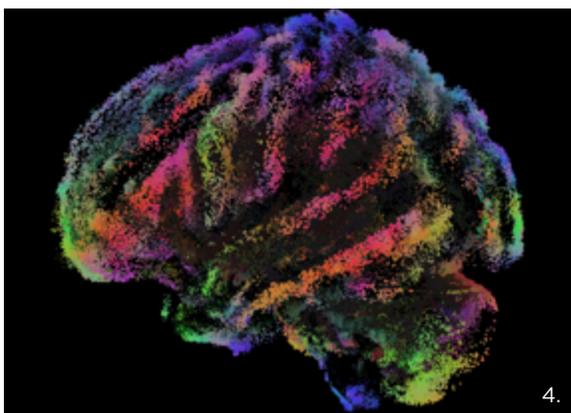
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Event Highlights

Keynote speaker Saef Izzy, MD, FNCS, FAAN, associate professor of neurology, Harvard Medical School, and associate neurologist, Brigham and Women's Hospital, started the day with the presentation, "Targeting CNS Neuroinflammation in Acute Brain Injury: A Novel Approach to Promote Recovery." The keynote was followed by three concurrent scientific symposia presented by students and postdocs, as well as the poster sessions. The day concluded with an awards ceremony and the opening of the annual "Art from the Benchtop" exhibit, a diverse and illuminating selection of creative works produced during or inspired by research being conducted at RFU.



3.



4.

Save the Date!

21st Annual ASRC

Wednesday, March 18, 2026

1. Christopher Kywe receives an ASRC Board appreciation gift from SGPS
2. Dr. Saef Izzy delivers keynote speech
3. A guest admires a display at Art from the Benchtop
4. "Neural Constellations: Connecting the Dots" Shawn Flanagan, PhD

ASRC 2025 AWARD WINNERS

ASRC Best Research Talk Awards

Chicago Medical School: Sonya Grewal, CMS '28

College of Health Professions: Amanda Messerlie, CHP '27
(Psychology)

College of Nursing: Oyetunji Okunola, DPN '25, CRNA

College of Pharmacy: Oluwatobi Akinsanya, COP '26

Dr. William M. Scholl College of Podiatric Medicine:
Nandini Sarup, SCPM '27

School of Graduate and Postdoctoral Studies:
Wacey Gallegos, SGPS '26 (Neuroscience)

2024 Best Research Poster Awards

Chicago Medical School: Iswarya Vimalan Jeya, CMS '27

College of Health Professions: Em Shea, MS '25
(Clinical Counseling)

College of Nursing: Maire Nakada, DNP '25, CRNA

College of Pharmacy: Andrew Tener, COP '26

Dr. William M. Scholl College of Podiatric Medicine:
Brennan Donovan, SCPM '27

School of Graduate and Postdoctoral Studies: Carolina
Calôba, SGPS '26 (Microbiology and Immunology)

Resident/Postdoc: James Estaver, MD (Psychiatry Resident)

Undergraduate Research Intern: Minal Mohammed

SGPS EVENTS

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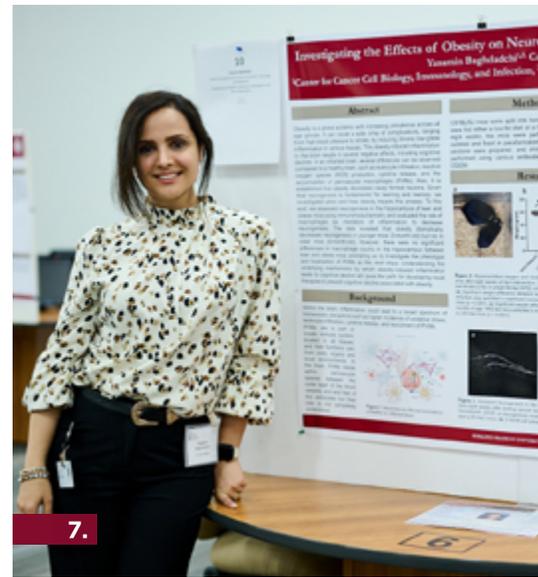


2.



3.





1. Oly Khowash (middle), Altered Perspectives Exhibit, March 2025
2. Wacey Gallegos and Dr. Robert Intine, ASRC 2025
3. Viral Mistry, PhD '25, RFU Commencement 2025
4. Khushi Tekale, Barbara Dos Santos, LP Adhikari and Lyzzi Stolarik (left to right), SGPS Picnic 2025
5. Chris Kywe (middle), St. Baldrick's Fundraiser, March 2025
6. Dr. Joseph DiMario, Michael Reese Fundraising Dinner, March 2025
7. Yasmin Baghdadchi, ASRC 2025
8. Oly Khowash (third from left), Altered Perspectives Exhibit, March 2025

BRIAN FOX, PhD

Postdoc in the Center for Lower Extremity
Ambulatory Research (CLEAR)

Research By People, For People

It was only at the end of his undergraduate training as a kinesiology major that Brian Fox heard the call to a career in research. His background in exercise science set him up for a different future, but he knew he belonged in the rigorous world of science. “I enjoyed the science of the human body and how exercise improves health, but in that last year I realized I wanted to do research forever. I made that discovery just a little too late in my undergrad career, so it felt like I had missed the bus.”

Not to be deterred, Brian carved himself a new path through a master’s program in biomechanics and then a PhD in kinesiology with a concentration in cognitive and motor neuroscience. “My PhD journey was a whirlwind; I got accepted in December of 2019. The first year was completely remote. We weren’t allowed to be in the lab and human subjects research was completely shut down. It was a year spent in my apartment brainstorming what I would do once I could come back to campus. For the rest of the time it was making up for that lost year where I couldn’t be doing anything hands on.”

Now a postdoc in the RFU Center for Lower Extremity Ambulatory Research (CLEAR), Brian is doing the work he dreamed of back at the start of his journey. “It’s been such a joy. All of my graduate level research was done on a proxy population; I didn’t have access to the population I was interested in working with. Part of the draw of being at RFU was the chance to participate in research with veteran populations and lower extremity amputees. Within the first month and

a half of starting I was working directly with lower extremity amputees and going through the data collection process with them.”

The opportunity to work closely with populations directly affected by his research has filled Brian with new passion and fulfillment. “Being able to just talk about anything with our participants, how these issues directly affect them and their loved ones, it means a lot.”

That human connection has been one of Brian’s biggest catalysts for growth as a researcher, providing new insight into the direct impact of his human subject work. In the CLEAR research labs, each member works together to ensure the broadest impact in their work, crafted to accurately reflect the population.

“From the first lab meeting I attended after being hired, it was very clear how dedicated everyone here is to continue doing quality research and making sure that that research is indicative of all persons and populations. It’s made me more in tune with my own biases and allowed me to explore aspects of research I wouldn’t have initially considered. Recruitment is a big one. We always strive for science that is applicable to everyone, regardless of who you are or where you come from. So familiarizing myself with barriers people from other backgrounds might have to engaging or participating in research or any combination of the two is continually making me a better researcher.”



“We always strive for science that is applicable to everyone, regardless of who you are or where you come from.”

The Path Is CLEAR

Entering a new stage of his research career, Brian is focused on growing and adapting to a new paradigm and greater responsibility. “The PhD teaches you how to do science, and the postdoc teaches you how to be a scientist. I’m tackling the nitty gritty details that I never considered as a student. The science is not just ‘participant comes in, does study, participant leaves.’ There’s so much more that comes before and after; I’m getting in touch with that as I become an independent researcher. Now, questions fall on me and I’m learning to take charge and make the decision.”

Dr. Fox reassures current graduate students that the training they’re receiving now will prepare them for that transition ahead. “Once you get to the point where you are making calls, you have it in you. Trust yourself, remind yourself: I know enough, I can make the right call when needed.”





AMIEL ROSENKRANZ, PhD

Cellular and Molecular Pharmacology Faculty

Flexible Mind, Tenacious Heart

Between parsing minute changes in the amygdala during learning in animal models, examining how stress changes social and anxiety behaviors, and serving as director for the Brain Science Institute, Amiel Rosenkranz, PhD, still miraculously finds time to serve as the primary mentor for SGPS students. Dr. Rosenkranz has mentored many students in neuroscience and pharmacology since he first came to Rosalind Franklin University in 2007. Given time to observe a wide variety of trainees as they came to flourish in his lab, Dr. Rosenkranz has come to appreciate their individuality more with each new relationship.

“There’s a couple of things I learned along the way. One is that no matter how much I might love this, for my students, it’s only part of who they are. They’ve got so many other things that compete for their time and their interest, and that’s okay. I try to remember that my expectations have to be aligned with the student’s expectations, and of course the program’s expectations. That’s something that I’ve understood more over time.”

Those unique ways his students engaged with their work in his lab — and the wider world — did more than open up new avenues of research at the bench. They also helped Dr. Rosenkranz become a better mentor as he grappled with their specific needs and came to know them as people.

“I was surprised that there isn’t a template for what works. Not at all. I thought I knew what I was doing until I had one grad student that really made it clear that she wasn’t getting what she needed from me as a mentor. We were able to fix that, together. That was the first time I really worked with a grad student to make sure I was giving them what they actually needed as opposed to what I felt they needed.”

This past year, Dr. Rosenkranz’s lab gained two new students. As a mentor, his greatest joy is providing encouragement and resources as they pursue their own hypotheses in wildly different but equally fascinating directions. “I’d say both of the graduate students have come up with really exciting ideas. One is about processing of social information in an autism

model, and the other is about how epilepsy can change our circuitry of mood. Two very different, very neat questions that are very testable, and I’m really excited to see what direction we’ll go for both of those. Either way, the results will be really fun and both students will get the chance to discover something really new that no one has explored before. I’m excited for me and for them.”

In a field where the ultimate goal is change — a change in our understanding of the world — Dr. Rosenkranz encourages his students to be bold and tenacious in pursuing their ideas: “As much as possible, try to keep an open mind. What we believed 10 years ago we laugh at now. Very often, it’s been graduate students that have posed ideas that we laughed at before they turned out to be right. Be flexible. If you’ve got a great idea, be persistent.”



“As much as possible, try to keep an open mind. What we believed 10 years ago we laugh at now.”

Joy and Grace to Carry On

Having spent his life studying stress and its impact on the brain, Dr. Rosenkranz is quite familiar with the rigors of research and the resilience it requires. But for him, that work is easier in good company. “It’s about the people. It’s simple. There’s such a wonderful environment here, people that I love talking to, and they’re very fun to work with, which makes everything so much more enjoyable.”

Beyond the camaraderie, Dr. Rosenkranz believes deeply in the work his lab is doing to lay the foundation for a kinder, healthier future.

“One thing that helps is believing in the significance of what we’re doing. Just really believing that even if I might not find a cure for depression, what we’re doing can get us closer. And with that, trying to give myself some grace. It’s okay to take time off, reflect and restart. I’m really fortunate that I’ve got a fantastic wife and kid that help me there.”



ERIN HOWE, PhD

Biochemistry and Molecular Biology Faculty

Chasing the Challenge

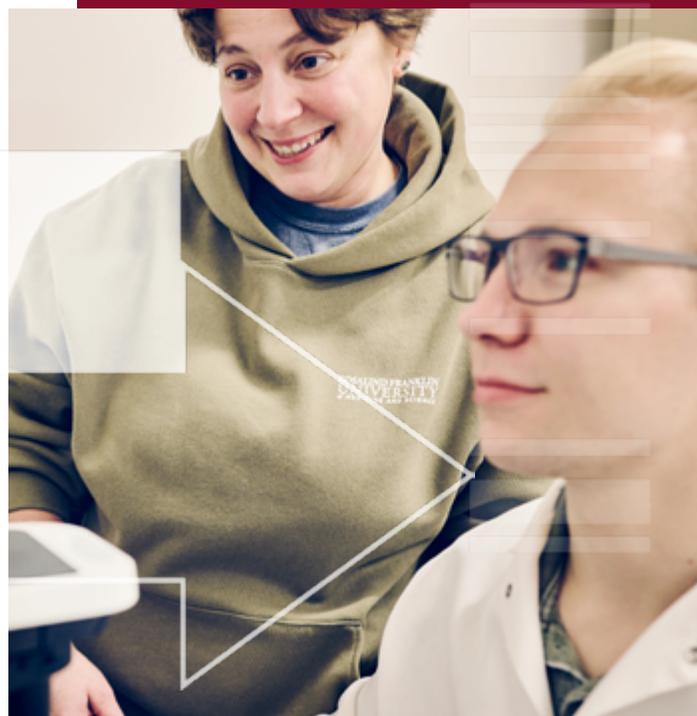
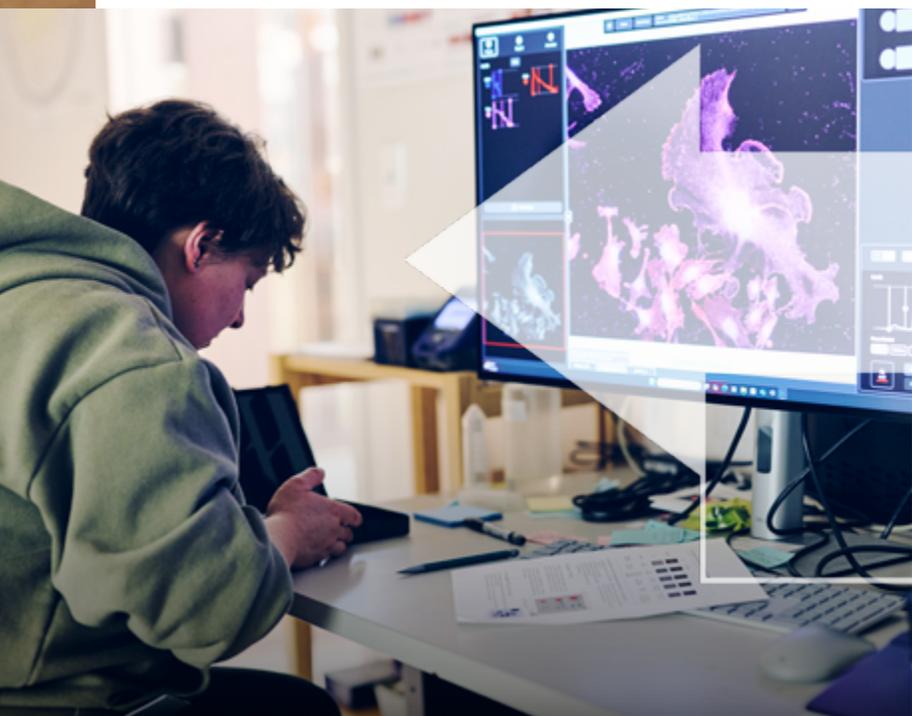
Growing up, Dr. Howe dreamed of being MacGyver — solving complex challenges and crafting the right tool to address any problem. Everything was going according to plan, hopping from undergrad in mechanical engineering to graduate work in aerospace engineering. But when her father was diagnosed with metastatic melanoma, her proclivity for problem-solving permanently changed directions. “He first had a stroke, and was diagnosed with brain metastases. So I went to work on that problem instead. I was crazy lucky because the University of Colorado had just started a cancer biology program. The director started as a physicist and didn’t think it was weird that an engineer wanted to join his program.

“My grad research focused on cancer initiation and the acquisition of an invasive phenotype. I always wanted to study metastasis; it’s largely responsible for the morbidity and mortality of cancer.

It’s also more difficult to do, and I love a challenge. My lab members aren’t scared of difficult science.”

True to form, Dr. Howe hit the ground running the moment she arrived on Rosalind Franklin’s campus. Seeing all the expertise available to students through recent faculty hires, she worked with her new colleagues to create a new course: Molecular Basis of Disease, an elective for Biochemistry and Molecular Biology, Cell Biology and Anatomy, and Microbiology and Immunology students.

“Because we had this critical mass of junior faculty, the goal was to put together something where everyone could highlight their areas of expertise and the recent developments, upcoming ideas and technologies in their fields ... teaching about spatial sequencing, single-cell sequencing, barcoded antibodies and other new concepts.



“Everything is teachable, as long as people have a willingness to learn.”

“When you’re thinking about experiments for your projects, if you haven’t been exposed to these new technologies it’s difficult to incorporate that into your work. So the goal was to open these doors for the students to integrate concepts into their research.”

The course will be offered for the first time this year. In the meantime, Dr. Howe’s lab continues to grow, gaining new students each year. When looking for new lab members, Dr. Howe prioritizes drive and curiosity, just as her own mentors did. “Everything is teachable, as long as people have a willingness to learn. I started in my PhD lab having taken *a* — as in *one* — cell biology course. I barely knew how to do anything. But I wanted to learn, so I did.

“I think if they can balance on the fulcrum of the teeter-totter between being confident in what they know but not discounting the knowledge of others, students will thrive. Recognize that what you do know is a tiny amount of science, but you can’t let that get you down either. It’s difficult, but that balance is better for you, better for science and better for your future trainees. One of my favorite things about RFU is that the majority of people here maintain that balance. It’s an institutional value, and I love that.”

Never running from a challenge, Dr. Howe is determined to put tools in the hands of the next generation of scientists so that they can adapt to any paradigm in the world of research, by hook or by crook.

Growing with Grit

As Dr. Howe’s lab grows, she models resilience by example. “I don’t think it’s a skill you can teach people, strictly speaking, but you can show it to them, pattern it for them and support what they need to build it on their own. I don’t hide things from my lab; we share where we’re at and what we’re able to do in the moment. That makes managing burnout so much easier.”

For her own mental maintenance, Dr. Howe looks outside the lab for inspiration. “I really love science, but you have to have other things going on. I have a garden: I plant natives and vegetables, kill buckthorn and make quilts. Lots of those veggies go to the ICC food pantry. I have three dogs, two of which are disabled (and one was named for Rosalind Franklin, even before I came here).”

Most of all, Dr. Howe gets by with good old-fashioned grit. “I don’t give up on things.”



NAJLA ARSHAD, PhD

Microbiology and Immunology Faculty

Tenacious Together

Dr. Najla Arshad has always been fascinated by stories about discovery, whether in science fiction or the news of the day. From the first time her father explained the scientific process, she knew she wanted to be part of that search for truth. Her quest to expand the horizon of human knowledge brought her to Rosalind Franklin University in 2024, the newest faculty member in the discipline of Microbiology and Immunology.

Adapting to a new paradigm, Dr. Arshad has focused her energies on her role as a pillar of support for her lab members. “I am very happy that my lab members sought me out for guidance in these times, and I think I’ve been able to provide it.” During this tumultuous time in the world of research, open lines of dialogue are more important than ever. Dr. Arshad prioritizes transparency and honesty so that all members of the lab can forge a path forward together.

“We’re banding together in communication. If something is weighing on your mind, you will be distracted in your tasks. We’re here to do science and to learn, so it’s always better to resolve issues so that you can focus on the tasks at hand. Right now, there are insecurities about funding, but the university has been extremely generous putting minds to rest about finances. I’ve told my lab members we are in a good position to navigate troubled waters for the next year or so with startup and private foundation funding before we start applying for federal grants. By then, along with guidance from experienced faculty and leadership, I believe we will have a clearer path forward.”

Dr. Arshad sees an opportunity for her students to gain one of the most important attributes a scientist can have: tenacity. “One of the hallmarks of working in science is that you have to be resilient and tenacious. This period is also teaching us some of those lessons as well... Even with less money, scientists innovate. As a group, we will figure out a way to make it work, even if there are obstacles in the way. We set out to answer a question and don’t sway in the winds around us.”

Dr. Arshad considers it her responsibility to create a space where her mentees can grow and change, working together to get better results and even become better people. “For such

a long time, scientists have been perceived as people toiling alone in the lab for long hours. Yes, you have to work hard, but it’s not so isolating. You must communicate and talk and have an environment that supports teamwork. That’s what I’m hoping to create in the lab. Each member’s expertise boosts everyone else without diminishing any individual. And that’s the environment you as a PI have a responsibility to foster in the lab.”

No matter what winds of change blow through, Dr. Arshad’s lab will seek truth with diligence and tenacity, building each other up as they reach toward the future.



“We set out to answer a question and don’t sway in the winds around us.”

Grounded in the Present

Dr. Arshad has two great joys that help her remain strong in trying times. The first is her love for research. “My greatest joy in work is interacting with my trainees. Always. Whether it’s an inane question about A or Z, or if it’s noticing a funny result and interrogating it together, having these discussions is my absolute favorite part. When people ask me what lab to join, it has to be an environment where you can talk freely with your colleagues.”

But when every experimental path seems like a dead end, it’s important to step back and find release in family and fun. “Sometimes you need to switch off. Truly. I enjoy cooking and love to be with my family. There’s something about kids or pets that is extremely grounding. Their needs are very much now and present. They don’t care about tomorrow. They are here now. That is my way to switch off: to be with them.”

KALPIT SHAH, PhD '16

Physiology and Biophysics Alumnus, Founder of Art from the Benchtop, Senior Principal Scientist at Genentech

Artistry in the Industry

“I didn’t have a predetermined path. I just kept following what fascinated me. That drive is what science is about.”

From molecular therapies for cystic fibrosis to biomarkers and translational research in prostate cancer, Kalpit Shah, PhD '16, has always investigated the complexity and intricacy of human life. When he joined Rosalind Franklin University, he first worked as a technician before entering SGPS' PhD program in a collaborative mentorship between Dr. David Mueller and Dr. Neil Bradbury.

During their project to alter the genome sequence of the cystic fibrosis protein, Dr. Shah had his first contact points with the world of industry through Dr. Bradbury's collaborations with AbbVie. They opened the door for Dr. Shah to experience an entirely new way of conducting research.

“While I was still a student I invited speakers from Abbvie. I'm still in touch with them! That was my first experience with industry, and I loved the way they partnered with academia and other industry partners to solve issues with cystic fibrosis. I felt that they were working on a problem at a much larger scale than what one academic lab could do.”

Seeking that large-scale reach in his work, Dr. Shah set out on the path of industry. Over the past half-decade he has built an incredible research community at Genentech, now serving as Senior Principal Scientist overseeing the area of prostate disease.

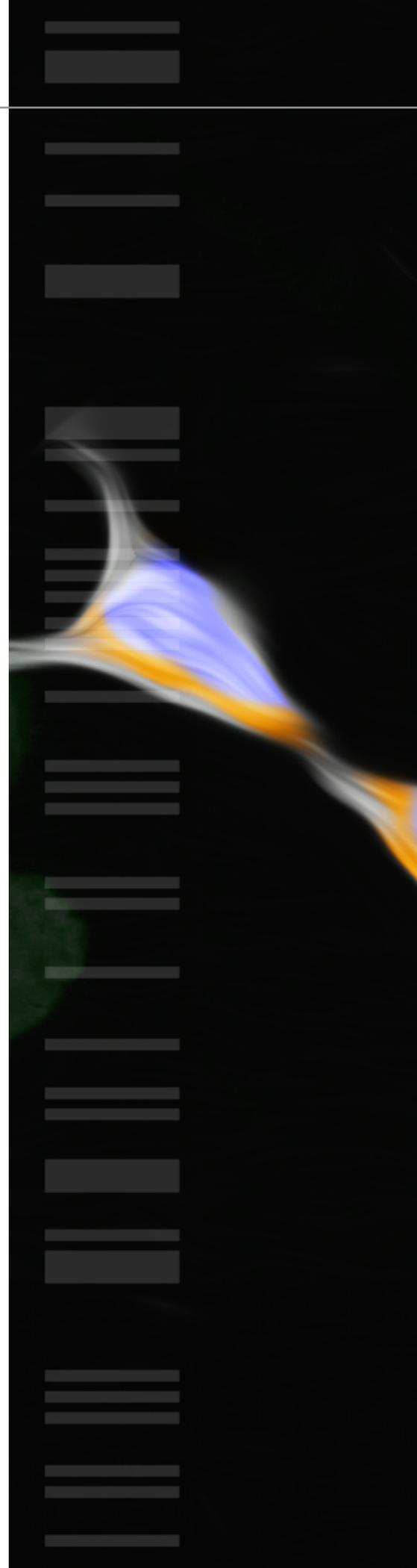
“The biggest challenge is to understand the structure of industry and find a place you feel connected to, where your personal vision is in a perfect marriage to that department's

vision and what they want to achieve. When I started I was working on a clinical trial and translational research, so being able to demonstrate value, helping the internal pipeline, coming up with new ideas based on the original research — that was the first step. Second is creating community. I've made an extremely collaborative community at Genentech; because I'm on the clinical trials and oversee translation strategies, I can work efficiently. That lets the whole team create impact internally and externally.”

For students considering industry, Dr. Shah encourages them to practice their soft skills as collaborators and partners, especially by getting involved with student initiatives. He is the proud founder of Art from the Benchtop, an annual gallery of artwork produced by members of the SGPS research community. “I fought for it till the end; that process taught me how to sell your ideas, how to show leadership and advocate for your community. I put myself in a position to speak in front of many people, and as a result that third year of the PhD was my greatest time of personal growth.”

Art from the Benchtop is celebrated every annual All School Research Consortium, inspiring each subsequent SGPS cohort to new heights of imagination and creative research perspectives.

Building community, finding a voice, seeking partners for a shared vision — these are the vital steps SGPS students can take to build a career they love, following the example set by a young Kalpit Shah as he stood in that first gallery surrounded by the hope and art of his peers.





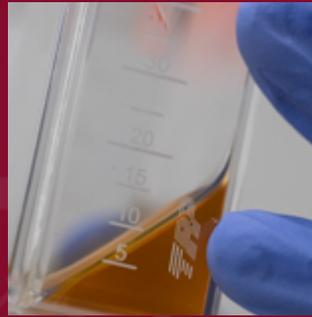
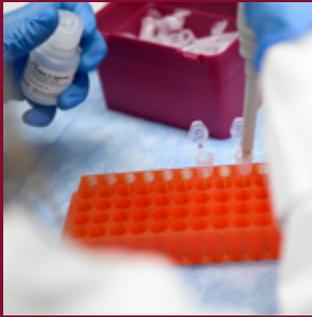
The Bigger Picture

Dr. Shah is confident when confronted with the recent changes to the world of research, having flexed this muscle many times before. “One of the first skills you learn in industry is how to cope with change. In the face of layoffs, you might be working on an amazing project with wonderful coworkers, and then in two months they are gone. What has helped me over time is thinking about the bigger picture. For me, that’s how to do things that change the lives of men with prostate cancer. If I can focus on that, all the other changes in the moment might feel concerning and give me heartache, but the bigger picture helps me stay on my path. Truthfully, you don’t want to be in a place where things don’t change. Then you’ll become archaic and can’t adapt to new things. It’s a necessary research skill.”

“Truthfully, you don’t want to be in a place where things don’t change.”

Pictured: Kalpit Shah’s 2014 Art from the Benchtop submission titled Cells High on Steroids (#1)

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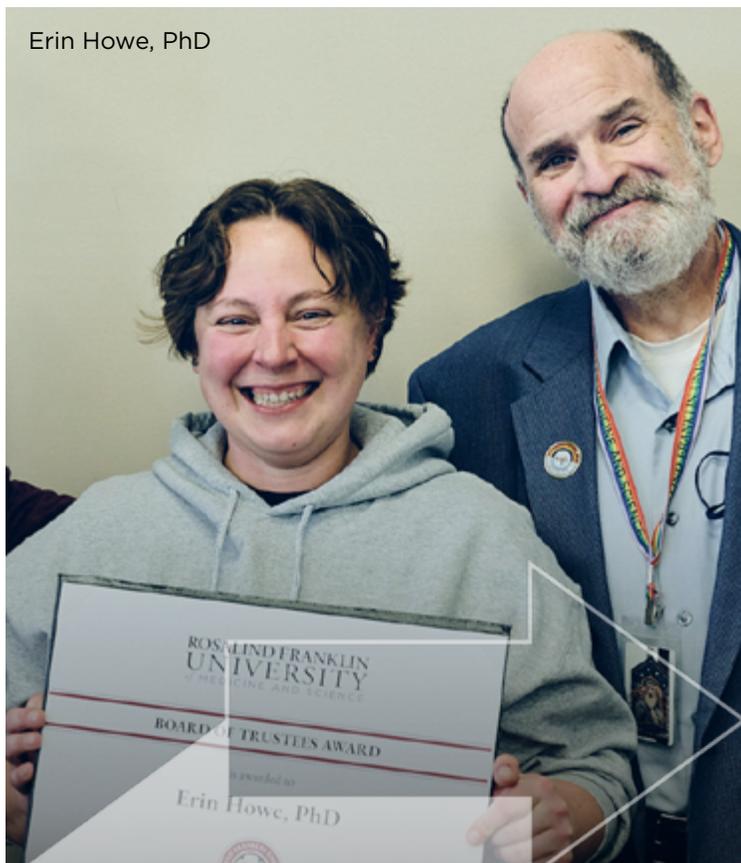
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ALUMNI AND SCHOOL NEWS

Erin Howe, PhD



Alumni News

Sidharth Mahapatra, MD '09, PhD '07 (Biochemistry and Molecular Biology), associate professor of pediatrics and of biochemistry and molecular biology at the University of Nebraska Medical Center and a pediatric intensivist at Children's Nebraska, received a National Cancer Institute (NCI) research grant. Awarded as part of the NCI Small Grants Program for Cancer Research, this two-year, R03 grant will advance Dr. Mahapatra's research on group 3 medulloblastoma (G3MB), the most lethal form of medulloblastoma.

Vivian (Wai Chong) Wong, MD '14, PhD '12 (Cellular and Molecular Pharmacology), was named Chicago Medical School's 2025 Distinguished Early Career Achievement Award recipient. Dr. Wong is a board-certified dermatologist with a decade of experience in dermatology research and clinical care.

Arun George Paul, MD '12, PhD '10 (Microbiology and Immunology), was named associate professor and director of the Radiation and Oncology Department and Outreach Program, and Residency Associate Director, at The University of Texas Medical Branch.

School News

Carolina Calôba, SGPS '26 (Microbiology and Immunology), won a Trainee Abstract Award and delivered an oral presentation titled "Systemic 4-1BB Stimulation Augments Extrafollicular Memory B Cell Formation and Recall Responses During Plasmodium Infection" during a block symposium at IMMUNOLOGY2025, the annual meeting of the American Association of Immunologists (AAI). Ms. Calôba's travel was supported by an AAI Careers in Immunology Fellowship.

Jessica Centa, PhD '20 (Cell Biology and Anatomy), and **Sean Shrank, PhD '22** (Neuroscience), were appointed research assistant professors in RFU's Departments of Cell Biology and Anatomy and Cellular and Molecular Pharmacology, respectively, in September 2025.

Erin Howe, PhD, assistant professor of biochemistry and molecular biology, received the Board of Trustees Research Award at RFU's 2025 Faculty Awards Ceremony on May 8. This award is presented to a junior faculty member who has shown promise in research activities, in published work and grantsmanship.

Carolina Calôba, SGPS '26



PUBLICATIONS AND PRESENTATIONS

Publications

Andeweg SP, van de Kasstele J, Wang X, van Maarseveen N, Vlaemynck B, Bos S, Vennema H, **Presser L**, Cai JJ, Knol MJ, Eggink D. Estimating the effect of COVID-19 vaccination and prior infection on cycle threshold values as a proxy of SARS-CoV-2 viral load. *Int J Infect Dis*. 2025 Apr;153:107362. doi: 10.1016/j.ijid.2024.107362. Epub 2024 Dec 9. PMID: 39662741.

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Presentations

Adhikari, LP. March 2025. "Hyaluronic acid impacts the inflammatory potential and pathogenicity of autoreactive Th17 cells." RFUMS All School Research Consortium, North Chicago, IL. (Poster and Oral Presentation)

Adhikari LP. June 2025. "Hyaluronic acid impacts the inflammatory potential and pathogenicity of autoreactive Th17 cells." Hyaluronan 2025, the 15th conference of the International Society for Hyaluronan Sciences. St. Charles, IL. (Oral Presentation)

Baghdadchi, Y. March 2025. "Investigating the Effects of Obesity on Neurogenesis and Brain Inflammation." RFUMS All School Research Consortium, North Chicago, IL. (Poster)

Calóba C. March 2025. "Superior memory B cells with extrafollicular signature following exogenous 4-1BB stimulation during Plasmodium infection." RFUMS All School Research Consortium, North Chicago, IL. (Poster and Oral Presentation) (Awarded Best Scientific Poster - SGPS)

Calóba, C. May 2025. "Systemic 4-1BB Stimulation Augments Extrafollicular Memory B Cell Formation and Recall Responses During Plasmodium Infection." Immunology

2025, Honolulu, HI. (Oral Presentation). Ms. Calóba's travel was supported by an AAI 2024 Careers in Immunology Fellowship, and she won a Trainee Abstract Award.

Dzewaltowski, A. May 2025. "An Integrative Approach to Warfighter Optimization: A Brain, Body, Biomarker Bonanza!" U.S. Army Research Institute of Environmental Medicine (USARIEM), Natick, MA. (Oral Presentation)

Dzewaltowski, A. May 2025. "An Integrative Approach to Warfighter Optimization: A Brain, Body, Biomarker Bonanza!" MIT Lincoln Laboratory, Lexington, MA. (Oral Presentation)

Dzewaltowski, A. September 2025. "CLEAR." Military Health System Research (MHSR) Symposium, Orlando, FL. (Poster)

Feshchenko, A. August 2025. "Neuropsychiatric Symptoms in AD: Mapping Anxiety-Related Circuitry in Aging and AD Mice." The Changing Brain Conference, Irvine, CA. (Poster)

Feshchenko, A. October 2025. "Neuropsychiatric symptoms in AD: Mapping anxiety-related circuitry in mice." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster & Data Blitz Trainee Talk)

Gallegos, W. March 2025. "Elevated RyR-Ca2+ Signaling Disrupts Mitochondrial Functions in AD Neurons." RFU All School Research Consortium, North Chicago, IL. (Poster and Oral Presentation) (Awarded Best Scientific Talk - SGPS)

Gallegos, W. March 2025. "Elevated RYR-CA2+ Signaling Disrupts Mitochondrial Function in AD Neurons." Chicago Society for Neuroscience Annual Meeting, Chicago, IL. (Poster)

Gallegos, W. October 2025. "Elevated ER-Ca2+ Signaling in Down Syndrome Neurons Reflects Pathological Feature of Alzheimer's Disease." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster)

Ganieva, U. March 2025. "Unraveling the Impact of Immunomodulation on Endometrial Biology: Insights from Decidualization and Senescence." RFU All School Research Consortium, North Chicago, IL. (Poster)

Ganieva, U. August 2025. "Linking Ovarian Reserve to Endometrial Immune Competence: AMH and NK Cell Signaling in Reproductive Failure." Annual Association of Medical Laboratory Immunologists (AMLI) meeting, Minneapolis, MN (Oral Presentation). *Note*: Dr. Ganieva received the AMLI Doctorate Award for her abstract.

Gaur, V. April 2025. "NNO Maintains Genome Stability by Regulating POLA Localization and cGAS Activation." American Association for Cancer Research Annual Meeting, Chicago, IL. (Poster)

Gupta, S. October 2025. "Investigating the interplay between calcium dysregulation and insulin signaling

dysfunction in Alzheimer's disease using ROSMAP iPSC-derived human neurons." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster)

Kaplan, K. March 2025. "Alprazolam impairs fear memory and alters engram activation in the dCA3 of female mice." RFU All School Research Consortium, North Chicago, IL. (Poster and Oral Presentation)

Kaplan, K. March 2025. "Alprazolam Impairs Fear Memory and Alters Engram Activation in the dCA3 of Female Mice." Chicago Society for Neuroscience Annual Meeting, Chicago, IL. (Poster) (1st place in the graduate division of the poster competition)

Kaplan, K. October 2025. "Alprazolam Impairs Fear Memory and Disrupts Inhibitory Interneuron Function Leading to Changes in Neuronal Ensemble Activation in Mice." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster & Data Blitz Trainee Talk)

Khowash, O. April 2025. "Role of Rab11 Family Interacting Proteins in Immune Recognition of Breast Cancer." American Association for Cancer Research Annual Meeting, Chicago, IL. Co-Presented with Sahani, P. (CMS). (Poster)

Melo, G. "Complement activation is required for B1 cells antibody response against *F. tularensis* LPS." RFU All School Research Consortium, North Chicago, IL. (Poster and Oral Presentation)

Mistry, V. March 2025. "Old Aplysia can't gallop: Age-related decline in the escape behavior network of *Aplysia californica*." RFU All School Research Consortium, North Chicago, IL. (Poster)

Mistry, V. March 2025. "Old Aplysia Can't Gallop: Age-related Decline in the Escape Behavior Network of *Aplysia Californica*." Chicago Society for Neuroscience Annual Meeting, Chicago, IL. (Poster)

Parker, R. October 2025. "Fear elevation and social instability alter glutamatergic receptor expression in adult

rats." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster)

Thadari, B. March 2025. "Conductance-based Mechanisms for Generating Multi-Rhythmic Breathing Patterns." Chicago Society for Neuroscience Annual Meeting, Chicago, IL. (Poster)

Villa, J. March 2025. "Exploration of Polarization-Sensitive OCT as a Diagnostic Tool for Microstructural Changes in Tympanic Membranes." RFU All School Research Consortium, North Chicago, IL. (Poster)

Webber, E. March 2025. "Traumatic brain injury and chronic stress: Possible contributors to pathogenic signaling mechanisms of Alzheimer's disease." RFU All School Research Consortium, North Chicago, IL. (Poster)

Webber, E. March 2025. "Traumatic Brain Injury and Chronic Stress: Possible Contributors to Pathogenic Signaling Mechanisms of Alzheimer's Disease." Chicago Society for Neuroscience Annual Meeting, Chicago, IL. (Poster)

Webber, E. October 2025. "Traumatic brain injury, chronic stress, and Alzheimer's disease: Exploring sustained behavioral and synaptic deficits in mouse models." RFU Brain Science Institute Retreat, North Chicago, IL. (Poster & Data Blitz Trainee Talk)

News

Elise Webber, SGPS '26, a doctoral neuroscience candidate in the lab of Grace "Beth" Stutzmann, PhD, professor of neuroscience and director, Center for Neurodegenerative Disease and Therapeutics, received a \$5,000 dissertation grant from the Brain Injury Association of America (BIAA)'s Brain Injury Research Fund for her project "Traumatic Brain Injury and Chronic Stress, Comorbid Contributors to Alzheimer's Disease." BIAA recognizes outstanding doctoral dissertations that contribute to the understanding of chronic brain injury and its causes, consequences and methods of mitigation.

Names in **bold** indicate current/former SGPS graduate students or postdocs.



"Science, for me, gives a partial explanation for life. In so far as it goes, it is based on fact, experience and experiment."

ROSALIND
FRANKLIN, PhD
1920-1958

ABOUT ROSALIND FRANKLIN UNIVERSITY OF MEDICINE AND SCIENCE

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To improve the wellness of all people through innovative, interprofessional education of health and biomedical professionals and the discovery and implementation of knowledge.

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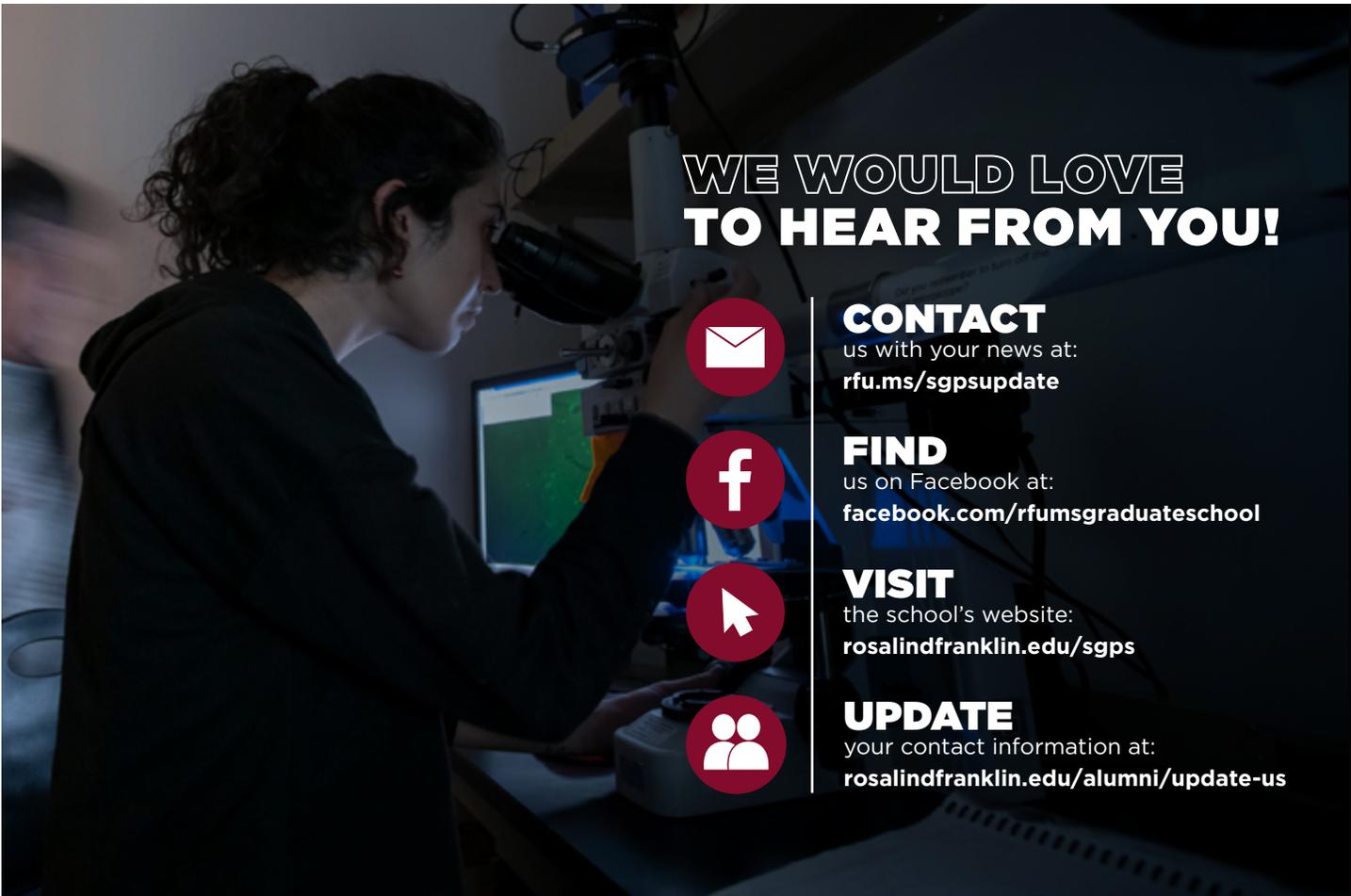
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