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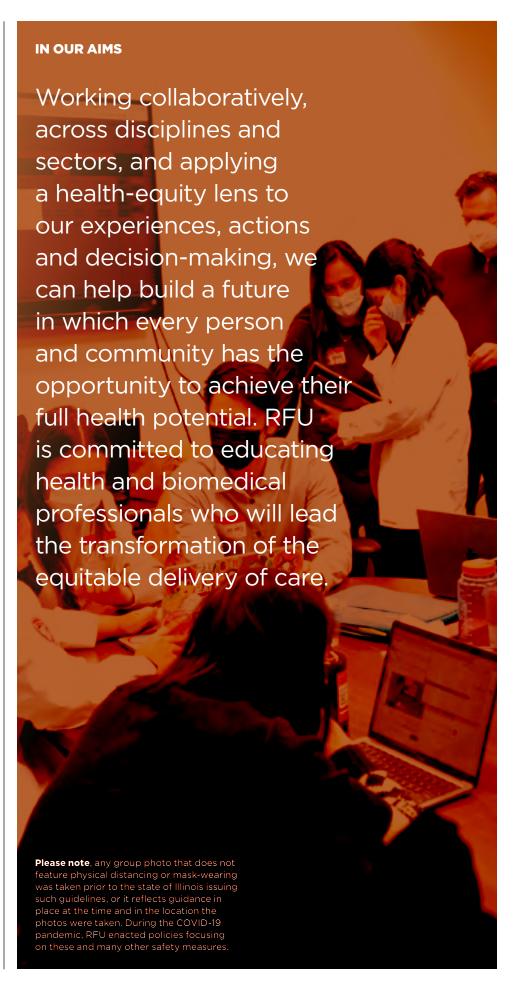
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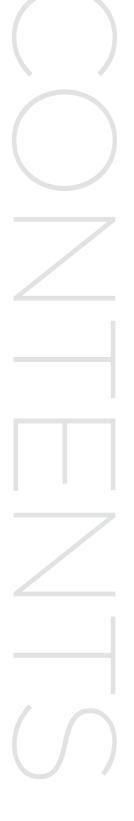
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### HELIX

**SPRING 2023** VOL. 4, NO. 2



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Maria Clarke, MBA, elected to RFU Board of Trustees.

David Feinberg, MD '89, MBA, and Andrea Feinberg, MD '90, will be featured participants in the 109th Commencement Celebration on June 2.

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This issue of *Helix* is set to publish as we prepare to celebrate Commencement and continue to reflect on an excellent outcome for our annual Match Day. RFU students across four academic programs — allopathic medicine, podiatric medicine, clinical psychology and pharmacy — achieved outstanding rates of residency placement at highly competitive programs across the country.

We're contributing to the health and well-being of our nation by graduating a new generation of compassionate, caring health and biomedical professionals committed to improving health outcomes. We're building capacity that can help solve inequities in care. Among our 2023 allopathic medicine residency placements, 66 are in primary care specialties, which play a vital role in maintaining good health and in the overall cost of care delivery. A significant number of our students are also entering training for critically-needed psychiatric and behavioral health care.

Our students have turned challenges into opportunities over the course of three pandemic years by relying on their networks of support. That's the definition of resilience. Across every field and discipline, RFU students discover the power of teams. Their achievements are most often a result of collaborative effort that includes the support of faculty and other members of the RFU community who walk with learners, affirm their talents, raise their aspirations, and model respectful interactions that are crucial to human connection.

The stories in this issue underscore why the fulfillment of our mission is so important to the transformation of health care. The people who are shaped by and who help shape RFU share a profound commitment to improving the health and well-being of all people. Our students, faculty and alumni are lifelong learners who are not afraid to grapple with the social and structural determinants that shape the health of their patients and communities.

Together, we're facing a future that will be defined by advancements in artificial intelligence fed by big data. Our students and alumni will help influence many aspects of that technology, help harness its potential and mitigate its risks.

We can look to our shared values to guide us in creating a more equitable future. I want to thank the working committee that in recent months has helped guide us in the process of updating and refining our institutional core values, which create a North Star for decision-making and help us engage potential partners around our shared purpose and commitment.

Using our core values as a touchstone, we can continue to build a culture of shared respect in which our students thrive. We can strengthen our commitment to justice by building bridges to our communities, and we can pursue innovations and new models that expand access to education and care.

Leading from our values is the surest path to build upon and expand our historic commitment to educating a diverse health and biomedical workforce that in turn reflects our values and helps fulfill our mission to improve health and well-being.

I am so grateful for our students, faculty, alumni, community partners and many friends and supporters. You give us unflagging optimism in our shared future.

Wishing you the best of health. X

Wendy Rheault, PT, PhD, FASAHP, FNAP, DipACLM

Wendy Rheault

President and CEO

As he entered his 40s, a survivor of a childhood brain tumor shared a story: He had recently gone in for a checkup with the doctor he had been going to even before that long-ago diagnosis.

"You know, it's always great to see you," the doctor had said with a smile, "but at your age, you should probably get a primary care doctor who isn't in pediatrics."

That's how strong the bond had grown between patient and physician. Sure, other doctors and specialists had been involved in his surgery, recovery and therapy over years that turned into decades, but for the boy in crisis who had become an adult survivor, nothing could match the reassurance of seeing someone who had been there from the start.

A human connection like that looms high above the current and rapidly evolving discussion about the role artificial intelligence will play in the future of health care. If AI will be another instrument in the bag, should patients be encouraged or concerned? Benign comparisons to the arrival of calculators in 1970s high school math classes, word processors on 1980s college campuses and smartphones in the hands of everyone in the early 21st century have already been raised — along with dark humor about Arthur C. Clarke books and James Cameron movies.

One thing that can be said with certainty is that the stories in the Spring 2023 issue of *Helix* were not generated by a chatbot — another Al application that is seen as a boon to customer-service websites and cast as a villain for English Comp instructors far and wide. When you open *Helix* today and read about the paths being paved to connect RFU to its neighboring communities, you can be sure the process did not start with someone asking an Intelligent Virtual Assistant to whip up a story.

In fact, looking to stay ahead of a developing curve, publications have begun to craft disclosure statements about the use of "generative AI tools" in their stories and images. Earlier this year, in stating that they would not publish stories created by a text generator, the editors of *WIRED* noted that "current AI tools are prone to both errors and bias, and often produce dull, unoriginal writing," among other concerns.

In other words, AI currently lacks the bedside manner that connects patients to their healthcare professionals. It also lacks the institutional knowledge, human insight and heart that you will find — today and tomorrow — in the pages of *Helix*.

Dan Moran is the communications director with RFU's Division of Marketing and Brand Management.



#### Got ideas or feedback for Helix magazine?

Thoughts for upcoming issues? A resource to share with the research and education community? We want to hear about it!

We'll be highlighting opinions and announcements from RFU alumni, students, faculty and our community in a special section of each issue.

Send messages directly to our editors at helix.letters@rosalindfranklin.edu.

Before the next *Helix* issue arrives, you can find RFU news on the following social media platforms. Be sure to tag us if you make a comment relating to RFU!

rfu.ms/socialmedia



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By Judy Masterson
Photos by Michael R. Schmidt

# Care

LE WAI

The Interprofessional Community Clinic (ICC), which will celebrate its 10th anniversary this fall, was founded by four Chicago Medical School students as the Affordable Care Act was gaining steam in September 2013. Change and optimism were in the air, and the students — hungry for clinical encounters and eager to help people who lacked access to care — rode the momentum with the support of RFU, which continues to provide mentorship and oversight by a team of faculty and staff advisors.

When the ICC was founded in 2013, more than

**44.4** million people,

16.8% of the U.S. population, lacked health insurance.

In Lake County,

16.4% were uninsured.

2014 brought the expansion of Medicaid eligibility and the opening of health insurance exchanges under the Affordable Care Act.

According to the U.S. Census,

8.3% in the U.S. were uninsured in 2021.

"FOUNDING THE ICC TAUGHT ME THE IMPORTANCE OF WORKING ON AN ISSUE THAT HAS POPULAR SUPPORT," SAID CO-FOUNDER JENNY HUA, MD '19, PhD. "TO THIS DAY, I DON'T THINK I'VE BEEN PART OF SOMETHING THAT HAD SUCH RESOUNDING AND ALMOST UNANIMOUS SUPPORT AND A GROUNDSWELL OF INTEREST AND ENERGY TO PUT IT INTO ACTION."

The ICC, an outpatient-service offering at Rosalind Franklin University Health Clinics, provides free, safety-net care for the uninsured. It is a dynamic training ground for interprofessional (IP) healthcare teams of RFU students and faculty advisors determined to address the structural and systemic causes that undermine health. Patients can access primary care medicine, podiatric medicine, physical therapy and behavioral health care, with an option for in-person visits or telehealth consultation and follow-up care.

"The ICC is a really important bridge for people who need medical attention and who need to find a primary care home," said Melissa Chen, MD, ICC medical director and Chicago Medical School associate professor, who cited long wait lists for primary-care appointments through the public health department. "We also help our patients with health literacy and connect them to ongoing care and try to find resources if we can't. Sometimes, all we can do is witness — just be there for people in a human way."

Previous page: An RFU interprofessional team with representation from the College of Pharmacy, Chicago Medical School, Dr William M Scholl College of Podiatric Medicine and Department of Physical Therapy join an interpreter from Lake Forest College and a medical scribe to meet with an ICC patient. At right: Ashka Trivedi, DPM '11 founding ICC podiatry attending, meets with a patient during clinic hours in the spring of 2023.

#### **FILLING A GAP IN CARE**

"Our typical patient is someone who is working long hours," said Ashka Trivedi, DPM '11, assistant professor and founding ICC podiatry attending. "Their health takes a backseat to providing for their family. They're often barely managing their diabetes, because of a lack of education or difficulty accessing the medication. The ICC is filling a gap in care that's well recognized among public health providers in our community, who are in constant communication with us to channel patients who need the one-to-one attention our students are so eager to provide."

"Our typical patient is someone who is working long hours. Their health takes a backseat to providing for their family."

The clinic has been shaped and sustained through the efforts of key influencers, including dedicated faculty advisors and new waves of RFU students from numerous disciplines who share a commitment to interprofessional learning and collaborative practice, and a drive to discover and implement more equitable models of care.



#### ICC FOUNDERS: WHERE THEY ARE NOW

The four medical students who co-founded the student-led Interprofessional Community Clinic (ICC) in 2013 today are physicians committed to addressing the structural forces that undermine human health. In naming them the recipients of the 2014 President's Interprofessional Healthcare Leadership Award, then-RFU President and CEO Dr. K. Michael Welch said, "The ICC underscores our commitment to improving the health of our community, our nation and transforming the delivery of care."



#### ICC INFLUENCERS: WHAT THEY HAVE TO SAY

"Seeing how the social determinants have such a huge impact on people's health — access to transportation and healthy food, language and insurance barriers, whether our patients can actually afford the prescriptions we hand them. I took that into my residency."

......

Crystal Forman, MD '18, MS '18, 2015 ICC president

"Health professionals want to help the person in front of us. But so many of our solutions come from our own backgrounds and experiences. We need to take care out of that privileged place."

Sarah Haag, PT, DPT '08, MS '08, director of ICC clinical education

"None of my education matters — all those years trying to get the answers right — unless I can connect with the patient in front of me."

Melissa Chen, MD, ICC medical director

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"Even the pandemic couldn't stop the ICC, which always pushes past barriers to serve the community to the best of its ability and with the latest tools."

Ashka Trivedi, DPM '11, founding ICC podiatry attending

"The ICC is the gem of RFU and why I wanted to come to CMS."

••••••

Lauren Gard, MPH, CMS '23, 2020 ICC president



Sarah Hershman, MD '16

**Residency:** Cleveland Clinic Foundation, Cleveland

Dr. Sarah Hershman practices full-service general obstetrics and gynecology. She delivers babies and performs hysterectomies, abortions and office exams

"I like working at an academic medical center and practicing a wide range of gynecology and not having to niche down too far," she said. "I've always felt that my calling is clinical, although I love working with residents. I'm 100% clinical and I really really enjoy my work."

Her calling echoes back to the ICC. She still finds strength in connecting with her patients, in the trust they place in her. She continues to bear witness to inequities. "We see enormous barriers to equitable care and enormous disparities, mostly along race and class lines, that increase maternal mortality and morbidity," Dr. Hershman said. "The barriers aren't based in any scientific difference in humans, or in any lack of technology or capacity to provide better care. We're trying to do medicine in a world of systemic bias."

Interprofessional, collaborative practice is important, but it isn't enough. Dr. Hershman said.

"We need a social services system that makes sense," she said. "We need a welfare system that makes sense. We need a health insurance system that is equitable and fair

Healthcare professionals have a lot of power to advocate for equitable policies by reaching across political and social divides.

Abortion is legal in Ohio up to 20 weeks of gestation. But there's a mandatory waiting period and no insurance coverage. It's almost exclusively provided by private clinics. Dr. Hershman does not currently travel to a clinic

"In regular OB/GYN life, you are sometimes called upon to perform the procedure for a medical indication," she said. "It's a skillset that I want to maintain, and it's something I would like to continue to offer my patients."

#### **TELEHEALTH CLINIC**

Opposite page: Students, faculty and staff gather to discuss cases during a mid-shift meeting at the ICC. Former ICC President Lauren Gard, MPH, CMS '23, led a team of 15 student executive board members and committees with over 100 students during the early days of the COVID-19 pandemic, which threatened to shut down care. Together, they designed and implemented an interprofessional telehealth clinic. They developed a strategic partnership with a local library so patients could tap into a secure network. They reached out before appointments by phone to explain to patients how to set up a digital connection.

"I'm grateful for the experience and what we were able to do as a team," said Ms. Gard, who is headed to a residency in emergency medicine at Johns Hopkins Hospital in Maryland. "It was a joy to work with faculty and future clinicians that I really admire — those who think about the whole patient and consider barriers to care."

The ICC is an engine for deep experiential learning — about health care, about the hardships people endure, about self. It is a weekly, live demonstration of the power of interprofessionalism.

#### **PHARMACY INDISPENSABLE TO IP TEAMS**

"Our model is truly IP.
Patients don't usually get
to see medical doctors and
pharmacists together. At
the ICC, pharmacy is part
of the medical team."

"Our model is truly IP," said ICC founding pharmacy faculty advisor Khyati Patel, PharmD, BCACP. "Patients don't usually get to see medical doctors and pharmacists together. At the ICC, pharmacy is part of the medical team. We're part of most decision-making processes. We listen to patient cases together, provide input and recommendations on medication decisions. And we work as a team on affordability concerns, to match patients with pharmacies that can fit their budget."

The ICC is a rare opportunity for both health-professions students and volunteer faculty to work and practice together.

"The most amazing thing our faculty volunteers experience is witnessing students apply what they learn in the classroom in a real healthcare setting," Dr. Patel said. "Per the 2016 Accreditation Council for Pharmacy Education standards, interprofessional education is a key outcome for learning — and not just IP in the classroom, but real-life, clinical IP. In the co-curricular setting at the ICC, our students get that experience with real patients and real teams."

There are 152 student-led clinics across the country, according to Jennifer Vu, CMS '24, former ICC clinical operations executive officer and current national coordinator for the Society of Student Run Free Clinics (SSRFC), which is creating a national database of clinic locations and their services. Ms. Vu connects members as a means to provide new and existing clinics with resources to create and expand their scope of practice.

"I can see more broadly what the needs are from a student perspective," Ms. Vu said. "What they see in their community is important, including the cultural aspects. It's shown me that the barriers our ICC patients encounter are very common among communities throughout the U.S."

448
TOTAL ICC
APPOINTMENTS

UNIQUE PATIENTS

**56** 

NEW PATIENTS

**17** 

PATIENTS
ACCESSED 3 OR
MORE UNIQUE
SERVICES

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Source: ICC ANNUAL REPORT 2022, data through Nov. 06, 2022.



Hannah Lee, MD '16, FABIM Residency: University of Colorado Fellowship: Cedars-Sinai, Los Angeles

Dr. Hannah Lee joined the faculty at Cedars-Sinai in Los Angeles — where she completed her fellowship in hematology and oncology — because, she said, "I get to work with passionate staff, residents, fellows and medical students."

The ICC taught Dr. Lee that it takes a team to care for a patient or a community, and that she learns best by teaching others.

"It's important to be challenged by learners," she said. "That helps you become a better educator and a better physician. That interaction, for me, is really precious." Dr. Lee practices in an affluent ZIP code of West LA that borders city neighborhoods of far more modest means

"My patients come from diverse backgrounds out of the giant pool of Los Angeles, where there are plenty of underserved populations," she said. "It reminds me of how RFU in North Chicago sits next to high-income ZIP codes. The ICC started with our recognition that people lacked access to care in an area that was both resource-rich and a medical desert. The challenge was to try to pull resources and funding to help the underserved population. That's

a skillset we had to learn and that really stayed with me."

The ICC also taught Dr. Lee that nterprofessionalism is essential.

"Wherever I practice, I always tell my colleagues that we're here to have fun. It's a way for us to break down barriers, to see each other as individuals who share a common goal to care for our patients. That attitude has served me really well, and it stems from RFU, a very open community of different professions, where you really get to know each other and get the chance to work together."



"The ICC opened my eyes to the different professions and their training and what they bring to the table. I was inspired by the people I worked with."

Co-Founder Hannah Lee, MD '16, FABIM

"ICC students learn how to serve with cultural humility, which is not an easy commitment because it means you're never done learning. Our world will continue to evolve and we need to evolve with it."

Heather Kind-Keppel, EdD, ICC Faculty Advisory Board

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"Medicine is such a team sport. But it's hard to understand that when you're in your own bubble and focusing so much on your textbooks and getting through exams. You need to step out of that. You need a larger perspective of 'Listen. It's not all about you."

**Co-Founder Svetlana Kozlovich, MD '16** 

"I can't imagine a better setting for students to develop their empathy and to reflect on themselves. Who do they want to be as people and as health professionals? What assumptions are they making, and how do they rethink those?" Susanna Calkins, PhD, director,
Nexus for Faculty Success

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"None of us really knows what kind of environment we'll be practicing in 10, 20, 30 years from now, but what's going to happen in the future is going to come out of collaborations like the ICC."

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Co-Founder Sarah Hershman, MD '16, from the 2014 Year in Review

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Svetlana Kozlovich, MD '16

**Residency:** Johns Hopkins All Children's Hospital, St. Petersburg Florida

Fellowship: Medical College of Wisconsin Affiliated Hospitals, Milwaukee

Dr. Svetlana Kozlovich works as a neonatal intensive care physician with a private neonatology group that serves greater Southeastern Wisconsin — home to some of the most underserved, medically-complex populations in urban and suburban Milwaukee.

"I resuscitate, I run codes on the most vulnerable, premature babies, Dr. Kozlovich said, apologizing for a yawn after a late night with struggling newborns at Aurora Sinai Medical Center. "I rely on my team members. I depend on their strengths and capabilities. I know what our respiratory therapists, nurses and nurse practitioners can do, and I know when to call out for

help. Our teamwork is vital to every

Dr. Kozlovich speaks as a clinician and a mother. Her son was born with a congenital heart defect — dextrotransposition — in which the two main arteries carrying blood from the heart are switched in position.

Born on St. Patrick's Day, 2020, baby Paul was rushed to the NICU, underwent a balloon septostomy at the bedside, followed by openheart surgery at three days old. Dr. Kozlovich was still in fellowship. COVID was descending, and Children's was limiting parent visits.

"I don't think until that moment I recognized that parents are a part of the critical care team," she said. "The support we're provided, whether it's a breast pump or child care or adequate parental leave, can make a difference in our babies' outcomes, because it relieves some of our stress and allows us to be truly present. We should all be advocating around those social determinants of health."

Today, Paul is a happy, healthy 3-year-old

"I know we are privileged to have received such wonderful care at Children's, and I am privileged to be part of that care," Dr. Kozlovich saic 430 RFU STUDENT VOLUNTEERS

BY PROGRAM:

158 FIRST-YEAR MEDICAL

**32** FOURTH-YEAR MEDICAL

16 BEHAVIORAL HEALTH

26 PODIATRIC MEDICAL

16 PHARMACY

69 PHYSICIAN ASSISTANT

100 PHYSICAL THERAPY

12 BMS/PMP

1 NURSING

Source: ICC ANNUAL REPORT 2022, data through Nov. 06, 2022. The university has worked to broaden the clinic's support structure with the addition of experienced faculty clinicians who are collaborating with students to lead and coordinate community outreach and expand services and clinical partnerships around the work of health justice.

ICC Director of Community Services Jeffrey Damaschke, DPT '04, MS '03, PhD, is working to coordinate community outreach so it is intentional and sustainable.

"We're focusing on community education that addresses lifestyle risk factors that disproportionately affect vulnerable populations," he said.

#### **EXPANDED VISION**

"I love that we're providing this level of service to our community," said Jeff Espina, MBA, vice president of clinical services, who oversees the university's brick-and-mortar clinics, including the ICC, as well as its outreach clinic — the Community Care Connection's mobile Care Coach. "Our ICC student volunteers are getting experience in leading a clinic, which they can take into their future practice. They're impacting care, making decisions as a group."

"The ICC provides our students and residents experience with a population they might otherwise not see," Dr. Chen said. "It also provides learners the opportunity to recognize the granular effects of the *system* of medical care and the effects of policies across services. They're part of the interprofessional conversations that need to happen on an administrative level to solve problems of care."

Dr. Trivedi thinks back to a patient who arrived at the ICC with symptoms of poorly controlled diabetes. He was struggling with vision loss and mobility, after multiple amputations to one foot.

"We sat down with him, explained the disease, partnered on his care," Dr. Trivedi said. "He's walking better. He's healthier. He's happier. He's educating his family and community that diabetes is no joke."

That's the power of the ICC. Patients who depend on the clinic for care help teach the greatest lessons of care.

"I think back to how we really tried to humbly provide services, how our patients have needs and how we try to fulfill those needs," said ICC co-founder Sarah Hershman, MD '16. "But ICC patients equally provide a service — the deepest kind of learning opportunity — and it's so generous of them to do so." X

Judy Masterson is a staff writer with RFU's Division of Marketing and Brand Management.



Jenny Hua, MD '19, PhD

Residency: Cook County Health/ Northwestern University Feinberg School of Medicine

**Internship:** Icahn School of Medicine at Mount Sinai, New York City

Dr. Jenny Hua is piloting a Long COVID Clinic for Cook County Health and, as part of her residency, earning a master of public health degree.

"Putting together a new clinical service, there are lessons from the ICC that I still think back to," Dr. Hua said. "It was my first experience collaborating across specialties, across professions, and it really helped me understand the complexity of health care.

"Long COVID is a very complex, serious illness that requires multidisciplinary care," she said "I've been able to get support

from county services, including infectious disease and family medicine, which has been critical in offering rehabilitative services for our patients."

Dr. Hua was not long into her first residency at Elmhurst Hospital in Queens, New York, when the first wave of the coronavirus erupted in mainland China.

"I was trying to raise awareness that the virus was probably already in New York City, and from the looks of it, we were not prepared in terms of training or PPE," she said.

Dr. Hua soon began challenging inequities in access to care.

"There were three times as many beds for people in Manhattan, while our hospital was becoming the first epicenter of the pandemic

She resigned from her program and took up activism, spending a year working with community-based organizations around the city. She was accepted into her current residency, which trains equity-focused public health practitioners. in 2021.

"There are fewer hands on deck than at the ICC," Dr. Hua said. "But we still have to hit the ground running and help patients who need immediate attention."



## Medical Interpretation is crucial to patient/provider interaction at the Interprofessional Community Clinic, where 74% of patients use Spanish interpreters during their appointments.

"The quality of health care shouldn't be a luxury or a privilege," said Jimena Resendiz, PharmD '18, a certified medical interpreter and former ICC executive officer. "To give someone with limited English proficiency the same consideration and experience as an English speaker is essential to the connection and trust between the provider and the patient."

Dr. Resendiz, who currently practices independent specialty infusion pharmacy, helped professionalize ICC interpretation services and training. Interpreters must participate in a competency assessment and shadowing before they volunteer.

"In competent medical interpretation, there can be no third person," Dr. Resendiz said. "The interpreter is just a voice box for the patient, who is actually having the conversation with the provider."

A medical interpreter stands a little behind and to the side of the patient, which discourages the provider and the patient from focusing on them during the conversation. The position helps sustain the visual connection between the two most important people in the room.

Janitza Torres, a student in Lake Forest College's Health Professions Career Pathways, is the first RFU/Lake Forest College intern to take on the role of medical interpreter at the ICC. Like Dr. Resendiz, she grew up speaking Spanish and English, and she was often called on to translate at medical appointments for family members. They both came to understand that it was being the third person — passing information back and forth — that was the source of their unease with the process.

"With a third person, a patient may forget to share all their symptoms, because they're too busy focusing on what to say to the interpreter and then waiting for them to repeat it and interpret the provider's response," Dr. Resendiz said. "They can lose their train of thought, then the provider starts talking. It can result in a lot of missed information."

"It was awkward and challenging as a child, not knowing the full terminology in English or Spanish," Ms. Torres said. "It did help develop my vocabulary, and I was happy to help. I saw many patients from immigrant backgrounds who had no help with translation and so couldn't really connect with their providers."

Collaboration with medical interpreters is not standard teaching practice in most academic healthcare programs, said Sarah Haag, PT, DPT '08, MS '08, assistant professor and director of ICC clinical education, who oversees the internship.

"The fact that the ICC is providing qualified interpreters for our many Spanish-speaking patients increases the quality of care," she said. "It also teaches our students how to work with medical interpreters, how to give patients respect by speaking directly to them, and allow the interpreter to do the interpreting."

ICC Faculty Advisor and Assistant Professor Yovanna Pomarico, MBA, stresses the need to recruit skilled Spanish-language medical interpreters to ensure safe healthcare practices.

"Spanish medical interpreters not only are the communication bridge between the triadic interprofessional team — they indirectly assume a coordinating role while simultaneously acting as the intermediary between the clinician, the message sender and the patient, the message receiver."

Ms. Torres, a first-generation college student who hopes to enter RFU's Nursing Education to Workforce Pathway, experienced many medical visits and hospitalizations as a child with chronic asthma.

"A respiratory therapist told me that being bilingual, I could make a difference for a lot of people," she said. "I carried that with me for a long time. Interpreting for ICC patients, hearing their stories and how grateful they are for the care they're receiving, is a fulfillment of the promise that therapist saw in me. I hope that others who speak another language will consider lending their voice to those who don't have one." X

24%
APPOINTMENTS
IN ENGLISH

76%
APPOINTMENTS
IN SPANISH

**74%** OF PATIENTS

use Spanish interpreters during appointments

15 NEW STUDENT INTERPRETERS

trained in 2022

6 STUDENTS

received academic language therapy association certificates sponsored by ICC

Source: ICC Annual Report, 2022. Slide 18.

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# By Judy Masterson Photos by Michael R. Schmidt 14 SPRING 2023 HELIX



Artificial Intelligence (AI) chatbots like OpenAI's ChatGPT¹ could help unfetter the future of education, work and practice. Powered by algorithms, the machine-learning programs are trained to identify patterns, generate outputs, and improve those outputs through data and feedback. Vice President for Interprofessional Education and Simulation James Carlson, PhD ¹12, PA-C ¹01, CHSE-A, a 2021-22 AMA Health Systems Science Scholar, foresees a future in which generative AI augments and supports learning and practice, reduces burnout, and improves human health and well-being.

**Helix:** All chatbots use artificial intelligence to understand questions and deliver answers. How is All technology driving healthcare delivery?

JC: AI is just one of a number of trends that will revolutionize the way that we take care of patients and the way patients seek and expect care. Another is the internet of medical things — devices like wearable sensors, remote glucose monitors, pulse oximeters — that collect information on specific behaviors or physiologic parameters that we can use to make treatment decisions. Presently, health care is really good at gathering large-scale data that are captured and stored in the cloud. What we're not as good at right now, but that I think AI will improve, is interpreting that information. AI can help harvest that data, interpret it, and send recommendations back to healthcare professionals and their patients. AI will help us to rethink how we do our work. I think it will augment, not replace, our decisions for the better — if we learn how to integrate it into our decision-making.

How might faculty incorporate tools like ChatGPT, which some educators and systems are banning or restricting?

The genie's out of the bottle. Generative AI tools will cause a shift in how we educate at all levels. We need to teach ourselves and our students how to appropriately utilize information, and one way to do that is to set the device down and engage in conversation. We still teach at the bedside and still ask the question of the learner, "What do you think is going on with the patient — and, more importantly, why do you think that?" ChatGPT can provide information, but it's up to us to interpret that information in a way that is meaningful for our patients. AI will provide us with more refined information, but humans are still responsible for critical thinking and applying information in novel circumstances. Humans are still the explainers. As teachers, it means probing further and asking students if AI tools are delivering any new or alternate information of value, and how that information applies to a specific patient or clinical question.

You said you're teaching students to keep "gee-whiz technologies" in perspective.

Yes, to keep anchored on why they're using them, or how they anticipate they will use them and how the technologies will help achieve the Quadruple Aim of Health Care. They need to ask: How does this improve the health of my patient or the general population? How does it reduce the cost of care? Does it actually help us be more efficient and effective at prediction and keeping people well? How does it help the patient experience? Does it translate to better decisions that prevent illness and keep them out of the hospital? Does it build the well-being of the care team by improving workflow or reducing the cognitive load associated with data analysis and complex decision-making?



#### How might AI help build care team well-being?

Numerous studies show a lot of care team well-being issues — that burnout is real. Health care on the front lines is a rewarding profession, but it's also a demanding profession. One of the big factors is the electronic health record, where we're inputting data. A recent study showed that for every one hour of patient care, many clinicians are charting for two hours. There's a decreased satisfaction and increased burnout with that. AI is already being harnessed in products that record patient/provider conversations and use that information to populate the medical record. It will take time for experienced healthcare professionals to trust AI, and it will take time for our patient populations to trust AI. We're not there yet, and AI's not perfect. But when we learn how to use it and recognize that it's a tool that has value in certain areas, it will free up our time to allow us to spend more quality time communicating with our patients, which leads to greater satisfaction for them and for us. In the near term, if AI and data tools can help us improve workflow and allow us more time to connect with our patients, burnout will likely decrease.

#### Can you expand on how you see AI tools sparking positive changes in lifelong learning and practice?

We're in an interesting place. Historically in most of our healthcare professions, we spend so much time mastering information, much of which will change throughout our careers due to scientific advances. Patients rely on that foundational training, the pattern recognition we learn over thousands of patient cases, and the accuracy we gain through experience. AI is not replacing that — yet. But we can't know everything and we shouldn't try to know everything. We can use generative AI to fill the gaps, to present the most recent data on the best treatment targeted specifically to that patient — without having to keep up on every single journal article or new medicine that comes out. What does that mean for our roles? I think it's rather freeing. It's giving us tools in a less cognitively burdensome way. We don't have to be the expert in the room on all things. We just need to know how to use AI to inform the decisions we make and customize for a particular patient based on the most recent and available information. AI can also help us collaborate around the knowledge and skills of other members of the healthcare team through accessing a larger network of information and practice patterns across professions, exposing us to new ideas or ways of approaching a problem.

#### How is AI transforming clinical decision-making and what does that leave for the practitioner?

Generative AI is being trained to offer clinical decision support that could help us in areas where we are still struggling, like missed and delayed diagnosis, which every year affects more than 12 million people and costs us about \$1 billion. These are novel and emerging technologies — not new, but finally getting to a place where they are accessible enough and accurate enough to easily integrate into the regular care of patients. AI tools have the potential to help us more accurately diagnose and treat a specific patient, but the healthcare professional needs to sit with that patient and coach them through the choices and decisions that are the best fit. AI could probably ask the questions and even diagnose the condition, but it can't read the emotion that a patient is sharing. It has no awareness of the patient's specific home or social circumstances — their social determinants of health. AI will probably be good at recommending treatment options, but will it be able to help a patient decide which specific option to choose through a balanced discussion around risk vs. improvement?

We discussed some of these topics in the final session of our Foundations of Interprofessional Practice course last February. We asked our students to think about what these new technologies mean for their professional roles and responsibilities, for their relationships with their patients and the members of their healthcare teams. The answer is we don't know for sure — yet. But we do know that AI tools are impactful but won't always be right. We still need to prove the information AI places in front of us. And while AI is going to move forward really quickly, our patients will still need and seek that human touch, that human and healing interaction. ×

- A chatbot launched by San Francisco-based OpenAl in November 2022 openal.com/blog/chatgpt
- The Institute for **Healthcare Improvement** defined a "Triple Aim of Healthcare" in 2007 as enhancing patient experience, improving population health and reducing costs; it was expanded in 2014 by Thomas Bodenheimer and Christine Sinsky in The Annals of Family Medicine to include improving the work life of healthcare providers, including clinicians and staff.
- In September 2016, Annals of Internal Medicine released "Allocation of Physician Practice: A Time and **Motion Study in 4** Specialties," which reported that "for every hour physicians provide direct clinical facetime to patients, nearly two additional hours is spent on EHR and desk work within the clinic day. Outside office hours, physicians spend another one to two hours of personal time each night doing additional computer and other clerical work," acpiournals, org/doi/10.7326/M16-0961?articleid=2546704

A 2022 report by the Journal of the American Medical Association found that "many physicians perceive that medical documentation is onerous, detracts from face time with patients, and drives burnout." jamanetwork. com/journals/jamainternalmedicine/fullarticle/2790396

Designed for all first-year, on-campus clinical students, the course is built around the Interprofessional Education Collaborative's Core Competencies for Interprofessional Practice: teamwork, communication, values/ethics, and roles and responsibilities. rosalindfranklin. edu/about/ interprofessionalism/

Dr. Carlson ran a test of ChatGPT's abilities by typing in a command to "write a 400 word column on how artificial intelligence will impact diagnostic and therapeutic accuracy." The result, he said, "came back in about two minutes."

#### **RESPONSE FROM CHATGPT**

Artificial intelligence (AI) has the potential to revolutionize healthcare, especially in the field of diagnostics and therapeutics. By analyzing vast amounts of data, AI algorithms can help identify patterns and insights that may be difficult for humans to detect. This has the potential to improve accuracy, reduce errors, and ultimately lead to better patient outcomes.

One area where AI can have a significant impact is in medical diagnostics. Machine learning algorithms can be trained to identify patterns in medical images, such as X-rays and MRIs, that may indicate a specific disease or condition. This can be especially helpful in cases where the diagnosis may be difficult for a human radiologist to make, such as in cases of early-stage cancer or rare conditions.

AI can also help improve the accuracy of laboratory tests. By analyzing data from a patient's bloodwork, for example, an AI algorithm can help identify patterns that may indicate a particular disease or condition. This can be especially helpful in cases where the diagnosis may be difficult to make based on traditional lab tests alone.

In addition to diagnostics, AI can also have a significant impact on therapeutics. Machine learning algorithms can be used to help identify the most effective treatment for a particular disease or condition based on a patient's unique characteristics, such as their genetics and medical history. This can help reduce the risk of adverse side effects and improve overall treatment outcomes.

AI can also help improve medication adherence, which is a critical factor in the success of many treatments. By analyzing data from wearable devices or other sources, AI algorithms can help identify patterns that may indicate a patient is not taking their medication as prescribed. This can help healthcare providers intervene and provide additional support to help the patient stay on track with their treatment.

Despite the potential benefits, there are also some challenges to implementing AI in healthcare. One of the biggest challenges is ensuring that the algorithms are accurate and reliable. This requires access to high-quality data and rigorous testing and validation processes.

Another challenge is ensuring that the use of AI in healthcare is ethical and transparent. This includes ensuring that patient privacy is protected and that healthcare providers are able to explain how the algorithms are making their recommendations.

In conclusion, the impact of AI on diagnostic and therapeutic accuracy has the potential to be profound. By analyzing vast amounts of data and identifying patterns that may be difficult for humans to detect, AI algorithms can help improve accuracy, reduce errors, and ultimately lead to better patient outcomes. However, it is important to ensure that the use of AI in healthcare is ethical, transparent, and grounded in the principles of patient-centered care.



#### Commentary from Dr. Carlson on column:

ChatGPT did a sound job writing a column with known information where AI has demonstrated efficacy on reviewing medical images and lab tests

The chatbot, appropriately and surprisingly, brought out the potential ethical challenges related to the role of AI in patient care. However, it played it safe and lacked any opinion or provoking thoughts on the matter. Just raised the issue.

Overall, the ChatGPT column presented the facts as to what is known about the topic, but did not offer meaningful or thoughtprovoking insight that made me (the reader) deeply consider the topic. It brought up the facts as to what is known or what has been proven on the topic, but it lacked the creativity or perspective to hypothesize what might be possible for the technology in new ways. It was a retrospective look that clearly focused on the available data that could be analyzed but lacked the vision for how Al could be applied to new or different types of patient encounters or situations. That level of creativity appears to remain uniquely human ... for now.

> Above: From left, Norman Paschal, an RFU simulations operations specialist, with Dr. Carlson at the Center for Advanced Simulation in Healthcare on the RFU campus.

# EMERGENCY MEDICAL SERVICES IN THE UNITED STATES ARE "UNDER SIEGE," says Martin Pelletier, CMS '26.

The COVID-19 pandemic and its strain on emergency health care exacerbated widespread burnout among EMTs and paramedics and worsened turnover.\footnote{1} Too few people are in the pipeline\footnote{2} to replace those who have left the field, dissuaded from the profession because of long hours, low pay and diminishing morale. Mr. Pelletier, a first-year CMS student, is hoping to change all that. A certified paramedic, he joined two classmates to launch the EMS Advocacy Group at RFU. The prospective emergency care providers hope to troubleshoot parts of the industry, raise awareness about the importance of emergency medicine, provide support and resources for providers, and strengthen collaborations to ensure the best quality of care for patients.



## Respond

Organizers are planning events and meetings to discuss welfare of emergency medical providers, boost morale, provide training opportunities and more to support the profession, Mr. Pelletier said.

"I wanted to be an advocate for our profession and be a beacon of integrity," Mr. Pelletier said.

#### A TEAM APPROACH TO EMERGENCY MEDICINE

Mr. Pelletier has wanted to be a doctor since he was 10, but he spent much of his formative years playing competitive tennis in New England.

But "my serve was terrible," and he was cut from the St. Lawrence University team, he said.

Needing a new passion and clinical experience as a pre-med student, he became an EMT when he was still a teenager. EMTs provide basic life support, including CPR, rescue breathing, administering Narcan or epinephrine, and stopping bleeding.

Then he went to the next level and became a paramedic when he was 21. Paramedics are more advanced pathophysiology providers who undergo hundreds of hours of training. Paramedics can start IVs, do advanced airway management and carry a wider variety of drugs than an EMT.





## FISt

### Future Physicians Huddle with First Responders

By Dawn Rhodes
Photos by Michael R. Schmidt



The path wasn't easy, he said. He barely passed the EMT exam and was rejected from the first few jobs he applied to. He nearly failed out of paramedic school, he said.

But he persisted and put those skills to work, using both levels of certification as a first responder in a rural area and a busier metropolis for Canton Rescue in New York and Brewster Ambulance Service in Massachusetts.

Then he had a "quarter-life crisis," Mr. Pelletier said. He struggled in school, grappled with depression and lost two of his closest friends. He graduated from St. Lawrence in 2018, but he wasn't ready to jump into medical school.







Above, from left: Mr. Pelletier at the EMS Advocacy Group's inaugural meeting on Feb. 1; prior to the meeting. Mr. Pelletier and a group member speak with Chief Schrage and Chief Siebert; Chief Schrage details his department's response to the Independence Day tragedy; and Chief Siebert answers questions about how the Lake Forest Fire Department managed operations

during COVID-19.

He took time off, traveled and got married. He started extra courses in 2019 to prepare for medical school.

Then COVID-19 hit. Back on the East Coast, he began working again as a paramedic and EMT as the pandemic swept the globe.

His experiences illuminated how first responders are a vital factor within a larger continuum of care, Mr. Pelletier said.

"Working as a paramedic, you learn that it isn't just a doctor, it isn't just a nurse involved in ideal patient care; it's a team approach with multiple facets coordinating that makes patient care successful," Mr. Pelletier said.

And that was part of the spark for the EMS Advocacy Group when he enrolled at RFU last fall, he said.

Mr. Pelletier joined two colleagues from the CMS Class of 2026 to co-found the group: Mike D'Elia, who worked as an advanced EMT for Austin-Travis County EMS in Texas, and Arjuna Karikaran, who came in with background as an EMT with Grady EMS in Atlanta.

They recruited members from RFU and throughout the Chicago area. The group has about 15 people, including physician assistants and other emergency care providers, Mr. Pelletier said.

"(It) was important to include these other entities, because we don't want EMS to be living in a bubble of just EMTs and paramedics. We want to be interacting with the medical providers," Mr. Pelletier said.

As one of their first orders of business, organizers brought in two North Shore fire department chiefs to share their experiences in the industry and how being part of a larger medical community supports their work.

#### **COLLABORATIONS THAT SAVE LIVES**

Nowhere was that collaboration more critical than the July 4 mass shooting in Highland Park, when seven people were killed and 48 wounded, Fire Chief Joe Schrage said at the group's meeting in February.

The small department, minimally staffed because of the holiday, was quickly overwhelmed by the disaster, Chief Schrage said. But he added that several things worked in their favor to help wounded people.

The department's trucks arrived on the scene in under a minute, Chief Schrage said. Police helped keep paramedics and EMTs safe at the scene to help patients. The Mutual Aid Box Alarm System<sup>3</sup> brought first responders from throughout the North Shore to help.

Numerous local off-duty doctors jumped in to help, Chief Schrage said. Some luck was involved, too. An on-duty surgeon finishing another procedure got a critically wounded 8-year-old boy into surgery within minutes to stabilize his condition, according to Chief Schrage.

Paramedics had no time to fill out paperwork, which made it trickier to help families track down wounded loved ones. But Chief Schrage told the EMS Advocacy students that by working with the hospital, first responders were able to get that information to frantic relatives at the scene.

One thing they would have done differently was contact NorthShore Highland Park Hospital sooner, Chief Schrage said. He added that the first patients who showed up to the ER were the least severely wounded.





"We will look to you as our partners and our co-workers, and we need you as much as you need us." "So if you have no knowledge of an active shooter, what's your inclination? You're going to stick that in your critical care room, your trauma rooms," he said. "But your sickest people are yet to come. Your people with the most damage and the most trauma are yet to come."

That preparation is key — "Don't think it's not going to happen in your community," he warned. He added that first responders and medical providers should share mass casualty plans in advance, and ask for help right away for these types of emergencies.

"We will look to you as our partners and our co-workers, and we need you as much as you need us," Chief Schrage told the students.

Also addressing the EMS Advocacy gathering was Peter Siebert, chief of the Lake Forest Fire Department, who recounted how his personnel had to scramble when COVID hit and how they grappled with mixed messaging about the largely unknown virus. Whatever leftover PPE they had expired. Normally more concerned with masking up a contagious patient, they had to switch gears to wear masks themselves and mitigate their risk of exposure.

Eventually his department started weekly conferences with the Lake County Health Department to keep better informed on how to protect themselves and patients. Chief Siebert feels that the overall experience will help everyone be ready for the next health emergency.

"COVID ... I don't think is done. But who knows what's the next thing coming down the road? We just try to be as prepared as we can and have a system," he added.

Chief Siebert agreed it's a struggle to recruit firefighters and paramedics, <sup>4</sup> and he encouraged students to join them for ride-alongs to learn more about the profession. He said he supports what Pelletier, Karikaran and D'Elia are trying to do with the group.

"I hope more comes of it," Chief Siebert said. "I think there's sometimes a disconnect between the hospital environment and EMS. They see the patient in a different light. It's finding that happy medium. A lot of stuff happens in the beginning, and we're the first point of contact for people."

Mr. Pelletier and his co-founders have much more on tap for the group this year, including events for National EMS Week in May and continuing outreach efforts to foster strong relationships between EMTs and physicians and other healthcare professionals.

Though Mr. Pelletier is considering several options for his career as a physician, he said "emergency medicine is the number one seed at this point."

"Regardless of specialty, I will always feel committed to and dedicated to the EMS profession," he said. X

Dawn Rhodes is a Chicago-based writer and editor. She's worked in journalism for more than a decade.

<sup>1</sup>In 2022, the turnover rate — including both resignations and firings — for full-time EMTs was 36% and for full-time paramedics, it was 27%, according to an American Ambulance Association survey. The survey also found that more than one-third of new hires don't last through their first year.

<sup>2</sup> A federal study projected a need for 40,000 more full-time emergency medical personnel from 2016 to

Source: A federal study projected need. The Pew Charitable Trusts

pewtrusts.org/ en/research-andanalysis/blogs/ stateline/2023/02/06/ states-strive-toreverse-shortage-ofparamedics-emts

<sup>3</sup> A statewide system to activate and mobilize local municipal fire, EMS and special-operations assets in response to "large-scale incidents requiring complicated and time-consuming efforts beyond the capabilities of most agencies," according to mabas-il.org.

<sup>4</sup> According to Chief Siebert, the department employs 33 dually certified firefighter/paramedics, and 65 to 85% of its calls are for emergency medical services.

## 

By Judy Masterson

Photos by Michael R. Schmidt

The five years that Meredith "Misty" Fils, MS '14, PA-C, lived and worked in post-Hurricane Katrina New Orleans, was an immersion in community and the structural forces that shaped the health of her neighbors. The most destructive hurricane in U.S. history, Katrina made landfall along the northern Gulf Coast in late August 2005, leaving in its wake more than 1,800 people dead and \$186 billion in property damage.





Into the devastation stepped Ms. Fils, a new college grad with a degree in social work on her first deployment as an AmeriCorps volunteer. She moved into a tent city in Algiers, a neighborhood on the other side of the Mississippi River, and worked with FEMA on providing ground-level disaster relief — delivering new refrigerators and donning a hazmat suit for mold remediation.

"Everyone was struggling," she recalled. "Everyone was miserable, hungry, with nowhere to go. Looking back, I realize people who had the funds to leave left for other states. I saw the disproportionate effect in lower socioeconomic areas like St. Bernard Parish. And people with chronic health conditions — heaven forbid they had a COPD exacerbation or DKA (diabetic ketoacidosis). Maybe an ambulance would get to them in time, maybe not."

A 2010 study by the Population Reference Bureau found that Black residents bore the brunt of the disaster. The mass trauma and displacement and the glacial pace of recovery, all which scholars trace to a century of policy decisions that drove inequities, spurred Ms. Fils to deepen her commitment. She earned certification as an EMT/paramedic at a community college in St. Bernard Parish and worked as a paramedic/emergency department technician at Tulane University Medical Center near the French Quarter, then as a paramedic for the city's 911-response agency in health resource-poor Orleans Parish.

"Post-Katrina New Orleans was a singular event in my life," Ms. Fils said. "It's what really prompted me to become a PA. We all had sort of an expanded scope of practice in those first months after the storm, because there weren't enough people to do the work. I remember being a paramedic and just constantly thinking, 'I want to do more. I'm capable of more. How can I do more?' The PA profession was the perfect fit."

Now director of didactic education and instructor for RFU's Physician Assistant program and assistant medical director of the student-driven Interprofessional Community Clinic, Ms. Fils advocates for diversity, equity and inclusion across her academic roles.

"In every lecture, I intentionally uncover and teach the inequities," she said. "I am sad to say that I have yet to find a health topic in which a disparity does not exist. I do my very best to give context to disparities, even when that context is incomplete because research into health inequities is so lacking.

"For instance, why are outcomes for CPR in the U.S. different for people of color and for white people? Why could that be? We're all doing the same CPR, so why are outcomes different? We may know, we may not. And how are we going to change that? When a PA student gets that first job in the ER, what can they do to help eliminate this disparity? To me, that's the big question." X

Opposite page, below and following page: Ms. Fils works with students in her role as assistant medical director of RFU's Interprofessional Community Clinic.



"I remember being a paramedic and just constantly thinking, 'I want to do more. I'm capable of more. How can I do more?' The PA profession was the perfect fit."





Raised a Sephardic Jew¹in a close and loving Spanish- and Ladino²-speaking family, Misty Fils, MS '14, PA-C, was mocked, bullied and ostracized as a school girl in the 1980s, an era of multiculturalism³. She absorbed the lesson that "To be a minority means you're the loser," she said.

"I was a minority within a minority," Ms. Fils told participants in RFU's Inaugural Diversity Retreat, 4 "From the Ashes: The Rise of Inclusion and Belonging and the Decline of Exclusion and Hate," held Jan. 20. "Throughout my teen years, I was always the other and seemed to be punished for being the other."

The idea that differences in race, language, gender and religion steer social advantages and disadvantages crystallized for her as a young adult working as a paramedic in the aftermath of Hurricane Katrina.

"In New Orleans, I started to understand that all those years of exclusion and discrimination had taught me really instinctively and protectively to hide or even actively deny that I might not be a member of the majority," Ms. Fils said. "I vividly remember trying to forget my Ladino and my Spanish. I wanted to pass, and I could pass."

## "Advocating for and teaching tomorrow's clinicians why and hopefully how to help create environments that are inclusive of others is what I'm passionate about."

She shared an "identity circle"<sup>5</sup> revealing more than 30 aspects of her identity, including single mom/mother of a special needs baby, <sup>6</sup> lifelong learner, physician assistant, American, white-appearing, cisgendered woman, able-bodied person and advocate.

"Being our authentic selves builds trust in the classroom and in healthcare settings," said Ms. Fils, a former member of the Illinois Academy of Physician Assistants Legislative Committee. She also leads the PA Department's DEI Committee and sits on the university's Employee DEI Committee.

"Advocating for and teaching tomorrow's clinicians why and hopefully how to help create environments that are inclusive of others is what I'm passionate about," Ms. Fils said. "That means for my colleagues, for my students, for my son and daughter. I want others to feel that their experiences are valid, that their communities are respected and that they can claim their identities, whatever they are, without fear." X

<sup>1</sup>Sephardic Jews, who originated from Spain, Portugal and the north of Africa and Middle East, experienced a cultural disconnect on coming to the U.S., where Ashkenazi Jews of German and Eastern European extraction "had a very different understanding and expression of what it means to be Jewish." according to Devin Naar, professor of history at the University of Washington, who told NBC News in 2019: "When Jews from the Ottoman Empire started coming to the U.S., they discovered that category of 'Jewish' was already taken. There was a sense of condescension, including towards the Spanish language."

<sup>2</sup> An endangered Romance language spoken by the descendants of Spanish Jews who were expelled from Spain after 1492.

<sup>3</sup> Rooted in the Civil Rights Movement, **multiculturalism challenged inequalities** in education, employment and artistic expression and pushed for reforms consistent with the growing racial and ethnic diversity of the country.

<sup>4</sup>RFU is committed to inclusive excellence in leadership, education and community engagement. The Diversity Retreat was an opportunity for those within and outside the university community to come together, learn, reflect and advocate for diversity, equity and inclusion.

<sup>5</sup> Aid for sharing and reflection on qualities that people believe make them who they are.

<sup>6</sup> Ms. Fils has two children — Lorencito, 3, and Gabriella, 1, who was born with tuberous sclerosis, a rare genetic disease.

# GRAINGER FOUNDATION SUPPORTS 'BOLD VISION' FOR NURSING

By Judy Masterson and Amy Knutson Strack

RFU and Lake Forest College received a \$1 million gift in early 2023 from The Grainger Foundation to support scholarships for RFU's novel Nursing Education to Workforce (NEW) Pathway Program. The multiyear scholarships provide transformational opportunities for eligible students from underserved areas in Lake County who want to return post-graduation to their local communities to practice. The Grainger Foundation joins a host of dedicated organizations — including the Dr. Scholl Foundation, John and Kathleen Schreiber Foundation, Washington Square Health Foundation and an anonymous donor — partnering with RFU to build a nursing workforce in the region and strengthen health care in communities.

"The need for high-quality education provided in the student's local environment is urgent."

"We're responding to a tremendous community need with a bold vision supported by strategic partners who share our desire to address inequities in our region," said RFU President and CEO Wendy Rheault, PT, PhD, FASAHP, FNAP, DipACLM. "Together, we're expanding access to education to graduate highly-trained nurses whose understanding of the communities they serve can help build trust in health care."

At least 10 recipients will receive an annual scholarship up to \$20,000 over the course of the accelerated 3+2-year program, in which students earn a bachelor's degree from Lake Forest College in a non-nursing field and a Master of Science in Nursing for Entry into Nursing Practice degree from RFU.

Lake Forest College President Jill M. Baren, MD, praised the focus on increasing educational attainment for area students, adding that "the need for high-quality education provided in the student's local environment is urgent."

Data from Lake County Partners, which is focused on economic development in Lake County, shows that 300 nursing positions went unfilled in the county before 2020. The COVID-19 pandemic and an aging workforce are accelerating that shortage.

Sandra Larson, PhD, CRNA, APRN, FAANA, FNAP, founding dean of RFU's College of Nursing, said today's nursing workforce requires knowledge in 10 domains of nursing practice, including healthcare information systems and technologies, established and emerging principles of quality and safety, as well as knowledge from other disciplines.

The donation recognizes innovative community partnerships that tackle complex issues of health equity, nursing education and workforce barriers.

"It is with pleasure that we support Lake Forest College and Rosalind Franklin University's efforts regarding this unique and important program addressing the critical healthcare needs of Lake County and our surrounding communities," said J.L. Howard, chairman of The Grainger Foundation. X



#### SUPPORT THE NURSING PATHWAYS SCHOLARSHIP PROGRAM

Recipients must have a desire and commitment to pursue a career in nursing and return to the community to practice. Learn more. **CHICAGO MEDICAL SCHOOL'S MINI MEDICAL SCHOOL PROGRAM, NOW IN ITS SECOND** YEAR, GIVES FOURTH **AND FIFTH GRADERS** FROM A.J. KATZENMAIER **ACADEMY (AJK) IN NORTH CHICAGO A UNIQUE OPPORTUNITY TO LEARN ABOUT MEDICINE AND SCIENCE DIRECTLY FROM MEDICAL STUDENTS — SOMETHING MANY OF THE KIDS HOPE** TO BE ONE DAY.

By Sara Skoog

Photos by Michael R. Schmidt





Mini Medical School (MMS) launched during the 2021-22 academic year as a project funded by the Creating Pathways and Access for Student Success (CPASS) Foundation that CMS alum and former Assistant Dean for Diversity and Inclusion Mildred MG Olivier, MD '88, developed as a fellow in the Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) program for women faculty in schools of medicine, dentistry, public health and pharmacy.

Dr. Olivier worked with CMS leadership on creating a program to address the need for a STEM educational pathway at CMS and engage students at the elementary school level, along with their parents/guardians and teachers, in a program designed to encourage healthcare aspirations among student populations traditionally underrepresented in medicine.



"The goal is to have **CMS students of color** participate so that the elementary school children can see someone who looks like them, in a white coat, telling them that they can do this, too."





"That's really the whole premise of the program: to inspire kids to become physicians," said Jamal Turner, MSA, MJ, diversity coordinator for the CMS Office of Excellence in Diversity and Inclusion. "There are approximately 30 CMS students who volunteer with Mini Medical School, mainly M1s along with M2s, and they are the ones who present the material in the mini-med classes. The goal is to have CMS students of color participate so that the elementary school children can see someone who looks like them, in a white coat, telling them that they can do this, too."

"I'm a product of a similar MMS in California," said Juan Medina-Echeverria, CMS '25, former Mini Medical School Executive Committee member and parent of a child in the 2023 MMS cohort. "I remember when I was in sixth grade, a group of medical students came to my under-resourced community and talked about the 'mighty mitochondria.' Now that I am in a position to give back, it made me realize the importance of community work and motivating under-resourced communities to diversify medicine and hopefully have better health outcomes in those underserved communities."

Curriculum development for the MMS program begins with an Executive Committee that includes nine CMS students and MMS program director Myrtis Sullivan, MD, MPH, FAAP, assistant professor and assistant dean for diversity, equity and inclusion at CMS. The students create lesson plans for each session of the program, with a focus on a different system of the body each week. Dr. Sullivan reviews all curricular elements to ensure the content is accurate and presented at the appropriate literacy level for fourth and fifth graders.

While all MMS sessions were held virtually its first year due to COVID, 2023 marked the program's first in-person elements, including a white coat ceremony for the children, cardiovascular lessons that allowed the kids to practice CPR on mannikins and a commencement ceremony held at RFU. The program took place over five Saturday mornings from January through March.

Each MMS day starts with CMS students administering a pre-quiz to gauge the children's awareness of the particular system of the body that day's class will cover. CMS students then guide the children, in breakout groups, through the day's material and direct them in hands-on activities that reinforce the key concepts of the lesson. Everyone then comes back together to discuss what they learned and take a post-quiz that measures the children's comprehension of the material. New this year is a nutrition component developed by Sarah Arora, CMS '24, who holds a nutrition certificate and volunteered to create lessons specific to the body system covered each week.

All of this work is done on the CMS students' own time, Mr. Turner said. "All the CMS student participants are volunteers. I put out a call for volunteers each year outlining the responsibilities involved with serving and ask the students to provide a statement explaining why they are interested in volunteering with Mini Medical School or why being part of this program is important to them."

#### **LIFELONG LEARNERS**

One of the students who answered the call was Gloria Essien, CMS '26.

"When I was applying to the mini-med Executive Committee, we had to write an essay, and as I was writing, I thought about how much I love being around kids and watching them learn," said Ms. Essien. "In a way, we're all learning the same material about the human body, just at different levels — med school vs. elementary school. Watching how they absorb the information and listening to the questions they ask, how they explore their curiosity, is teaching me to interact with my studies in different ways. Kids remind us that we're always learning, and that's incredible to be around."

Top to bottom: A.J. Katzenmaier Principal Malika Rodgers addresses Mini Medical School students and their parents; White Coat recipients posed for photos with family members following the ceremony: Gloria Essien, CMS '26, reviews information with students.

#### MAKING AN IMPRESSION

CMS students Joseph C. Rumenapp, PhD, CMS '25, and Juan Medina-Echeverria, CMS '25, reflect on what their involvement with Mini Medical School means to them.

#### On the Mini Medical School White Coat Ceremony

"Tonight was one of those nights that I will reflect on and smile about for a very long time. I saw kids gleam with excitement when it was their turn to get their white coat. I saw parents who were beaming with pride when their child's name was called. I saw kids pull the arm of their parents, smile and point to their siblings walking across the stage. I saw a principal genuinely finding joy in her job as an administrator. I saw community partners relieved and happy that hours upon hours of hard work finally came to fruition. I saw CMS faculty members and our dean caught up in a moment of joy and awe."

- Joseph C. Rumenapp

#### A Parent's Pride

"My son, Giovanni, was at the right grade level to participate in MMS this year. He hesitated at first, because he believed he didn't have the science background to take part. But we encouraged him, and after his first class, Giovanni loved it! He wouldn't stop talking about all the amazing facts he had learned, the experiments and the nutritional aspect for that class. As a parent, seeing the impact this program made was amazing. Seeing my son motivated to pursue a career in medicine at such a young age and sparking curiosity was golden."

Juan Medina-Echeverria,
 who is shown above meeting with
 Mini Med students.



As a member of the program's Executive Committee, Ms. Essien took a lead role in developing the content for the lesson focusing on neuroscience and mental health. She and fellow committee member Joseph C. Rumenapp, PhD, CMS '25, covered basic anatomy of the nervous system — illustrated by a colorful paper "brain hat" to help students name the different lobes of the brain — followed by an age-appropriate discussion about mental health.

"When we talked about mental health disorders, that reminded me of how grown up kids are. Having conversations about such a heavy topic, we made sure we had content that was accessible to 10-year-olds so we could talk about it in responsible ways," said Ms. Essien.

Building rapport with the children throughout each session was a key element of the program's success, she added. "We could tell when the students were starting to trust us more, because they were becoming more comfortable expressing their curiosity and coming to us with questions. Seeing those barriers dissipate the more they got to know us felt like an honor. For a kid to trust you, that's like the ultimate reward."

Ms. Essien grew up in Massachusetts and first became part of RFU when she was accepted into RFU's Pre-Matriculation Program (PMP), a non-degree program for underrepresented students interested in medicine. She completed PMP, applied to CMS and was accepted as a member of the Class of 2026.



Mini Medical School is the result of close collaboration between CMS/RFU and the following partners:

**A.J. Katzenmaier Academy of North Chicago**, an elementary school serving fourth and fifth grade students in North Chicago. Illinois.

North Chicago Community Partners, a provider of programs and services that complement classroom instruction and enhance student learning in North Chicago schools.

Creating Pathways and Access for Student Success (CPASS)
Foundation, a nonprofit organization dedicated to increasing the number of Illinois students of color in healthcare and STEM professions.
CPASS is the financial supporter of Mini Medical School.

Above: A group shot of the spring 2023 Mini Medical School cohort in an A.J. Katzenmaier Elementary School hallway following the white coat ceremony. Her enthusiasm for the MMS program, and her joy in working with the children, became more evident with each anecdote she shared about her experiences. "It was so fun to see the kids who would show up each week in their white coats, with a stethoscope around their neck, telling us, 'I'm going to be a doctor like you!' Or the students who maybe weren't sure about medicine but tell us they're here because they love science. And you want to encourage that and tell them whenever you can, 'Yes, I believe you can do that!'

"I distinctly remember being in fourth grade, maybe 11 years old, and there was a contest where we drew what we wanted to be when we grew up, and I think I drew a surgeon in a scrub cap," Ms. Essien said while recounting her own journey toward a career in medicine. "I just thought it was cool at the time. Now I think back on that moment and see how everything snowballed from there to now, with me being a medical student.

"You never really know exactly what moment is going to plant that seed in a kid, so even if only a couple of our AJK students decide that yes, this is their passion and they are determined to pursue it, then I think the program will have done its job." ×

Sara Skoog is a staff writer with RFU's Division of Marketing and Brand Management. In addition to writing for Helix and other university publications, she also produces Pulse, RFU's monthly e-newsletter.



#### Elliot Rubinstein, MD '69, and wife P.A. Rubinstein credit Chicago Medical School — and one historic snowstorm — for a lifetime of good fortune.

From falling in love to career achievements, the Rubinsteins trace much of their success to when Dr. Rubinstein trekked from New York to begin his studies at CMS. Following his aspirations to become a doctor, Dr. Rubinstein speaks humbly about being accepted into CMS.

"I was scared," said Dr. Rubinstein. "I didn't want to disappoint myself, my parents and all those who supported me. The first semester was very trying and intense."

In addition to developing his own self-confidence, Dr. Rubinstein learned that professors supported the entire class to reach the finish line, extending an all-in attitude to help each other succeed.

"After the first semester, I said, 'I can do this, this is not a problem,'" said Dr. Rubinstein. "The only obstacle was going to be myself."

Shortly into his second year of studies, he met P.A.

#### FROM SNOWBOUND STRANGERS TO

## ENSURING STUDENT FUTURES

During the record-setting 1967 Chicago snowstorm, 26 inches of snow fell in two days. Dr. Rubinstein was at his apartment on the North Side of the city near Lake Michigan. Mrs. Rubinstein, a teacher from a small town in Illinois, lived there, too.

"We lived in the same apartment building for six months and never met," said Mrs. Rubinstein.

Unable to venture outside, a mutual friend hosted a gathering of neighbors where Dr. Rubinstein joined and met Mrs. Rubinstein for the first time. They dated until they married in 1970 — with a snowy, winter wedding.

At first, Dr. Rubinstein thought of becoming an OB-GYN, but he reconsidered it after working with asthma

patients. Even routine work — such as learning how to administer IV drugs slowly, which significantly helped people breathe better — informed his career choice.

The work also shaped the care he offered patients, each with their own needs.

"The two years of clerkship at CMS showed me and taught me how to be a good clinician. People are not clients. Everyone is different."



### "Chicago Medical School gave me this opportunity, and we strongly feel that helping (students) is the least we can do."

By Amy Knutson Strack

By 1977, the Rubinsteins moved to Ithaca, New York, where Dr. Rubinstein bought an allergy practice and started Asthma & Allergy Associates. Still in Ithaca and recently retired — with two children and five grandchildren — together they have been long-time donors to the university, rooted in a vision to give back. In 2019, they established the *Elliot Rubinstein, MD '69, & P.A. Rubinstein Honorary Endowed Scholarship* to support students.

"When it comes down to life ... you have family, close friends and a lifestyle. We've managed to do all three with Chicago Medical School, and we strongly feel that helping (students) is the least we can do," said Dr. Rubinstein.

As they remember their start in Chicago, the Rubinsteins partner with CMS to ensure students reach their aspirations. And every year, they watch Chicago winter weather reports — just to make sure their 1967 all-time record snowfall sticks.  $\times$ 

Amy Knutson Strack is director of advancement communications in the Office of Institutional Advancement.



# WAYFARING STRANGERS COME TOGETHER

By Sabreen Alfadel

Photos by Michael R. Schmidt

One of the fascinating aspects of health care is that it encompasses different health systems — many of which are physical systems - yet spiritual health seldom gets accounted for. In an effort to reveal the physical, mental and social aspects of the care system, the **Muslim Student Association (MSA)** collaborated with the Rosalind Franklin **Christian Fellowship and Jewish Student Union during the 2022-23** academic year. The groups hosted a four-part Spiritual Wayfaring Series to help attendees realize and meet their spiritual needs through the lens of the three Abrahamic religions: Islam, **Christianity and Judaism.** 



Shahzaib Haider, CMS '25, a member of MSA and organizer of the series, led guided discussions around spiritual health, and emphasized the importance of meeting spiritual needs from a healthcare standpoint. Shahzaib was always one to reflect on the importance of spirituality, and reached out to two students from the Jewish and Christian student organizations with whom he had previously established a relationship. He said it was important to him to get their guidance, support and camaraderie in fostering this series.

"(Spirituality) has helped me get in touch with my mental health, get a good grasp of my emotional connection to myself, my understanding of my own emotions and how I interact with people," Shahzaib explained. "It really had this multifaceted improvement in my life once I started exploring it a number of years ago. I wanted to give that back to the community as well."

Shahzaib always appreciated the motivation behind MSA's past events — unity and creating a community that checks in on itself — and he wanted to achieve a similar outcome with the Spiritual Wayfaring Series. His goal was to encourage future healthcare providers to look at spiritual health as a system of mental health. Ultimately, Shahzaib provided a space for attendees to become aware of their spiritual health, and also consider this aspect of their patients' identities.

"As future healthcare providers, it's not enough to just treat disease on a physical level, though obviously that's what most of these patients are coming for," Shahzaib said. "When you're talking about continuity of care, and patients you're going to see routinely, it's important that you are cognizant of these kinds of aspects of their life."

"As future healthcare providers, it's not enough to just treat disease on a physical level."

Shahzaib was very intentional in the way he ran the sessions, from setting up a PowerPoint for visual aid to ensuring that everything took place in-person, which allowed for attendees to easily connect and feel comfortable engaging in vulnerable discussions. The first session was designed to gauge where attendees were in their spiritual journey, ensuring a shared understanding of the experience. Subsequent sessions then explored more abstract subjects, like the idea of God or a higher power, and discussed virtues, morality and methods of increasing spirituality.

That's what Shahzaib liked most about it being interfaith: "Though I'm not necessarily going to conduct the same practices as a different religion to uplift my spirituality, it helps to reframe some of the practices in my own religion.

"Getting folks to have this conversation together instead of just within their own head ... allows this constant back-and-forth of challenging your spirituality," he said. "Just like any muscle in your body, you have to challenge it to build it. You have to challenge your spirituality for it to be increased."

Opposite page:
Shahzaib on campus
with fellow Muslim
Student Association
participants. Below
right (in blue shirt):
Group members
include Maaz Haji,
CMS '25, who served
as MSA president in
spring 2023.







Shahzaib feels that spirituality is a journey that lasts a lifetime, and although the destination is one that is personal and not always attainable, he considers it important to seek greater knowledge and deeper understanding. In building various connections, one's holistic wellness can be strengthened.

"Health, diseases, disorders, they don't know any boundaries between people," he explained. "It's important to focus on our similarities rather than our differences, in order to better our own spiritual health and our patients' spiritual health in the future." ×

Sabreen Alfadel is a staff writer with the RFU Division of Marketing and Brand Management, specializing in content development for social media efforts and initiatives.



## NON-LETHAL AID CRUCIAL FOR UKRAINE'S SURVIVAL

By John Prunskis, MD, FIPP

THROUGH THE MICROSCOPE is a reoccurring Helix column that poses an issue to our community of experts.

Between 2014 and February 24, 2022, the war in Ukraine was localized; civilian and military assistance requirements were met by the government, civil society and Non-Governmental Organizations (NGOs). With the onset of Russia's full-scale invasive war posing an existential threat to Ukraine's sovereignty, a diverse people were united into an unprecedented civil movement. The flexible capabilities of civil society groups and NGOs were able to refocus and adapt quickly and effectively to Ukraine's new environment and its requirements.

NGOs procure humanitarian and non-lethal military aid, including extensive medical assistance. One of the major NGOs, Blue/Yellow — consisting of Blue/Yellow USA¹ and Blue/Yellow for Ukraine Lithuania — has been on the ground in Ukraine since 2014, providing Ukrainian civilians and defense forces with necessary vital aid.

Included in the *Forbes* top ten organizations worldwide working in Ukraine, Blue/Yellow helps on several levels: procurement/distribution of aid, financial support and advocacy, forming an integral part of the civil society aid effort. It has a proven track record due to its ability to be flexible, agile, react rapidly and find innovative solutions to problems. As a result of this record, Blue/Yellow was asked to testify at a congressional U.S. Helsinki Commission hearing on crowdsourcing victory in Ukraine in December of last year, and has been recognized by both Lithuania and Ukraine for its work.

"The destruction of medical infrastructure coupled with the constant bombing and shelling of civilian targets have complicated procurement, disrupted supply chains and impeded logistics."

While the medical care system in Ukraine continues to be resilient, the war severely impacts the provision of and access to care. The destruction of medical infrastructure coupled with the constant bombing and shelling of civilian targets have complicated procurement, disrupted supply chains and impeded logistics. The World Health Organization recorded 716 attacks on hospitals and other facilities in Ukraine between February and November 2022, with 144 facilities completely destroyed by Russian strikes.

Care is also complicated by the fact that injuries are different in type and number from other wars; for example, exploding single IEDs have been replaced by artillery and rocket barrages, while there is a shortage of basic supplies required for patient care. Hospitals which were functioning at a very high level prior to the war are seeing the supplies needed for performing surgery, among other things, become more and more difficult to procure. Ukrainian medical personnel and medics were not prepared for the need for such extensive combat casualty care for both civilians and military.

NGOs like Blue/Yellow provide everything from tactical medicine Individual First Aid Kits (IFAK) to armored ambulances. Blue/Yellow also works with governments, local and international NGOs, and medical teams to get specified training, medical equipment and personnel into Ukraine to transport severely injured patients to more advanced care centers within, or hospitals outside Ukraine, and to provide anything else needed. A complete list of necessary medical equipment and items is available at **foblueyellowukraineusa.org**.

All of this aid and assistance is either acquired using donations or donated directly, and such support will be imperative going forward for the duration of the war and during the reconstruction period. X

John Prunskis, MD, FIPP, is an assistant professor with Chicago Medical School and medical director of the longest established multisite interventional pain practice in the Chicago area, the Illinois Pain & Spine Institute. He has been honored 15 times by Castle Connolly's Top Doctors Awards in the category of Pain Medicine. He advised two Presidential administrations on issues pertaining to health care, precise diagnosis and treatment of painful conditions, and the opioid crisis. As a White House Presidential Advisor, he was asked to co-author the national guidelines on how pain should be diagnosed and treated as published in the HHS Best Practices Pain Task Force final report. He continues to advise multiple U.S. governors and others on these issues.

Assistance requests have been made for the following and more from government entities and the population in Ukraine:

- Tactical Medicine equipment and supplies
- Optics equipment
- Communications equipment
- Night Vision equipment
- Ballistic Vests
- Vehicles
- Drones
- Helmets
- Uniforms and related supplies
- Bedding
- Field equipment
- Other various requested items
- Medical assistance

Opinions expressed in "Through the Microscope" columns are solely those of the authors and are not intended to represent those of Rosalind Franklin University.

1 Friends of Blue/ Yellow Ukraine USA NFP, Inc., a US 501(c)3

### THROUGH PATHOLOGY



Elizabeth Bundock, MD '01, PhD '99

By Aubrey Penney

"If you think about all the innovations we've had to keep us safe, many of them are driven by information coming from medical examiners."

From studying lobsters as an undergraduate to analyzing heme analogues for treatment of neonatal jaundice, Elizabeth Bundock, MD '01, PhD '99, has been combing through cellular clues from the earliest stages of her career. These formative experiences crystallized her desire to focus instead on human disease. In search of translational results, she chose to pursue the MD/PhD combined degree and joined the research community at the School of Graduate and Postdoctoral Studies (SGPS), where she studied the dopamine neurons lost in Parkinson's disease.

Completing her residency in pathology and fellowship in neuropathology at Brigham and Women's Hospital, Dr. Bundock sought a path forward that balanced the needs of her young family, the health of her community and the work that gave her the most joy. "You're a fish in a stream, pushed this way and that; you make choices along the way discovering what you love. You wind up in the place that's right for you."

For Dr. Bundock, the stream flowed toward her current role as the chief medical examiner for the state of Vermont, where she performs medicolegal postmortem examinations. Dr. Bundock also plays a role in legal and legislative proceedings, providing testimony and data that affect her community.

"Public health is a large part of what a medical examiner does. If you think about all the innovations we've had to keep us safe, many of them are driven by information coming from medical examiners," she said. "Seatbelts in cars, the design of the steering wheel — these things are born from observations of the injuries and fatalities caused by hazards in our environment. That stimulates change, improvement and innovation to keep us safer."

Those improvements are true victories in the midst of challenging work. Dr. Bundock's favorite part of the scientific process has always been the conclusion — that final revelation that brings everything together. Each new case provides important answers to the families of Vermont and to every party involved in making life safer for the state as a whole.

"I think that's what drove me to where I am today. I like the lab setting, because it's so hands-on, but for a career in research, you have to be OK with delayed gratification," she said. "It may take your entire career to answer the question you started with, if that! So you have to be really in love with the process. Somewhere along the way, intentionally or not, I realized that I just love getting the answers. My current career allows for that."

Dr. Bundock forged that career by learning more about herself with each bend in the stream, a process of self-discovery that followed what truly gave her fulfillment and joy. Knowing that she could not have predicted her current role at the start of her graduate career, Dr. Bundock's strongest advice for SGPS students is not to overplan.

"Don't pigeonhole yourself. At each point when you have to make a decision, go with the one that you really love, the one that fascinates you, because that's going to be the foundation for your success. It will get you to a place where you are happy. Don't try to see the future — just try to know yourself." ×

Aubrey Penney is academic program coordinator for RFU's School of Graduate and Postdoctoral Studies. This story originally appeared in the 2022 edition of Hypothesis, the annual SGPS newsletter.

### NCAA CHAMPION BOWLER UTILIZES DPT EXPERTISE TO HEAL FELLOW ATHLETES

By Margaret Smith

Photos by Joel Wintermantle

There was a time in life for Briana Zabierek when Saturday mornings meant bowling with her middle school friends. What began then as weekend joy on the lanes — just one part of a childhood fueled by sport and friendly competition — would later become a source of not only personal passion but professional inspiration for her.

Dr. Zabierek, a 2021 graduate of the Doctor of Physical Therapy (DPT) program, has always found herself at that same intersection of passion and purpose, in part, thanks to her ability to suss out where she excels and devote herself to it. Such was the case with her bowling career, as she went from weekend player, to promising high school athlete, to NCAA champion bowler for the University of Nebraska — after having been scouted by the program's coaches in high school.

"I wasn't very good at first, but I took the time because I had family and friends that really encouraged me (into thinking) I could take it pretty far as a sport. It pretty much shaped the life I have today — including meeting some of my very best friends and partner," Dr. Zabierek said. "At Nebraska, I was an exercise science major and knew I wanted to go to physical therapy school, so I would research bowling and exercise frequently but never saw much scientific research regarding the two topics. It ended up inspiring my research project while in physical therapy school."

Dr. Zabierek's firsthand experience as both a bowler and physical therapist put her in a unique position to more acutely understand the sport-specific injuries that occur, particularly at the collegiate level. This understanding is what led to her most recent research, "Musculoskeletal Injuries in Elite Collegiate Tenpin Bowling Athletes," published in the *Journal of Sport Rehabilitation* — which outlines research supporting what Dr. Zabierek described as the "extremely common" injuries tied to the sport, which often are a result of lack of proper strength and conditioning programs, among other elements.

to her childhood, particularly, to the inspiration of her two elder sisters — one of whom is a nurse and the other who was born with cerebral palsy. Having accompanied her sister to physical therapy appointments throughout her youth, over time, it became more than evident that her interest in the field and its patients was cemented.

"I always went to physical therapy appointments with her when we were young, and I liked the pool therapy a lot," Dr. Zabierek said. "As I got older, I really enjoyed orthopedics and sports for a few years, especially in physical therapy school, but my last clinical was in a hospital that treats a variety of complex neurological conditions, like my sister has, and I fell in love with treating that population all over again."

Dr. Zabierek's professional concentration now is the result of having broadened her horizons to discern what area of care she could best operate within. This, she mentioned, is similar to her early beginnings as an athlete who "grew up playing every sport under the sun" until she centered on bowling in high school, where her competitive nature "did not want to stop or settle" until she reached new highs within the sport — and did.

"I am the type of person who believes anyone can be really good at a lot of things, so choosing one specific niche was never easy for me, and I still find myself with many interests even as a physical therapist for almost two years now," Dr. Zabierek continued. "However, I still think because I liked making memories with my family, and especially my sisters, that doing the same thing for patients with all different kinds of conditions is really rewarding."

### "I was disappointed that there was not any current research going on for collegiate bowling and sports injuries like other major sports have."

"I was disappointed that there was not any current research going on for collegiate bowling and sports injuries like other major sports have. Big sports like football, volleyball, basketball and soccer have surveillance programs through athletic trainers that monitor injuries throughout seasons, but smaller sports like bowling do not have the same recognition," Dr. Zabierek continued. To bring this work to fruition, she called upon the expertise of "some extremely intelligent professors who I knew would help me out as best (they) could to start collecting data on what kinds of injuries high-level competitive bowlers experience."

Yet, the intersection of these two aspects of her life — sport and medicine — were not always aligned. In fact, her aspiration to become a physical therapist is something she can trace back

In the wake of Dr. Zabierek's research going public, she said she has "high hopes" this work can inspire younger bowlers who are planning to pursue a career in physical therapy or "veterans" of the sport who considered starting an exercise program to prevent a decline in their game performance. More than that, she wants the public to recognize how "extremely taxing on the body" this sport can be.

"I want to see bowling mentioned in the same realm as other major sports," she said. "I'm biased, but I believe these athletes deserve recognition."  $\times$ 

Margaret Smith is a Chicago-based freelance editor and writer whose work largely focuses on current sociopolitical happenings.

HIGHLIGHTS FROM DR. ZABIEREK'S RESEARCH INTO BOWLING INJURIES

101 collegiate bowlers

20.2 average age

**54.5%** female

235

singular and recurrent injuries reported across all body parts



### CONCLUSIONS

### INJURIES AND INJURY RECURRENCE

in elite tenpin bowlers were frequent

Most common in the UPPER EXTREMITY

Not different
BASED ON
GENDER

### MORE FREQUENT

in those without conditioning programs

Source: "Musculoskeletal Injuries in Elite Collegiate Tenpin Bowling Athletes," by Briana L. Zabierek, Walter C. Wilson and Frank E. DiLiberto; Journal of Sport Rehabilitation; 2 December 2022

# SPOTL





### RFU/DEPAUL ALLIANCE MOVES INTO SECOND **DECADE WITH AI** INITIATIVE

**By Margaret Smith** 

**Photos by Michael R. Schmidt** 

The decade-long partnership between RFU and DePaul University expanded in 2022 to include a new focus on artificial intelligence. This builds on the foundation of the Alliance for Health Sciences, established in 2012, with the goal of creating wider opportunities for students interested in pursuing healthcare professions and with the goal of collaborating on biomedical discovery.

The Artificial Intelligence in Biomedical Discovery and Health Care grant program — which launched this year — was selected as the next area of focus for the alliance after significant interest was shown from groups at both institutions.

The grant program requires a collective monetary commitment of \$200,000 each year for three years, which is estimated to be awarded to and divided among three or four projects per year depending on their requirements. This first cohort produced eight letters of interest, which the alliance uses to gauge the nature of the grant applications that will be subsequently submitted — a number that Ronald S. Kaplan, PhD, executive vice president for research, assumes will grow with time. The projects range from using AI to score symptoms of neurologic disorders to modeling an intervention to reduce falls by older adults.

"It's kind of exciting that we really are fusing these two different areas of specialty between the two institutions (and) focusing on important problems," Dr. Kaplan concluded. "This is an ideal situation. And the hope is that some of these projects will obtain long-term funding from federal grant agencies that will result in high-profile publications that substantively advance the scientific ball. Some outstanding new science is going to emerge from this."

The overall partnership takes form through the Alliance for Health Sciences program, which intervenes early on in a DePaul student's degree pursuit to set them on a streamlined path to a highlycompetitive master's or doctoral program at RFU. "The strategic educational partnership with DePaul was originally created to promote and enhance health education at both RFU and at DePaul. It's been a really long-standing, strong partnership," said Provost Nancy Parsley, DPM, MHPE.



"This is an ideal situation.
And the hope is that some of these projects will obtain long-term funding from federal grant agencies."

Opposite page, top to bottom: Dr. Kaplan addresses the alliance gathering at DePaul University in fall 2022; Amiel Rosenkranz. PhD, MS, director of RFU's Brain Science Institute, talks with a DePaul colleague; Dr. Parsley, center, at the 2022 meeting. Above: Dr. Kaplan (top right corner) leads a discussion with scientists from RFU and DePaul.

Right: Kaiwen Kam, PhD, with the Stanson Toshok Center for Brain Function and Repair, was among those fielding an interdisciplinary research grant through the RFU-DePaul alliance DePaul Provost Salma Ghanem, PhD, said the program will provide faculty resources to tackle health projects that Chicago needs.

"The potential dividends from collaborative research where these disciplines intersect are enormous," Dr. Ghanem said. "Together, our institutions can pursue and address a greater breadth of research questions than either of us could alone."

Moreover, the program was established on three primary concepts: an understanding of mutual commitment to education in the science and health fields; grounding the program in RFU's "strong reputation for excellence" in graduate, interprofessional health education; and a joint commitment to providing pathways into medicine and health professions and contributing to research in those fields. The term "mutually beneficial," Dr. Parsley reiterated, is at the core of all the program's navigation. X



### JOINT GOALS OF THE ALLIANCE

### Improve and streamline career options

and outcomes for students in a wide range of health professions

### **Expand curricula**

in medicine and health

### **Expand joint research**

and deepen cross-disciplinary collaboration

### Elevate each other's recognition

in the health education market

### **KEY OUTCOMES**

### **Developed six programs**

for DePaul Pathways Honors students to apply for RFU admission, possibly shortening their total length of education by one year

### Pathways Honors students comprise approximately 37%

(five-year average) of entering DePaul College of Science and Health freshmen

Pathways Honors and Early Opportunity students admitted at significantly higher rates than other applicants to RFU programs

### 42

### **MANUSCRIPTS**

published, submitted or in preparation

**3** BOOK CHAPTERS

113

### ABSTRACTS,

posters and external presentations

26
GRANT APPLICATIONS

2
INTELLECTUAL PROPERTIES

94

DEPAUL SUMMER RESEARCH STUDENTS at REU

Launched September 2012

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### RFU SCIENTIST AWARDED \$2.36 MILLION FOR ANXIETY REATMENT RESEARCH

Joanna Dabrowska, PhD, PharmD, an associate professor in RFU's Center for Neurobiology of Stress Resilience and Psychiatric Disorders, received a \$2.36 million grant in fall 2022 from the National Institute of Mental Health (NIMH) to explore potential new treatment approaches for anxiety disorders and post-traumatic stress disorder (PTSD).

Dr. Dabrowska's study, "The Integrated Role of Vasopressin and Oxytocin Receptors in the Modulation of BNST Activity and Fear Processing," will focus on the bed nucleus of the stria terminalis (BNST), which has emerged as a key brain region translating an exposure to unpredictable threats into sustained fear. Through this study, Dr. Dabrowska hopes to understand how an imbalance in processing of predictable vs. unpredictable threats can precipitate the onset of anxiety disorders. This would lead to new treatment options for social anxiety disorders, which impact more than 15 million Americans. Approximately six out of every 100 people will have PTSD at some point in their lives. X

### J.P. MORGAN **EXECUTIVE** MARIA CLARKE, MBA, ELECTED TO RFU BOARD OF TRUSTEES

**RFU's Board of Trustees elected finance** executive Maria Clarke, MBA, to a three-year term on the board in fall 2022. Ms. Clarke is an executive director and banker in the

Washington, D.C., office of J.P. Morgan Private Bank, where she works with individual clients, family offices, private equity partners, nonprofits and institutions.

"I am excited to join the RFU board at such an exciting time," said Ms. Clarke, who will serve on the board's Finance and Research committees and Investment subcommittee. "We are living through one of the most extraordinary times in scientific research and medical advancement, and I look forward to working with my board colleagues to continue the legacy of RFU."

Her board service and philanthropy in the Washington, D.C., region includes serving as past president and current advisory board member for the Fralin Biomedical Research Institute at Virginia Tech, an academic biomedical research enterprise focusing on areas including cancer, cardiovascular science, infectious diseases and addiction recovery. She serves as an advisory board member for the National Association of Corporate Directors Capital Area, where she was previously chair of the membership committee, and is also a member of the CFA (Chartered Financial Analyst) Institute and the CFA Society of Washington, D.C., as well as an executive member of the Latino Corporate Directors Association.

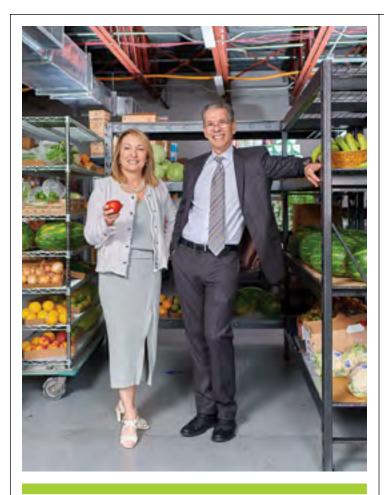
Ms. Clarke earned her MBA in finance from the University of Miami and is a graduate of Georgetown University's Executive Program in International Finance and Global Markets. X



through one of the most extraordinary times in scientific research and medical advancement, and I look forward to working with mv board colleagues to continue the legacy of

RFU."

"We are living



### CMS ALUMNI TO DELIVER COMMENCEMENT ADDRESS, DECLARATION OF GENEVA

Chicago Medical School alumni David Feinberg, MD '89, MBA, and Andrea Feinberg, MD '90, will take part in RFU's 109<sup>th</sup> Commencement Celebration on June 2. Dr. David Feinberg will deliver the commencement address, and Dr. Andrea Feinberg will lead this year's graduates in reciting the Declaration of Geneva.

The Feinbergs have inspired the RFU community with their national leadership of population health-based approaches. They are harnessing data and technology to help people live healthier lives. Dr. David Feinberg currently serves as chair of Oracle Health and has led top U.S. healthcare companies including Cerner, Geisinger and UCLA Health. As vice president of Google Health, he leveraged Google's technology, talent and search capabilities to tackle some of health care's most important challenges. Dr. Andrea Feinberg is a healthcare innovator, consultant and champion of population health and interprofessional collaborative practice. During her time as chief health officer for Geisinger's Innovation Institute, she launched the Fresh Food Farmacy, an initiative designed to combat Type 2 diabetes by using "food as medicine."

RFU's Commencement ceremony will take place at Credit Union 1 Arena, located on the University of Illinois-Chicago campus.  $\times$ 

### CARE COACH ACCESS EXPANDS WITH \$1M GRANT

RFU will increase the reach of its Community Care Connection (CCC) mobile health program thanks to a \$1 million grant from NorthShore University HealthSystem's Community Investment Fund (CIF), which aims to improve health equity and healthcare access to residents of underserved and underinsured communities. The funding is a CIF continuation grant that builds upon the nearly \$700,000 it awarded to support the mobile clinic in 2022.

"These powerful partnerships are all about creating meaningful, lasting impact through data, relationships and resources," Gabrielle Cummings, president, NorthShore Acute Care Operations and Highland Park Hospital, NorthShore-Edward-Elmhurst Health, said in a news release about the grant. "In just our first year, we already made impressive strides and have increased our understanding of how we can work together to make our communities healthier."

The Care Coach is health equity in action, bringing free health services to medically underserved, hard-to-reach patients in more than 30 locations throughout Lake County, Illinois. This vital partnership with NorthShore will enable the CCC to

expand its outreach to prospective clients and their families, and its capacity for health screenings that include blood pressure, blood sugar and cholesterol; point-of-care testing for COVID-19, flu and strep; vaccinations; and health education programs. X

"In just our first year, we already made impressive strides and have increased our understanding of how we can work together to make our communities healthier."

Below: Lupe Rodriguez, APN, director of community care for RFU Health Clinics.





### JOIN US IN SUPPORTING COMMUNITY HEALTH CARE FOR ALL

Learn more about how RFU is advancing health care in education, research and communities.

# 

So what made me who I am now? The diverse communities on the South Side of Chicago and in Evanston, openness to discourse, acceptance of opinions other than one's own, the social turmoil of the time and, of course, my family.

Above: Dr. Garber outside Evanston Township High School in spring 2023. Opposite page, top to bottom: Dr. Garber was absent for her 1964 kindergarten class photo at Avalon Park Elementary School, but is in the top row, fifth from the left in her 1965 photo, and in 1967 is in the top row, second from riaht.



### AVALON PARK MEMORIES: ACCEPTING CHANGES IN AND OUT OF THE CLASSROOM

By Sarah S. Garber, PhD

I was born in Chicago and raised on the South Side in a neighborhood called Marynook (83rd and Kenwood). The neighborhood was full of young families, resulting in a sort of extended "village" feel. A wonderful thing for a kid. We roamed the neighborhood, going in and out of our friends' houses for snacks and games, our mothers calling each other to find out where we were.

Although I didn't know it then, there was a lot of turmoil going on at the time regarding neighborhood integration (for reference, watch the WBBM News Special: "Decision at 83rd Street," 1962).2 My family and many of our family friends were involved in and on the front lines of the discussions that addressed a changing urban landscape. My parents and their friends believed in and lived integration and access to education and safe, healthy places to live. We kids soaked it in. I grew up believing that everyone deserved access to good education and a safe place to live, regardless of color. Diversity, for me, was a given, not the exception.

Class photos from Avalon Park Elementary School, a Chicago Public School, tell the tale of how fast our neighborhood was changing. In kindergarten (1964), the photo shows 19 white students and 12 Black students (I am not in the photo, I must have been absent that day). The demographic shifts in 1965, first grade, to nine white students and 24 Black students, and then in 1967 to four white students and 30 Black students.

The summer of 1967, my family joined the move out to the suburbs. We moved to Evanston, Illinois. Evanston was chosen because it was one of the communities at the forefront of integration. The actions and policies put into place by Evanston District 65 Superintendent Gregory C. Coffin made national headlines. Superintendent Coffin strongly believed in the educational, community and social advantages of diversity. Both white and Black students were being bused from their home districts to other schools. One of these students came home with me for lunch every day. I don't remember her name, but I do remember how pretty and well-dressed she was.

I remained in the Evanston public school system through high school, graduating from **Evanston Township High** School<sup>5</sup> in 1976. The school system was known then and now for its diversity. Fastforward to August of 2021 -I was asked to help organize an online discussion on growing up in Evanston and issues of race for alums of my high school class. More than forty '76ers joined that initial "What Made Me Evanston" discussion, and the discussion is still ongoing.

So what made me who I am now? The diverse communities on the South Side of Chicago and in Evanston, openness to discourse, acceptance of opinions other than one's own, the social turmoil of the time and, of course, my family. These were all part of the environment I grew up in. I accepted this as normal.

Once I left Evanston as a young adult and began to experience other places, environments and communities, I learned how rare my early experiences were. My career path led to becoming an academic research scientist with a PhD in biochemistry and biophysics - a field where there still aren't many women or much diversity. It never occurred to me that I, as a woman, could not be a successful scientist. It is perhaps not surprising then, that providing opportunities and increasing diversity in science and health care is a theme running through my career and my life. X

Dr. Sarah S. Garber is the director of Interprofessional Studies for the College of Pharmacy and a professor of Pharmaceutical Sciences in the College of Pharmacy, Interprofessional Healthcare Studies in the College of Health Professions, and Physiology and Biophysics in the Chicago Medical School and School of Graduate and Postdoctoral Studies.







<sup>l</sup> Marynook is a neighborhood **Loop.** Avalon Park's boundaries include 78th Street on the north, 87th Street on the south, South Chicago Avenue on the east and the Illinois Central Railroad on the west. In the 1960 Census, the area's 12,710 residents were 99% white. During the 1960s, an influx of Black residents included middle-class doctors, lawyers, businesspeople and other professionals. By the 1970 Census, Avalon Park's 14,412 residents were 83% Black, and that number was 94.7% by the 2020 Census

Source: Encyclopedia of Chicago History

encyclopedia.chicagohistory. org/pages/97.html

<sup>2</sup> tinyurl.com/mbn27ez4

3 Avalon Park Elementary School, now known as Avalon Park Fine & Performing Arts School, is located at 8045 S. Kenwood Ave.

<sup>4</sup> Gregory C. Coffin, PhD, was appointed superintendent of Evanston's elementary and middle schools in 1966 — at a time when about 12% of Evanston's 80,000 residents were Black, but some school demographics were up to 99% Black — and led a Board of Education-backed plan to "integrate the elementary schools through a combination of redrawn district lines and the busing of Negro children into previously all-white schools," according to *The New York Times*.

Sevenston Township High School is a co-ed, Title I public school with a very diverse student body, both racially and economically. In the 2021-22 school year, the student population was 45.1% white, 24.8% Black, 19.9% Hispanic, 5.4% Asian and 4.2% two or more races.

Source: Illinois Report Card 2021-22

THE **EARTHQUAKE'S** IMPACT

52,000+

1.5 million

left homeless

14 million

people affected

**HUMANITY** FIRST **RESPONSE\*** 

1,100 volunteers

> including 40 doctors

4,700+ patients treated

7.400+

volunteer hours

\*Data as of 3/20/2023. Source: usa. humanityfirst.org/ hf\_projects/turkiya-

Dr. Malik described the situation as "horrific," with people living in "15 to 20 tent cities, each of which houses thousands of people" stretched across an area rivaling the distance between Chicago and St. Louis.

Images provided by Dr. Malik show him providing medical care to patients affected by the February 2023 earthquake.

### HEALING AND HOPE AMID THE RUBBLE

By Sara Skoog and Dan Moran

The devastating 7.8 magnitude earthquake that struck Turkey and Syria on Feb. 6 killed more than 50.000 people, and left millions of survivors in desperate need of medical care, food, housing and other forms of humanitarian assistance. This need continued to grow as intense aftershocks and deadly floods impacted the region during the subsequent days and weeks.



When disasters like this strike, emergency medicine and trauma physician Kaleem Malik, MD '96. MS '92, is one of the first to respond. Dr. Malik is director of medical disaster response for Humanity First USA, a nonprofit organization providing disaster relief in the United States and abroad.

Shortly after the earthquake hit, Dr. Malik and a medical team were on the ground in Turkey, providing care and comfort for earthquake survivors of all ages.

"For two weeks, we were tasked with operating two different clinics, seeing 150 to 200 patients a day," Dr. Malik said. "You didn't really have running water or any amenities, but we were still able to not only treat actual injuries from the earthquake itself but the ongoing medical needs that people might have — everything from diabetes, hypertension, cardiac care, OB/GYN including babies that need care, as well as the acute exacerbation of these chronic illnesses. That's the reality — people need these services every day."





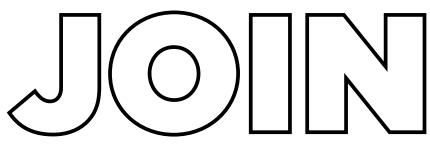
Dr. Malik described the situation as "horrific," with people living in "15 to 20 tent cities, each of which houses thousands of people" stretched across an area rivaling the distance between Chicago and St. Louis, or roughly 300 miles. Living conditions in these temporary shelters were particularly brutal due to the harsh winter weather at the time of the quake.

"I can tell you from living in the tent cities, there are overnight temperatures below 30 degrees," he said. "It was freezing, and you had children living there and the elderly."

Humanity First USA is working in collaboration with the United Nations and in cooperation with the Turkish Red Crescent, which is part of the International Red Cross and provides 90,000 meals per day to those affected by the quake. According to Dr. Malik, planning was underway in late March to start moving people from the tent cities into temporary structures, and to augment medical care with mobile clinics so that people don't need to try and find transportation, or walk for miles, to get to a clinic.

Dr. Malik plans to return to Turkey this spring. He noted that while daily news coverage of the quake's aftermath may have faded from view, the needs of those impacted by the disaster will continue indefinitely. He encourages those who are interested in helping to visit usa.humanityfirst.org and learn more about the organization's disaster relief efforts.

"Anything that people can donate would be appreciated. It all goes to directly servicing those affected, and Humanity First is a proven and reliable steward to deliver this care." X



### the **CONVERSATION**

BEFORE THE NEXT *HELIX* ISSUE ARRIVES, YOU CAN FIND RFU NEWS ON THE FOLLOWING SOCIAL MEDIA PLATFORMS. BE SURE TO TAG US IF YOU MAKE A COMMENT RELATING TO RFU!

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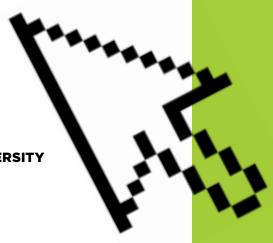
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THOUGHTS FOR UPCOMING ISSUES? A RESOURCE TO SHARE WITH THE RESEARCH AND EDUCATION COMMUNITY? WE WANT TO HEAR ABOUT IT!

WE'LL BE HIGHLIGHTING OPINIONS AND ANNOUNCEMENTS FROM RFU ALUMNI, STUDENTS, FACULTY AND OUR COMMUNITY IN A SPECIAL SECTION OF EACH ISSUE.

SEND MESSAGES DIRECTLY TO OUR EDITORS AT **HELIX.LETTERS@ROSALINDFRANKLIN.EDU**.

