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Research Issue

RFU and its faculty, students and alumni are committed to improving the health of people and their communities through basic, clinical and community-based research.



DR. BETH STUTZMANN

Alzheimer's Researcher,
RFU Professor & Director,
Center for Neurodegenerative
Disease and Therapeutics

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IN OUR AIMS

RFU's enduring commitment to transformational life-sciences research is demonstrated through not only the work of our talented professionals but also in the establishment of the Innovation and Research Park, a regional biomedical hub serving as a platform to drive discoveries that will help the community. Our abiding investments in teams, infrastructure and projects are driving research forward, producing results in the present and ensuring progress in the future.

Please note: any group photo that does not feature physical distancing or mask wearing was taken prior to the State of Illinois issuing such guidelines. RFU has policies in place that require these and many other safety measures.

FEATURES



COVER STORY

Brain Trust

The lab of Dr. Johnny He, director of the Center for Cancer Cell Biology, Immunology and Infection, identifies a promising therapy and therapeutic target for HIV-Associated Neurocognitive Disorder (HAND).

Page 16

BY JUDY MASTERSON

RFU RESEARCH

Innovation and Research Park

The university's research enterprise, including the Innovation and Research Park's six disease-focused centers of excellence and the Helix 51 incubator, continues to gain steam through collaborative efforts aimed at cultivating discovery, innovation and investment in biomedical technology that improves health and well-being. **Page 10**

BY JUDY MASTERSON

COMMUNITY OUTREACH

Community Care Coach Goes the Extra Mile

As RFU prepares to mark 10 years serving the region with its Community Care Connection's mobile unit, the coach delivered COVID-19 vaccines to at-risk populations across Lake County. **Page 22**

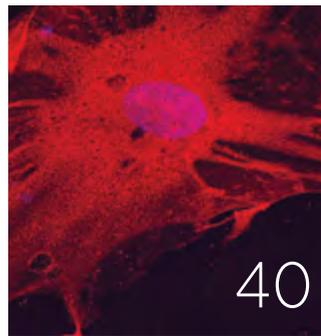
BY SARA SKOOG

RESEARCH AND EVERYDAY LIFE

Partner for Health Equity

RFU to add community-based research to its health equity efforts. **Page 30**

BY JUDY MASTERSON



DEPARTMENTS

4 LEADERSHIP MESSAGE

BY DR. WENDY RHEAULT AND
DR. RONALD S. KAPLAN

14 UNIVERSITY NEWS

New research appointments include Dennis Stevens, MD, MS, and Rahul Vijay, DVM, PhD.

20 THROUGH THE MICROSCOPE

RFU faculty and students reflect on Dr. Rosalind Franklin as the RF@100 commemoration comes to a close.

27 DONOR IMPACT

The Community Care Connection maintains a vital presence in underserved communities thanks to the support of RFU's regional partners.

BY SARA SKOOG

28 THE X FACTOR

The new Chicago Medical School Women in Medicine and Science group will focus on supporting and promoting women faculty.

BY JUDY MASTERSON

34 ALUMNI PROFILE

David Feinberg, MD '89, on how Google is driving innovations in health care.

BY JUDY MASTERSON

36 RFU EQUITY

A team of College of Health Professions students explores the psychological effects of police encounters.

BY YADIRA SANCHEZ OLSON

37 DONOR IMPACT

John Grady, DPM '80, supports a new generation of podiatric physicians.

38 INNOVATION SPOTLIGHT

The Center for Neurodegenerative Disease and Therapeutics utilizes AI to pursue therapies for Alzheimer's.

BY MARGARET SMITH

39 INNOVATION SPOTLIGHT

Kavork Hagopian, PT, DPT, MBA, studies the effects of working remotely during the pandemic.

BY MARGARET SMITH

40 INNOVATION SPOTLIGHT

The All School Research Consortium (ASRC) returns in virtual form after a COVID-imposed year off.

BY SARA SKOOG

42 FROM THE ARCHIVES

What is now known as the Basic Sciences Building opened and hosted its first commencement 40 years ago.

BY KELLY REISS

44 IN MEMORIAM

Celebrating the life of the late Jerome Gold, MD '53, former RFU president.

BY SARA SKOOG AND
MEG WAKEFIELD



ROSALIND FRANKLIN UNIVERSITY of MEDICINE AND SCIENCE



This issue of Helix magazine, dedicated to RFU research, arrives on the heels of our yearlong celebration of the life of Dr. Rosalind Franklin. That's fitting. Marking the centennial of the birth of our namesake during a very difficult pandemic year gave us many opportunities to reflect on how she faced adversity with great determination.

The advances Dr. Franklin and her colleagues made in deciphering the structure of DNA, viruses and coal remind us that we don't make scientific and medical discoveries in isolation, but through collaboration — the sharing of ideas and questions and expertise. Her insistence on fair treatment and her struggle for funding remind us that discovery can only advance through continual and equitable investment in science and the creation of new knowledge.

RFU is committed to advancing discoveries that improve the health and well-being for future generations — and for communities here and now. The pandemic has been a call to action — to deepen and expand our community engagement through COVID-19 testing, diagnostics and vaccinations, in addition to our longstanding safety-net programs. We're also moving to channel the needs and priorities of our local underserved communities whose residents bear an unequal burden of preventable and infectious disease.

“... we don't make scientific and medical discoveries in isolation, but through collaboration — the sharing of ideas and questions and expertise.”

In line with the National Academy of Medicine's Culture of Health Program, we aim to join forces across sectors to confront the social, economic and environmental barriers to good health faced by many of our closest neighbors. Working together, we plan to develop and test evidence-based strategies that improve health and access to care, while also helping shape more equitable systems that make it easier to be healthy. Our success depends on the trust we continue to build with our community partners, our shared vision, and the drive and dedication of RFU faculty, scientists, staff and students as we embrace community-based research.

Above: Dr. Rheault on the afternoon she recorded remarks for RFU's 107th Commencement, held virtually on June 12. Opposite: Dr. Kaplan in the Innovation and Research Park.



We're also fostering trust through the work of our disease-focused research centers. Our internationally-recognized scientists are working to translate their discoveries into new therapeutics for and prevention of devastating chronic and genetic diseases. Our Innovation and Research Park (IRP) and Helix 51 incubator, which houses, supports and accelerates young bioscience companies, have made strides despite the challenges of the pandemic. The IRP is an important investment in our community, one that will include opportunities for new jobs and student internships.

Both the IRP and Helix 51 are powered by collaboration among academic and industry scientists, innovators and entrepreneurs with the goal of accelerating the development of our NIH-funded research in many areas, including neuroscience, genetic disease and cancer cell biology and immunology.

On so many fronts and across so many fields, health and technology are converging. New tools and platforms — genomic sequencing, CRISPR gene editing, AI — bring into sharper focus the path to a healthier, more equitable future.

Thank you for your continued support.

Wendy Rheault, PT, PhD, FASAHP, FNAP, DipACLM
President and CEO

Ronald S. Kaplan, PhD
Executive Vice President for Research

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for university updates and more messages from leadership.

youtube.com/RosalindFranklinU

A longstanding question has been directed over the past year toward the numerous and distinctive challenges that crashed down on communities across the country: What are the root causes?

It's certainly not a new approach to solving problems. Researchers have always sought to answer why things happen along with what happened and how. But the concept of root-cause analysis gained currency when, for example, the Centers for Disease Control reported that COVID-19 infections resulted in higher fatality rates among Blacks and Latinos. What can be done to address the comorbidities that put people of color at an elevated risk? How do gaps in healthcare access and the existence of food deserts impact quality of life and longevity even in the absence of a pandemic?

This annual research issue of *Helix* highlights a root-cause examination in the neighborhoods within reach of our campus. RFU researchers will soon expand on their work with the community to explore the social determinants of health in underserved areas and what interventions might improve outcomes in economic security, healthcare standards and other quality-of-life metrics. We also document an effort this spring that recognized the value of providing preemptive care to disadvantaged populations — the RFU Community Care Connection's delivery of COVID vaccines to Lake County residents who lack permanent housing.

This edition's spotlight on RFU research includes the identification of a chemical that might lead to new brain therapeutics for patients living with HIV; an attempt to gauge depression among Black youths in the aftermath of police interactions; and a project to reduce teen pregnancy at a school district a short drive from the RFU campus.

This 2021 research issue also illustrates the progress that takes place at all times and under all circumstances, beyond the storms of 2020. Taken as a whole, the work both in our labs and our community takes aim not just at medical, scientific and cultural challenges, but the roots buried beneath them.

Dan Moran is the communications director in the RFU Division of Marketing and Brand Management.

RFU INNOVATION AND RESEARCH PARK



IF YOU BUILD IT...

Innovation and Research Park Prioritizes Strategic Fit, Synergy

By Judy Masterson

Photos by Michael R. Schmidt

A platform for accelerating RFU's nationally recognized research into therapeutics, the Innovation and Research Park continues to gain steam despite challenges posed by the pandemic.

The signing of a five-year license agreement last year by Inspirotec, Inc. was a step forward for the university and its many partners, who believe that expanding collaboration between academic research and the life-science industry is key to the continual improvement of prevention and treatment of disease.

“We’re energizing and guiding biomedical entrepreneurship,” said Executive Vice President for Research Ronald Kaplan, PhD. “Nationally, statistics tell us that companies that are part of an incubator are twice as likely to succeed than those going it alone.”

One of the first member companies in RFU’s Helix 51 incubator, Inspirotec specializes in airborne allergen detection — using a patented air-sampling device for capturing and measuring various bacteria and viruses, including COVID-19. The company spent its two years in the incubator refining the development and marketing of its technology and conducting clinical sample testing.

The success of Inspirotec’s collaboration with RFU seems almost foreordained. Co-founder Julian Gordon, PhD, a former Abbott Labs senior scientist, earned his PhD at King’s College London in the same lab where RFU’s namesake, Dr. Rosalind Franklin, conducted her groundbreaking research on DNA — arriving the year after her departure in 1953. The incubator is named in recognition of her iconic Photo 51.

The renewable licensing agreement allows Inspirotec to expand its R&D activity and brings the university \$400,000 per year in revenue. The company now occupies space on the IRP’s fourth floor. A planned Phase II expansion of the incubator will accommodate up to 10 more companies on the new building’s second floor.

The university is looking for a strategic fit on any new leasing agreements. The capture area is Lake County, northern Cook County and the southern Wisconsin region.

“We are cultivating companies that have overlap, complementarity with RFU research centers,” Dr. Kaplan said. “We’re looking for interaction with our research cores and some of our fee-for-service facilities. We’re prioritizing synergy with RFU researchers and faculty.”

The research park concept and the IRP’s state-of-the-art spaces, designed to promote collaboration and interaction between academic and industry scientists, are already helping the university recruit more top scientists and students.

“As we speak to very strong candidates, invariably the IRP is mentioned as a very attractive factor,” said Grace “Beth” Stutzmann, PhD, director of the Center for Neurodegenerative Disease and Therapeutics.

“We’re recruiting strategically for new faculty researchers who can help drive our center-based discovery,” Dr. Kaplan said. “We’re seeing the fruits of our vision and the strong positive impact of both our research centers and our research enterprise more generally. We fully intend to honor our commitment to economic development in our region — an estimated annual impact of \$117 million — and to the state and local partners who embraced our vision.”

The IRP was celebrated in a virtual ribbon-cutting in January. Its first national forum on brain diseases was sponsored in October by the Brain Science Institute. Its first research agreement, between the Chicago biotech company Exicure, Inc. and the Center for Genetic Diseases, was signed in February. Strong organizational ties with regional groups — including the Illinois Science and Technology Consortium, Chicago Biomedical Consortium and Lake County Partners — are also helping to power the IRP forward.

“It’s the sum of so many efforts driving our success,” Dr. Kaplan said. “Our Innovation and Research Park and Helix 51 incubator are catalysts for discovery, and we want to put that discovery to work saving lives.” ✕

“Nationally, statistics tell us that companies that are part of an incubator are twice as likely to succeed than those going it alone.”



Above: Brain Science Institute Director Amiel Rosenkranz, PhD, MS, and members of his lab discuss a project in a conference room inside the new Innovation and Research Park.

THE KEYS TO SUCCESS

Rosalind Franklin University is indebted to members of the Innovation and Research Park External Advisory Council (EAC), executives with deep experience in a broad range of backgrounds, including biomedical research, private equity, consulting and economic development, who offer advice and invaluable third-party perspectives.

“It’s a really dynamic group,” said EAC member and RFU Trustee Alan Weinstein, MBA. “Executives with a broad base of different backgrounds — planning, private equity, people deep in the science of their organizations. I’ve been struck at how quickly council members grasp what RFU is trying to do with its research enterprise. Having them on our side, and in the know, is huge for building brand awareness.”

“We’re helping people understand that the IRP is more than a building. It’s programs. It’s people. It’s awareness in the biomedical marketplace.”

“We’re helping people understand that the IRP is more than a building,” Mr. Weinstein said. “It’s programs. It’s people. It’s awareness in the biomedical marketplace. It offers a great opportunity for people to come together around business opportunities involving research programs and innovation and product development, which over the long-term encourages philanthropy and helps secure research funding.” ❧

Ronald Kaplan, PhD, executive vice president for research, said EAC members have helped enhance decision-making, expand networks and bolster investor confidence.

“These relationships and the guidance they provide have helped us thrive in the face of many challenges,” he said.

RESEARCH PUBLICATIONS AND EXTRAMURAL FUNDING

Rosalind Franklin University’s researchers are nationally recognized for their work in basic and clinical sciences. Our research funding is substantial, despite an increasingly competitive grant environment.

VISIT OUR 2020 LIST OF PUBLICATIONS AND EXTRAMURAL FUNDING: rfu.ms/research2021

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WORLD-CLASS RESEARCH

**ORGANIZED INTO THERAPEUTIC
CENTERS OF EXCELLENCE**



More than 75 RFU scientists and six disease-focused research centers, including three within the Brain Science Institute, moved into the newly constructed Innovation and Research Park (IRP) in January 2020. Shortly thereafter, the pandemic forced the suspension of bench work, paused investigations and closed labs to all but essential operations for several months. But much of the work of research — the writing and publication of manuscripts, extramural grant applications and data analysis — continued with a steely determination. Following are updates by IRP center directors.

BRAIN SCIENCE INSTITUTE

Center for Neurodegenerative Disease and Therapeutics



Director: Grace “Beth” Stutzmann, PhD

Focus: We collaborate within and outside the center to advance our research objectives and create new applications. Current strengths include Alzheimer’s, Parkinson’s, TBI and stem cell biology, with pilot projects in Down syndrome, ALS and frontotemporal dementia (FTD), among others. We’re studying pathophysiological, genetic, metabolic and environmental contributors to disease.

Future: Novel biomarkers, novel therapeutic strategies, expansion of disease base. While devising treatments for neurodegenerative diseases is a common goal in the field, most researchers are repeating the same strategies, which hasn’t worked. Our expertise centers on innovative strategies generated from mechanistic and bioinformatics approaches that we use to understand these diseases; these are largely stem cell, small molecule and gene therapy-based toolkits. We’d love to move further into the clinical realm and work with industry partners.

BRAIN SCIENCE INSTITUTE

Stanson Toshok Center for Brain Function and Repair



Director: William N. Frost, PhD

Focus: We use state-of-the-art approaches to study the neurocircuitry of the brain, applied to both normal and abnormal function. Our current research focuses on addiction, aging, Parkinson’s disease, learning and memory, autism spectrum disorder, opioids, neurodevelopmental disorders and gender development.

Future: The center’s newest faculty member, Eun Jung Hwang, PhD, uses large-scale, two-photon brain imaging to record the firing activity of genetically defined neural circuits in awake behaving animals. Combined with other sophisticated techniques for recording and controlling network activity, our center scientists are well-positioned to discover principles of brain function that may facilitate methods for restoring neural networks damaged by aging, injury or disease.

BRAIN SCIENCE INSTITUTE

Center for Neurobiology of Stress Resilience and Psychiatric Disorders



Director: Janice Urban, PhD

Focus: To enhance the understanding of mental illness and resilience through innovative and collaborative research programs that contribute to improved prevention and treatment of psychiatric disease.

Future: Our goal for the future is to expand our research capabilities through strategic faculty hires and diversified collaborations that will increase the translational relevance of our work. Our research will provide a better understanding of the neural circuitry underlying affective disorders, which will lead to the development of novel therapeutic targets and methods of treating and supporting those suffering from psychiatric illness.

Center for Genetic Diseases



Director: Michelle Hastings, PhD

Focus: We investigate the pathological mechanisms of a wide variety of diseases — including but not limited to cystic fibrosis, Usher and Down syndromes, Batten, Alzheimer's and Parkinson's disease — and work to discover novel therapeutics for their treatment.

Future: We seek to provide genetic information, therapeutic targets and solutions to maximize an individual's potential for health and well-being. We're in a world in which people are becoming more informed about their genetic makeup and disease risks. This information enables the development of more precise and personalized medicines. We know that our genetic profiles account for differences in our response to COVID-19, which highlights the importance of better understanding our genetic makeup.

Center for Proteomics and Molecular Therapeutics



Director: Marc Glucksman, PhD

Focus: We provide expertise, management and cutting-edge medical research strategies using technology and bioinformatics. Our center is uniquely suited to study diseases with “big data” and over a 10 billionfold scale from individual atoms and molecules to cells to the human body using high throughput biochemistry and proteomics, structural biology and systems physiology to leverage normal and abnormal molecular and organismal functions and target therapeutic approaches to clinical questions about chronic diseases — diabetes, aging and metabolic disorders, pediatric gene disorders, multidrug resistance, cancer and Alzheimer's disease.

Future: Our goal is to pivot to new health threats like SARS-CoV-2, assist other centers and incubator startups, and vet therapeutics where possible.

Center for Cancer Cell Biology, Immunology and Infection



Director: Johnny He, PhD

Focus: We study the molecular basis of virology and viral pathogenesis and virus-induced cancers, the role of inflammation in cancer and autoimmune diseases, the etiological agents of infectious diseases and host-defense mechanisms. Our research focuses on the basic science of the pathogenesis of diseases in the areas of virology, immunology, and cell and cancer biology.

Future: We want to build a Center of Excellence in Inflammation. We plan to accomplish this by developing inflammation-focused research collaborations among our large group of faculty with diverse expertise in the areas of virology, immunology and cancer, and by recruiting new talent who are specialized in inflammation research and who facilitate and promote our existing research collaborations.

HELIX 51 INCUBATOR SET TO EXPAND

RFU's Helix 51 incubator, the first of its kind in Lake County, continues to flourish, fueled by demand for its services and by financial and executive support of top pharmaceutical and healthcare companies, including Horizon Therapeutics and AbbVie.

Currently at 90% capacity and generating \$100,000 per year in revenue, the incubator is working in support of eight early-stage bioscience companies with five more waiting for space. It's on target to house an additional nine to 10 companies when it expands into the Innovation and Research Park (IRP) later this year. Inspirotec Inc., one of the incubator's first member companies, moved into the IRP in July.

"We're offering the affordable wet-lab space and supportive programming young companies need to grow, garner investment and ultimately be successful in the high-stakes bioscience industry," said Michael Rosen, MBA, managing director of the IRP and Helix 51. "Properly supported, these startups will develop urgently needed new therapeutics and devices and move them into the marketplace to improve health and well-being."

Helix 51 is funded in part by \$2.5 million in new markets tax credits under a federal program aimed at fueling investments that help create jobs and job-training opportunities in low-income communities. Programming includes:

- **RFU/SMARTHEALTH BUSINESS PLAN COMPETITION:** Early-stage biomedical startups in Chicagoland are paired with industry experts and mentors who provide training in core business skills, including developing elevator pitches, full pitches and business plans. A final competitive pitch includes cash prizes for the top three companies. Major sponsors include Abbott Labs, Lundbeck, Horizon Pharma, Vetter Pharma, Aptinyx, Exicure, Xontogeny, Vanqua Bio, the law firms of Perkins Coie, McCarthy Duffy, and MBHB.
- **ENTREPRENEUR-IN-RESIDENCE:** Offers the expertise of three bio-entrepreneurs — Michael Beaubaire, MD, a Northwestern Medicine clinician turned investment banker who helps prepare companies for discussions with investors and potential partners; Teesta Jain, PhD, a Louisiana State University biochemist with post-docs from University of California, Davis and Harvard Medical School, who assists companies with non-dilutive funding through grants (Small Business Innovation Research/Small Business Technology Transfer programs and foundations); and Connie Cleary, DPM '80, a podiatric physician who spent many years in technology commercialization at Rush, UIC, Argonne and Brookhaven, and now mentors on business plans and pitching.
- **HOTELING:** Targets pre-funded, early-stage biomedical companies in search of first funding. Offers access to shared office and conference space and full access to incubator programs for a monthly fee.
- **INTERNSHIPS:** Work-based learning in bioscience research or business skills for undergraduate and graduate students. Interns have included students from RFU's College of Pharmacy and Chicago Medical School; Chicago's Kent School of Law; and the Waukegan to College program.
- **BIOPATHWAYS:** RFU and SmartHealth Catalyzer partner to offer a monthly speaker series featuring prominent local bioentrepreneurs, biotech execs and biotech investors. Now in its fourth year of programming, the series has teamed up with Women in Bio, Chicago Chapter, to feature prominent women leaders in biotech throughout 2021. ✦

HELIX
51

ANNOUNCING KEY UNIVERSITY RECRUITMENTS



DENNIS STEVENS, MD, MS

Dennis Stevens, MD, a leading neonatologist, joined RFU in January as the director of clinical research for the Chicago Medical School and professor of pediatrics. In his new role, he primarily is responsible for mentoring medical students, but also residents and faculty, in all aspects of clinical research and in scholarship projects.

He developed a research and scholarship track for the internal medicine residency and boosted the publication rate for residents from 14.8% to 43.4%, and dramatically increased faculty participation in co-authorship.

A veteran academic physician and scientist, Dr. Stevens taught for nearly 40 years at the University of South Dakota Sanford School of Medicine (SSOM), where he served as professor of pediatrics and professor of internal medicine, with a secondary appointment at Sanford Research. He served in many positions, including chief of the section of neonatal/perinatal medicine, interim chair of pediatrics and division chief/assistant residency program director of research in the Department of Internal Medicine. At Sanford Children's Hospital, he served clinically during his tenure as attending neonatologist for the Boekelheide Neonatal Intensive Care Unit, including five years as medical director.

Dr. Stevens led research for SSOM's neonatal section. He was awarded a Bush Medical Fellowship in 1991 and used the award to complete a master of science in clinical research design and statistical analysis. He developed a research and scholarship track for the internal medicine residency and boosted the publication rate for residents from 14.8% to 43.4%, and dramatically increased faculty participation in co-authorship.

Board certified in pediatrics and neonatal/perinatal medicine, Dr. Stevens is the author of 41 peer-reviewed publications, 37 abstracts and 15 book chapters. He is the recipient of 40 grants for individual, multi-institutional and programmatic studies. He also served for five years on the editorial board of NeoReviewsPlus of the American Academy of Pediatrics.

Dr. Stevens completed a residency in family medicine at Memorial Hospital, South Bend, Indiana, followed by postdoctoral training in pediatrics and neonatology at James Whitcomb Riley Hospital for Children, Indiana University School of Medicine, where he earned his medical degree. A graduate of the Horace H. Rackham School of Graduate Studies and the School of Public Health at the University of Michigan, he is currently a student in the MA in Theology program at Holy Apostles College and Seminary, Cromwell, Connecticut. ×



RAHUL VIJAY, DVM, PhD



Infectious disease immunologist Rahul Vijay, DVM, PhD, joins the Center for Cancer Cell Biology, Immunology and Infection and the Department of Foundational Sciences and Humanities in CMS from the University of Iowa Carver College of Medicine, where he was a research scientist in the Department of Microbiology and Immunology.

Dr. Vijay uses an integrated “omics” approach in his research — such as lipidomics, transcriptomics and metabolomics — to study infectious diseases on a systemic scale to reveal fundamental new information about the regulation and function of host immunity to infectious diseases.

During his PhD training, Dr. Vijay investigated the roles of lipid mediators in regulating immune response during coronavirus infections. He established that the age-dependent immunosuppression observed during the SARS-CoV outbreak of 2003–04 was, in part, due to increased expression of a single phospholipase, Pla2g2d, resulting in enhanced secretion of anti-inflammatory lipids. He published the findings in the *Journal of Experimental Medicine*.

Dr. Vijay, who completed postdoctoral fellowships at both the University of Iowa and the National Institute of Allergy and Infectious Diseases, has authored 18 publications, many appearing in high-impact biomedical journals, including *PNAS*, *Immunity* and *Nature Communication*. His most recent work uncovered that antibody-secreting, short-lived plasmablasts impair germinal center-dependent humoral immunity.

“During malaria infection, the appearance of a large number of a certain class of early antibody producing cells — historically considered a surrogate for protection — has been widely reported,” Dr. Vijay said. “Our study reveals that these early immune cells, instead of acting as an armor against the disease, derails protective antibody response by depleting key nutrients.”

Published in *Nature Immunology*, the work has been hailed as a paradigm shift from the previously held dogma that plasmablasts play a protective role in humoral immunity.

Center Director Johnny He, PhD, said Dr. Vijay will strengthen research in infectious disease immunology.

“In addition to expertise in T cell and B cell immunology, Dr. Vijay is well-versed in the areas of inflammation, parasitology, virology and neuroscience,” Dr. He said. “His recruitment will also help facilitate research collaboration among existing faculty members.”

“His recruitment will also help facilitate research collaboration among existing faculty members.”

Dr. Vijay holds a PhD in immunology from the University of Iowa. He earned a doctor of veterinary medicine from Kerala Agricultural University, Kerala, India, and an MS in biology from Bucknell University, Lewisburg, Pennsylvania. ✕

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BRAIN TRUST

**New Target for Neurological
Complications of HIV**

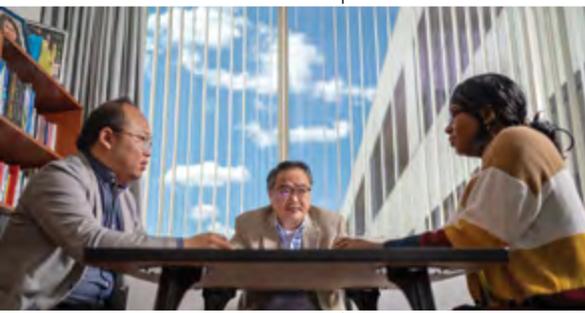
By Judy Masterson

Photos by Michael R. Schmidt

**The lab of Dr. Johnny He, director of the
Center for Cancer Cell Biology, Immunology
and Infection, identifies a promising therapy
and therapeutic target for HIV-Associated
Neurocognitive Disorder (HAND).**



The Center for Cancer Cell Biology, Immunology and Infection, directed by molecular biologist Johnny He, PhD, is part of a heroic scientific effort to improve the lives of people living with the human immunodeficiency virus (HIV). Dr. He recently led an NIH-funded study published in the journal *Brain* that identifies both a promising therapy and therapeutic target for HIV-Associated Neurocognitive Disorder (HAND) — the first advance of its kind in 40 years.



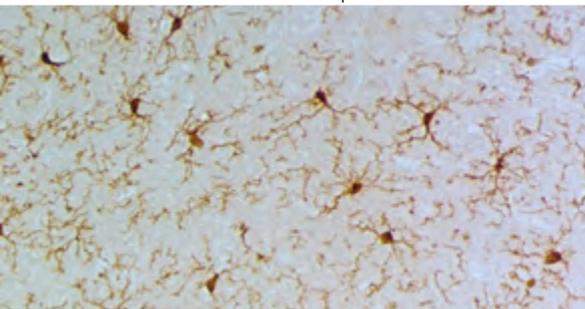
Antiretroviral therapy, introduced in 1995, dramatically reduced the number of HIV infections and helped people with the virus live longer, healthier lives. But the virus, even when suppressed, can have profound effects on the brain, causing a spectrum of memory, attention, language, learning and motor problems.

“Antiretroviral therapy prevents more virus from getting into the brain, but it can’t penetrate the blood-brain barrier, so what gets in stays,” Dr. He said. “Even at a low level, it triggers brain inflammation and activates some very important brain cells and causes neurological disorders.”

Strict adherence to current treatment drugs helps to prevent AIDS and severe AIDS dementia complex. But the flip side has been an increase in the milder HAND. And as HIV-positive patients live longer — studies show that they age at an accelerated pace — they face a higher risk for cognitive impairment.

“The most devastating dementia has disappeared,” Dr. He said. “But nearly 50% of HIV infected people develop HAND. There are no treatments, but not because we haven’t tried. We couldn’t figure out anything that could get into the brain and stop the disease.”

Upper left: Dr. He meets with his lab team members Xiaojie Zhao, PhD, and Kelly Wilson, SGPS ’21. Right: Dr. Zhao at work in the lab.



Dr. He’s lab, which moved from the University of North Texas Health Science Center to RFU in January 2020, is well-positioned to test and develop therapeutics for HIV. About 20 years ago, the team developed an animal model, a surrogate — because HIV does not infect mice or rats — that presents the symptoms seen in people with HIV and those with HIV on antiretroviral therapy. The model, which provides a clinical presentation of HAND and its brain pathology, has been distributed to more than 60 labs across the world, fueling advancements in neuropathogenesis research.



The study behind the *Brain* paper, “Activation of $\alpha 7$ nicotinic acetylcholine receptor ameliorated HIV-associated neurology and pathology,” was born of serendipity and the fact that substance misuse is a major issue for the HIV-infected population.

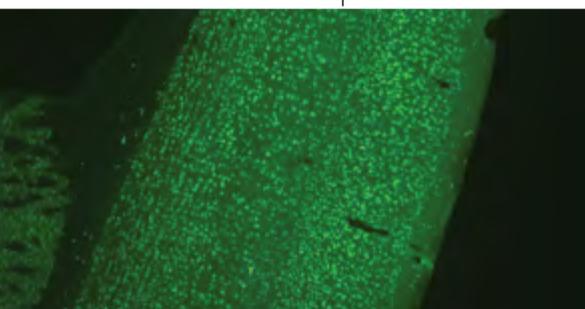
“It was pure accident,” Dr. He said. “We initially focused on how smoking affects HAND, expecting it would make it worse. We used a nicotine model but it didn’t work; it showed neither good nor detrimental effects. We found that nicotine is not very stable — its effects only last six to eight hours — which is why people keep smoking and why we didn’t see the effects.”

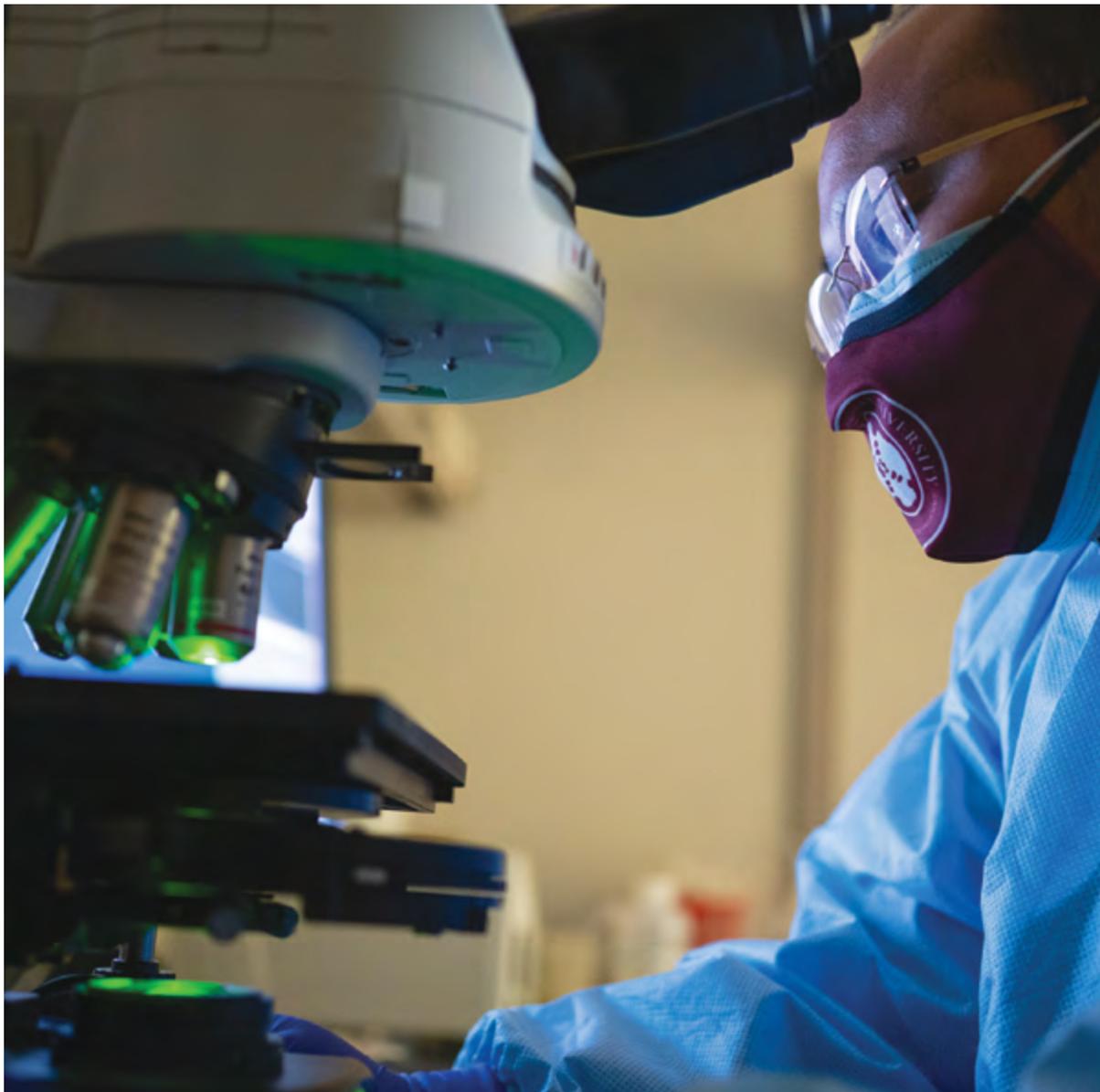
“We know this about the brain: The passage may be different, the trigger may be different, but the disease process will merge at some point and share a common pathway.”

Dr. He’s team switched to a nicotine surrogate, Positive Allosteric Modulator (PAM), a new chemical with long-lasting effects. They discovered that PAM activates a nicotinic acetylcholine receptor ($\alpha 7$ nAChR), which plays a key role in neuron-to-neuron communication.

“This is the receptor that both nicotine and the nicotine surrogate work at,” Dr. He said. “We show the chemical has a protective effect, and how it works.”

The study shows how, through the $\alpha 7$ nAChR target, PAM greatly improves locomotor activity, learning and memory in HAND — both the clinical presentation and the regulation of the brain wiring.





38M

Approximately 38 million people across the globe were living with HIV/AIDS in 2019.

Source: UNAIDS.

1.2M

Approximately 1.2 million people in the U.S. are living with HIV today.

14%

About 14% of them (1 in 7) don't know it and need testing.

The mechanism discovered by Dr. He and his team might have broad applications. PAM is in clinical trials for several other neurological diseases, including schizophrenia and Parkinson's. The FDA has approved chemicals similar to PAM for use in Phase II trials for treatments of other neurodegenerative diseases.

“My personal belief is that all neurological diseases share a common merging pathway,” said Dr. He, who offered evidence for the hypothesis in a major paper published in *Nature Medicine* in 2002. “We know this about the brain: The passage may be different, the trigger may be different, but the disease process will merge at some point and share a common pathway. It makes sense.”

He hopes to make the arduous leap from bench to bedside using a close relative of PAM approved for humans. He's working in collaboration with a clinical neurologist at the University of Maryland who can conduct imaging and has access to a cohort of HAND patients.

“Our data from the animal study are so strong, but we need to make sure we can transition this to humans,” Dr. He said. “We understand the disease mechanism, but while lots of people have tried, we haven't made any advances on therapeutics. People can use the target — the receptor — to do structural design, to design chemicals based on the one we're working on and design other therapeutics to treat this disease.” ✕

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

HIV/AIDS

Acquired immunodeficiency syndrome (AIDS) — the devastating advanced-stage of HIV infection — was first reported in the United States 40 years ago, on June 5, 1981, in a Center for Disease Control's public health digest. HIV continues to have a disproportionate impact on certain populations, particularly racial and ethnic minorities and gay and bisexual men.

Source: HIV.gov.

THROUGH THE MICROSCOPE

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

REFLECTIONS ON DR. ROSALIND FRANKLIN

RF@100, the university's yearlong celebration of the centennial of the birth of Dr. Rosalind Franklin, culminated with an essential part of science — a question. While not a scientific question, the one posed to the RFU community by a committee of Women in Science and Healthcare (WiSH) reveals the power and inspiration of life in discovery: "How has her story influenced your story?" Read the digital collection of submissions at rfu.ms/reflections



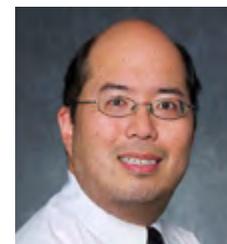
Aayush Boddu, CMS '23

Dr. Franklin lived in a world and several decades apart from my own. While World War II was looming in Europe, Rosalind Franklin was an 18-year-old Jewish woman attending Cambridge who had the aptitude and courage to question the standard of the chemistry lectures she received. Her laboratory at King's College had fewer resources than peer teams also working on figuring out the structure and function of DNA, including Watson and Crick. Many of these obstacles were influenced by her sex, because she grew up during a time in which women were not always rewarded for their work. I think she's an example of how in order for things to change and progress, people need to put the work in even though they may not be the first to reap the benefits.

Emil Chuck, PhD

*director of admissions and recruitment,
Student Enrollment Management*

I am inspired by the fact Dr. Franklin continued on as a scientist after her experience at King's College. After leaving, she found a more supportive community at Birkbeck College and didn't let the snubs or lack of credit deter her from research as she went on to characterize the tobacco mosaic virus and set the foundation for modern virology. It is telling how much one's success really can be a function of one's environment and support, and how our university tries to emulate this throughout its culture is laudable.



Carolina Figueroa, CHP '22

Physician Assistant Program

The creation of Photograph 51 hasn't changed my path, but it has changed my perspective. When I see our logo, this historical landmark, I'm reminded that, even while studying to be a physician assistant, I am not defined by society's markers of success, like grades and test scores, because there is so much value and beauty in learning and doing what you love. And by following your passion, great advancements for mankind, such as Photograph 51, can pave the ways for change in our society.

Jennifer Greenwood, CRNA, PhD*assistant professor, CHP*

Dr. Rosalind Franklin's reputation was tarnished because of the perceptions of some of her male colleagues. They misrepresented her insistent and confident demeanor as being "difficult" to work with. Despite having to work in multiple labs to continue her research, she was unapologetic and undeterred. As a female, I am inspired by Dr. Franklin to be confident, assertive and to not apologize for that demeanor. I would like to see the contributions of women given the respect they deserve based on their merits rather than the perception of the woman/women that made them. Women can do better to support each other in this endeavor.

**Christina Mason, CHP '22***Physician Assistant Program*

Dr. Rosalind Franklin inspires me to continue to push full force ahead despite the challenges or injustices that I'll face. Being a woman of color in medicine is an uphill battle and there aren't as many of us compared to our

counterparts, but what I do today will set the stage for the next person of color. Her story reminds me that each of my steps matter, regardless if I'm there to see the end or not.

**Judith Potashkin, PhD***professor and director of faculty affairs, CMS*

Dr. Franklin's devotion to seeking answers in research, even when the experimental conditions were complex, is very inspirational. The patience and skill she employed to keep the DNA samples at the proper humidity was the key to her beautiful X-ray crystallography. My love of molecular biology is a direct result of her research. It is one of the major reasons I chose to become a researcher.

**Eugene Saltzberg, MD '72***assistant professor and learning community mentor, CMS*

Dr. Rosalind Franklin has inspired me to be a doctor who passionately cares for his patients in a manner that improves their quality of life, and empowers them to live a healthy lifestyle.

Her work on the creation of Photograph 51 has encouraged my resilience to be the best doctor I can be, and carry on in the Emergency Department in what are often dire circumstances. ✕



July 25, 2020 marked the 100th anniversary of Dr. Rosalind Franklin's birth, and the RFU Community launched a yearlong celebration of her life and legacy. Among the notable events under the Centennial Series banner:

Sept. 10, 2020

5th Annual Women in Science and Healthcare (WiSH) Symposium — "HERSTORY Under the Microscope: Celebrating Rosalind Franklin's 100 Year Legacy" with keynote speaker Robin E. Jensen, University of Utah professor of communication.

Nov. 11, 2020

Tamara Alliston, PhD, University of California, San Francisco — Seminar: "Multiscale Mechanobiology of TGF-beta Signaling in the Skeleton."

Dec. 10, 2020

Dr. Esther Choo, MD, MPH, OHSU School of Medicine — Seminar: "From Concept to Action: Chasing Equity in Medicine."

Dec. 15, 2020

"HelixTalk" Episode #123 — Dr. Rosalind Franklin: "Beyond Photo 51" with Rosalind Franklin, niece of Dr. Franklin.

Feb. 10, 2021

Namandjé N. Bumpus, PhD, Johns Hopkins University School of Medicine — Seminar: "How Racism and Sexism Squash Talent and Slow Progress in STEM."

March 24, 2021

Olga Anczuków-Camarda, PhD, The Jackson Laboratory for Genomic Medicine — Seminar: "Alternative RNA Splicing Defects in Cancer: Molecular and Therapeutic Insights from Model Systems."

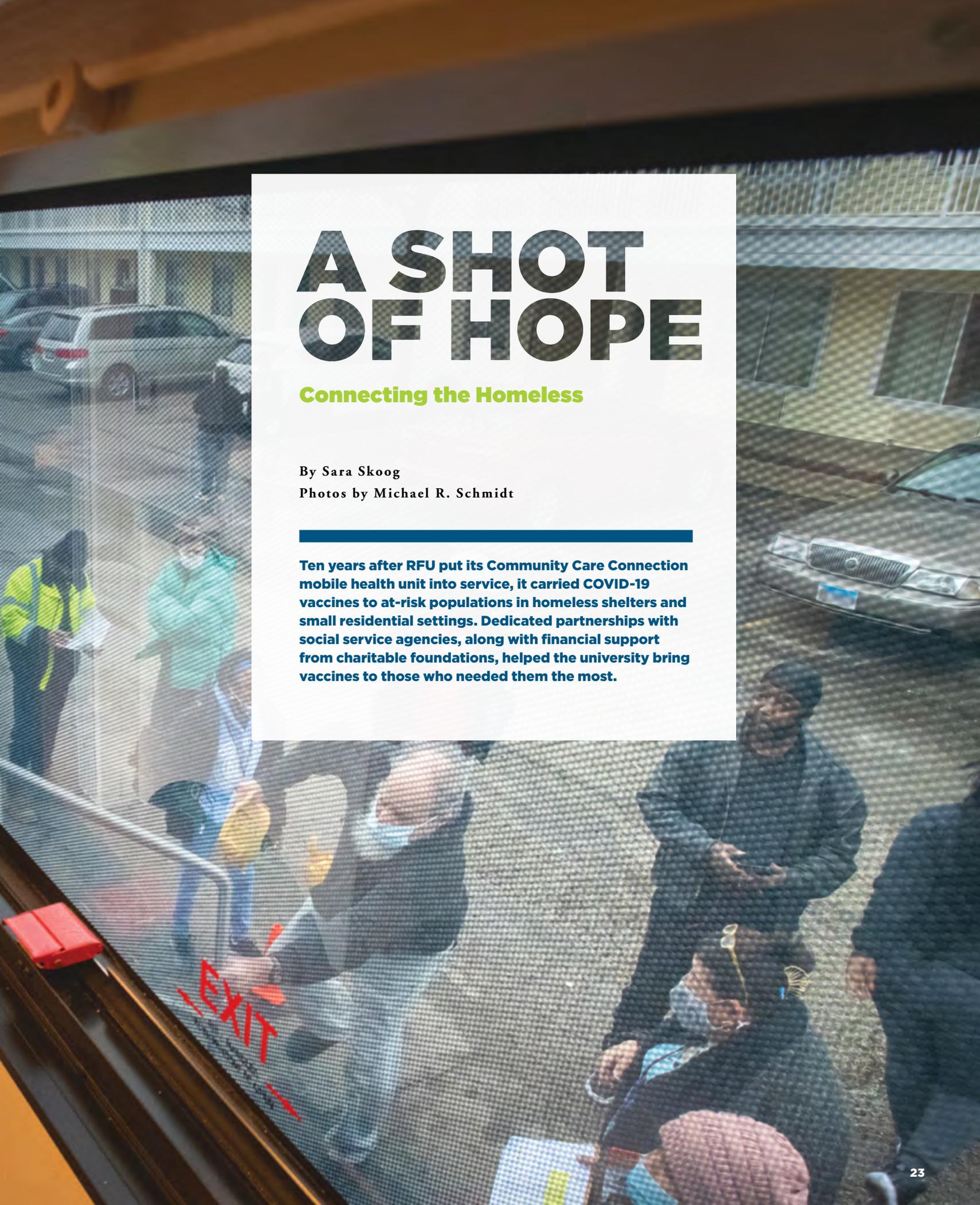
May 13, 2021

Deborah Atherton Gerbert, MS, PA-C, PA History Society Board President — Seminar: "Women PAs Through History."

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

RESEARCH IN THE COMMUNITY





A SHOT OF HOPE

Connecting the Homeless

By Sara Skoog

Photos by Michael R. Schmidt

Ten years after RFU put its Community Care Connection mobile health unit into service, it carried COVID-19 vaccines to at-risk populations in homeless shelters and small residential settings. Dedicated partnerships with social service agencies, along with financial support from charitable foundations, helped the university bring vaccines to those who needed them the most.

The COVID pandemic brought to light many long-standing health disparities that exist along racial and socioeconomic lines. As essential services were scaled back and stretched thin, at-risk populations became even more vulnerable to illness, job loss and homelessness. The latter group is particularly vulnerable to the threat of COVID, as homeless persons experience a lack of stable housing that is often compounded by joblessness, chronic health issues and transportation barriers that make it difficult, if not impossible, to access health care.

Once the FDA issued emergency use authorization for the COVID vaccine, case managers and directors of agencies that serve the homeless knew they needed to find a way to bring the vaccine to their clients. Among those searching for a vaccine partner was Laura Sabino, executive director of The Lake County Haven — known in the community as “The Haven” — a local social service agency dedicated to helping homeless women and children lead safe, stable and independent lives.

“It was such a blur — it was a crisis for the agency just like everyone else during the pandemic. It was new territory for us and other homeless service providers,” Ms. Sabino said. “I was on a mission to do everything that could possibly be done to help our clients stay safe. Their safety was the primary focus for me all year. So when the vaccines came out, I was really trying to get the vaccine available on site.”

The Haven serves approximately 30 residents a night in group housing and apartments. Residents include women and children. Some of the women are pregnant. The children range in age from newborns to teenagers. Keeping everyone sheltered, fed and healthy at The Haven is mission critical, and Ms. Sabino said that partnerships are key to making that happen.

“Most of our women couldn’t just hop in their car to go get a COVID test or get a vaccine. And a lot of those services, when they were first available, were drive-thru only, and that doesn’t work for someone without a car.”

“We don’t do it alone. We need partners like RFU. The Haven can’t also be a medical facility, so the fact that (the) Care Coach said, ‘We can bring services to you’ is huge,” she said. “People from RFU support us in other ways, too. We have a meal program where people can sign up to cook meals and bring them to the house for our residents, and I know we’ve had employees and students from RFU do that for us.

“It’s important that we offer as many services as possible on site because of where we are geographically located,” Ms. Sabino added, pointing out that The Haven is in central Lake County, and a lot of essential services are located along the northeastern corridor. “A lot of our clients don’t have cars. Public transportation is limited in parts of the county, or a client might not feel safe taking public transportation.”

This was particularly problematic when it came to accessing the COVID vaccine. “Most of our women couldn’t just hop in their car to go get a COVID test or get a vaccine,” Ms. Sabino said. “And a lot of those services, when they were first available, were drive-thru only, and that doesn’t work for someone without a car.”

RFU’s Care Coach visited The Haven throughout the pandemic to conduct testing for the agency’s residents and staff. When Ms. Sabino received a call from the Care Coach team offering to bring vaccines to the shelter, she didn’t hesitate.

“Our relationship regarding the pandemic started with the testing, and then (RFU) said, ‘We’re going to have access to the vaccine — would that be helpful for The Haven?’ and I jumped at the opportunity,” Ms. Sabino said. “We are so grateful to have been able to receive the vaccine, as many of our residents fall into at-risk health categories.”

A variety of social, environmental and economic factors known as social determinants of health (SDOH) can negatively impact a person’s quality of life. The Centers for Disease Control and Prevention defines SDOH as “conditions in the places where people live, learn, work and play that affect a wide range of health risks and outcomes.” The COVID pandemic has exacerbated the effects of these factors, particularly for persons of color.



Opposite page: The Community Care Connection’s mobile unit delivers vaccines and other services to area residents at a series of stops in Waukegan in spring 2021.



Housing instability isn't the only SDOH affecting the homeless population — there's also economic instability due to job loss or lack of skills needed for gainful employment, and lack of access to health care that results in chronic health conditions like diabetes, commonly undiagnosed or untreated in vulnerable populations.



“In my opinion, Rosalind Franklin University has been instrumental in bringing healthcare resources to our clients’ doorstep.”



The Care Coach can meet the homeless and medically underserved where they're at and remove barriers to healthcare access. The university has a long-standing partnership with PADS Lake County, an agency that provides homeless individuals and families with safe emergency shelter and resources for housing. PADS has been a regular stop for the coach since RFU acquired the mobile unit from Lake Forest Hospital in 2011. For the past decade, the Care Coach has brought dedicated teams of medical professionals to PADS sites to conduct health screenings and provide health education.

“In my opinion, Rosalind Franklin University has been instrumental in bringing healthcare resources to our clients’ doorstep,” said Somya Sinha, healthcare case manager at PADS, which operates overnight shelters at rotating sites from October through April. “The nurse practitioners would come biweekly during shelter season and provide screening services like checking our clients’ blood pressure, blood glucose and cholesterol.”

According to Ms. Sinha, many PADS clients weren't aware they had underlying health conditions until they received screenings from the Care Coach nurses. “This really helped us identify the clients, even among our younger population, who had high blood pressure. That's not surprising given the stress of being homeless, which really contributes to ill health among the homeless population.”

Since the start of the pandemic, the focus has turned to COVID testing and vaccinations to help keep PADS residents safe from the virus. “It has been extremely useful to have the nurses come on site and vaccinate our clients,” said Ms. Sinha. Getting vaccinated isn't mandatory for PADS clients, but they are strongly encouraged to do so.

“We see in some of our clients the same hesitancy as in communities across America,” Ms. Sinha said. “People who are homeless experience a lot of misinformation, which can spread very quickly. There is also the history of discrimination and abuse in medical care among different racial groups, which makes them hesitant to accept something so new like the COVID vaccine.”

Top: A QR code with a link to a Spanish website allows patients to quickly receive information about the Moderna vaccine from their phone's web browser. Bottom: At right, the Community Care Connection's Linda Tanni, APN, talks with a patient before administering a COVID vaccine earlier this spring during a stop in Waukegan.

Ms. Sinha added that the familiar faces on the Care Coach are a comfort to some clients who may be on the fence about the vaccine.

“They might not be as motivated to get it if they had to go to a vaccine site and wait several hours for the shot,” she said. “So when the Care Coach would come and make it so easy to get the shot, that was encouraging. They also saw the same people who had come to them before to do their health screenings. That familiarity provided a level of comfort in accepting the COVID vaccine and knowing it would be safe.” ✕

Sara Skoog is a staff writer with the RFU 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.

GRANT FUNDING KEEPS CARE COACH ROLLING



The Community Care Connection maintains a vital presence in underserved communities thanks to the support of RFU's regional partners. The following foundations and organizations provided essential funding to help the Care Coach in the fight against COVID-19.

Blue Cross Blue Shield of Illinois: \$20,000 to address vaccine hesitancy and increase COVID vaccine access.

Garden Fresh Market, Mundelein, Illinois: \$1,800 gift for COVID vaccination efforts.

Healthcare Foundation of Northern Lake County: \$100,000, plus a \$25,000 challenge grant, for outreach and COVID testing.

Lake County Community Foundation: \$60,000 for increased vaccine access.

North Shore Gas Community Fund: \$20,000 for community outreach, education, COVID-19 vaccinations and other health services.

Steans Family Foundation: \$60,000 to provide COVID testing for North Chicago and Waukegan schools and local educational support.

United Way of Lake County: \$28,850 from its COVID-19 Community Response Fund for improving vaccine access.

VNA Foundation: \$40,000 for outreach and access to COVID testing.

Anonymous family foundation: \$15,000 challenge grant to meet new and increased gifts to the Community Care Connection.

JOIN US EXPANDING COMMUNITY HEALTH CARE FOR ALL

Partner with RFU to Support Community Outreach and Wellness.

MAKE YOUR IMPACT TODAY: rfu.ms/impactrfu



A woman with long dark hair and glasses, wearing a white lab coat, is looking intently at a petri dish held up to the light. Her hands are visible, and she has dark nail polish. The background is a soft-focus laboratory setting with warm lighting.

SEIZE OPPORTUNITIES

CMS LAUNCHES WOMEN IN MEDICINE AND SCIENCE (CMS-WIMS)

By Judy Masterson

Members of Chicago Medical School's new Women in Medicine and Science group aim to foster the recruitment, development, recognition and advancement of women faculty, staff and trainees.

“A minority of women faculty achieve higher academic ranks and leadership positions in academic medicine even though women make up half of medical school classes,” said CMS Dean Archana Chatterjee. “The CMS-WIMS program, which will focus on supporting and promoting women faculty, particularly those at the early and mid-career levels, is one way to address these disparities.”

The virtual launch of CMS-WIMS on March 30 featured a Marshall A. Falk, MD '56, Memorial Lecture by Vivian W. Pinn, MD, who established and co-chaired the National Institutes of Health Committee on Women in Biomedical Careers. The founding director of the NIH Office of Research on Women's Health, she served as NIH associate director for Women's Health Research from 1994 until her retirement in 2011.

Dr. Pinn was the only woman and person of color in her University of Virginia Medical School Class of 1967. The day she was awarded a research fellowship in pathology at Massachusetts General Hospital, a male member of the faculty offered congratulations — then added, “You’ll never be chairman of pathology, because women don’t become pathology chairs.” Dr. Pinn became the first African American woman to chair an academic pathology department in the United States, at Howard University College of Medicine.



“It’s not the lack of talent, but unintentional biases and outmoded institutional structures that hinder the access and advancement of women.”

While 51% of medical school students are women, according to the Association of American Medical Colleges (AAMC), women make up 19% of deans in academic medicine, 25% of full professors and 20% of department chairs. Just 13% of full-time women faculty come from underrepresented minority groups, reflecting a 1% increase since 2009.

“We really need to do something about increasing not only women who come in and are promoted, but the diversity of women who come in and are promoted in the faculty of our medical schools,” Dr. Pinn said. “Women have been at least 40% of U.S. medical students for more than 25 years. While we often

hear it’s the pipeline that is the reason we don’t see more women in academic leadership, you can’t tell me there haven’t been talented women, racial minorities, disabled or those of intersecting identities who should have been raised to higher leadership positions. It’s not the lack of talent, but unintentional biases and outmoded institutional structures that hinder the access and advancement of women.”

Dr. Pinn cited a 2018 consensus study published by the National Academies of Science, Engineering and Medicine that found sexual harassment and its cumulative impact caused “significant damage to research integrity and a costly loss of talent.”

“The data and the research show that the major reasons that women are underrepresented in academic leadership are bias, discrimination and harassment,” she said. “It is not due to a lack of aptitude. I encourage you to have a ‘good trouble’ attitude. Seize opportunities. Have that self-confidence and try. I succeeded — with help.”

Dr. Chatterjee, who joined RFU in 2020, is the first woman dean of CMS and the first woman medical school dean of reported Indian descent, according to the AAMC. She is past chair of the AAMC Group on Women in Medicine and Science (GWIMS), which focuses on equity for women and specifically for women of color.

“This has been close to my heart for a long time,” Dr. Chatterjee said. “We know from the literature that a lack of representation of women actually hurts institutions. We don’t perform as well without that diversity. While RFU is doing well in terms of women in leadership, there is still a lot we can do to ensure the next generation of women is prepared and ready to lead in health, education and research.” ✕

WOMEN IN ACADEMIC MEDICINE

51%

FEMALE MEDICAL STUDENTS

19%

DEANS

25%

FULL PROFESSORS

20%

DEPARTMENT CHAIRS

13%

FULL-TIME FACULTY FROM UNDERREPRESENTED MINORITY GROUPS

Source: Association of American Medical Colleges (AAMC).

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

PARTNER FOR HEALTH EQUITY

Population Health Initiative

By Judy Masterson

Photos by Michael R. Schmidt

When epidemiologist and Chicago Medical School Assistant Professor of Medicine Maureen Benjamins, PhD, looks at ZIP codes, she sees a picture of health disparities that she is trying to upend.

Waukegan residents in ZIP codes 60085 and 60087, disproportionately low-income people of color, according to the U.S. Census, bear the brunt of fine particle and groundwater pollution from a coal-fired power plant that sits on the shore of Lake Michigan. The Environmental Law & Policy Center calculated the cost in related deaths, cardiovascular illnesses and hospitalizations from 2002 to 2010 at between \$520 million and \$690 million. In June, the plant's owner announced plans to close the facility in 2022.



Across the nation, in Lake County and in Chicago, where Dr. Benjamins oversees a long-standing partnership between the Chicago Medical School and the Sinai Urban Health Institute (SUHI), ZIP codes are proxies for health, longevity and a host of social risk factors. They also reveal racial and economic segregation that, studies show, result in concentrated areas of low public investment, high poverty and poor health. ZIP codes also show how COVID-19 has taken a greater toll on low-income Black and Latino communities, which have suffered disproportionately high rates of infections and deaths.

The College of Nursing will include a nursing education-to-employment pathway for underserved youth hailing from the highest hardship index ZIP codes in Lake County. This pathway is intentionally designed to improve two key SDOH — access to education and health literacy.

“Lake County is one of the most disparate counties in the state of Illinois,” said Dr. Benjamins, a senior research fellow at SUHI. “The COVID pandemic has pushed to the fore the underlying inequities that have been there all along — not because of race, because of racism. It’s important to get granular with local data — neighborhood and ZIP code data — to tailor and target interventions accordingly.”

Health department data plotted on interactive health maps for two neighboring communities reveals a ZIP code tale of two cities. RFU’s home community — ZIP code 60064, where 28% of the population is Black and 33% Latino — has the highest number of people in the county living below the federal poverty level at 30.8%, and the highest rate of obesity at 35.7%. Immediately south of the university, in ZIP code 60044, just 4.8% are poor and 14.6% obese. Residents in 60044, who are 92% white, live on average more than 10 years longer than their neighbors to the north.¹

“The truth is we have structures that support the development of disease in our underserved communities,” said Sandra Larson, PhD, CRNA, interim dean of the planned College of Nursing. “If 85% of health is determined by social factors, then the solution to population health demands a redesign of our payment systems and models of care. New models of care must educate, empower and facilitate a community’s capacity to maintain optimal health across the life span.

“So we need to keep working to understand the social determinants of health (SDOH)² and ask ourselves as an academic institution, ‘How can we continue to intensify our work with the community to improve the social determinants?’”

The College of Nursing will include a nursing education-to-employment pathway for underserved youth hailing from the highest hardship index ZIP codes in Lake County. This pathway is intentionally designed to improve two key SDOH — access to education and health literacy.

The university has long worked toward improved health equity³ on many fronts, collaborating on numerous strategic educational partnerships, curricular innovations, and community health outreach and cultural awareness initiatives in its neighboring underserved communities. When the university’s mobile health clinic, dubbed “the Care Coach,” discovered resistance to COVID testing in local schools, it launched an education program led by its bilingual clinic manager — a nurse practitioner from the community.

Now RFU is adding a crucial piece: community-based research. The university intends to leverage and synergize its grassroots health equity efforts with the addition of a new program in epidemiology. The highly-collaborative research initiative will engage new and existing partners who are already working to systematically identify, prevent and eliminate health disparities in local underserved communities. The recruitment of a research-oriented epidemiologist is underway.

“A dedicated faculty member devoted to community-based research — focused on root causes, prevention and data collection — can help us make positive, sustainable change among our neighbors and even at the policy level,” said Executive Vice President for Research Ronald Kaplan, PhD. “We want to listen to and work with communities to research the issues — the barriers and opportunities — and to develop strategies aimed at improving health and access to care. We need to research the effectiveness of those strategies. It’s not enough to know what the problems are. We have to know if attempted interventions are effective. That’s the power of research.”



Above: Scholl College students evaluate an area resident during a community health screening event held at Foss Park in North Chicago. Bottom: Downtown Waukegan at the intersection of County and Washington Streets.



COMMUNITY HEALTH BY ZIP CODES

60064 VS **60044** VS **60085**

30.8% | **4.8%** | **25%**

LIVING BELOW POVERTY LEVEL

35.7% | **14.6%** | **32%**

RATE OF OBESITY

Source: Lake County Interactive Health Map
www.livewelllakecounty.org/local-data.

1 Health Disparities:

Particular types of health differences closely linked with social, economic and/or environmental disadvantage.

2 Social Determinants Of Health:

Economic Stability

Education Access and Quality

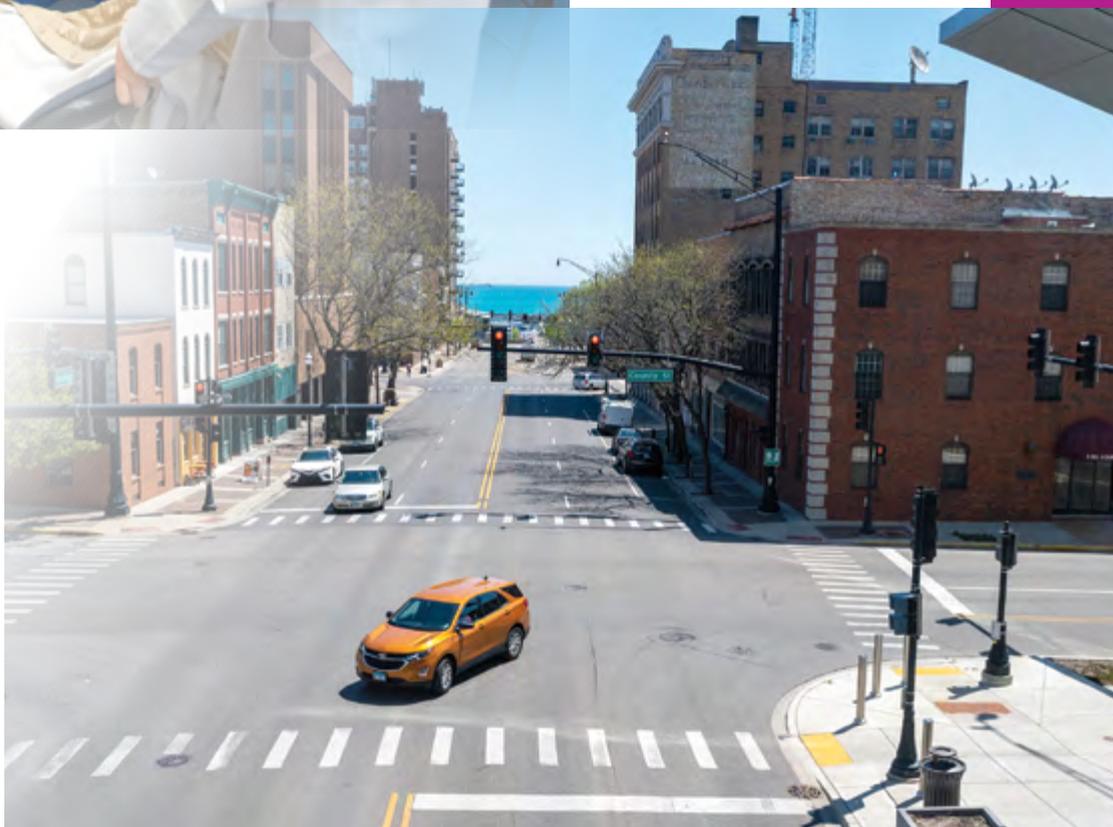
Healthcare Access and Quality

Neighborhood and Built Environment

Social and Community Context

3 Health Equity: The attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and healthcare disparities.

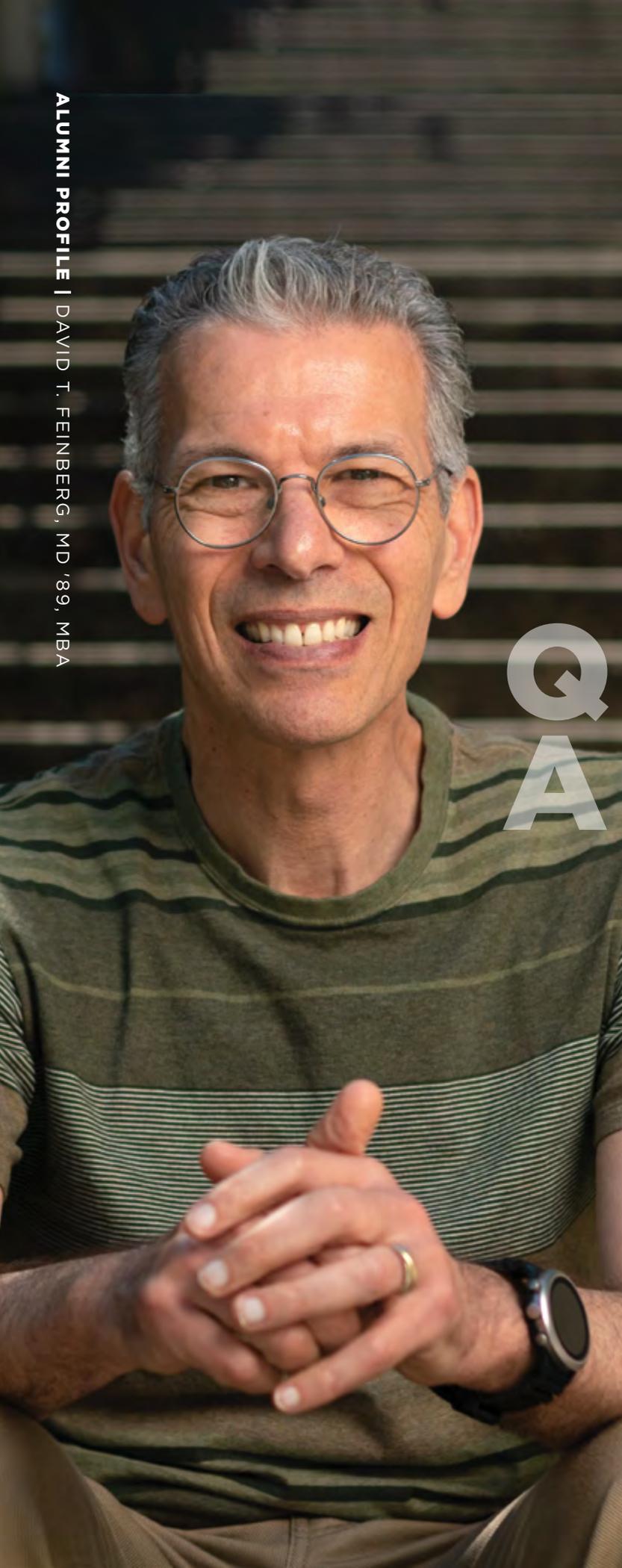
Source: Office of Disease Prevention and Health Promotion: Healthy People 2020, Healthy People 2030.



Dr. Benjamins directs an intensive summer internship program for medical students focused on health equity research. There has been a surge of student interest in the program, which looks behind ZIP codes at structural factors and SDOH like the built environment and neighborhood. The work has resulted in several papers and community-driven interventions staffed by community health workers, including several in response to high rates of asthma, diabetes and breast cancer in Black and Latinx neighborhoods.

“There have been decades of work on this, but in a lot of places, including Chicago, racial inequities are getting worse,” said Dr. Benjamins, whose soon-to-be-published book, “Unequal Cities: Structural Racism and the Death Gap in America’s Largest Cities,” includes a review of the history of efforts to address inequities. “That shows that what we’ve been doing has not been working. The more RFU’s new epidemiologist and research program can be collaborative with community groups and driven by priorities from the community, the better. It’s a different model than clinical research or bench science. It can be a lot messier and slower, but it’s the only way to go.” ✕

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



SEARCH FOR HEALTH

By Judy Masterson

VP of Google Health David T. Feinberg, MD '89, MBA, spoke with medical students on April 9 as part of the annual Aaron Brown Memorial Lecture, sponsored by the Chicago Medical School chapter of Phi Delta Epsilon¹. Here, Dr. Feinberg, the former CEO of two of the nation's most innovative hospital systems — UCLA and Geisinger in Pennsylvania — shares his thoughts on the digital transformation of health care. Excerpts from the conversation have been edited for brevity and clarity.

HELIX: What attracted you to Google?

DR. FEINBERG: I wanted to learn if tech can actually help in health care. Having been here for almost two years, I am positive with absolute certitude that this technology can save lives at scales that none could imagine. But what I have learned is we won't be able to do it if we don't do two things: 1. Earn people's trust. If people don't trust us, then lifesaving technology can go sit on a shelf. 2. Google is going to help save lives through others. We

“For us to be successful as a tech company in health care, trust and partnership are going to be probably more important than the coolest machine-learning AI I have ever seen in my life.”

are going to do this through doctors and nurses and pharmacists and social workers. We are going to do this through partnerships. Our tools, as amazing as they are, are really going to be a way for families and communities to take better care of themselves, and for doctors and nurses to spend more time at patient bedsides and less time in front of computers. Our tools are going to let care managers predict who is going to get sick. But the care, fundamentally, is not technology. Health care, fundamentally, is people caring for people. That sometimes means a family caring for a family member. Sometimes it means a professional caregiver. Sometimes — and I think we're living it with COVID — it means a community caring and in some cases not caring for itself. For us to be successful as a tech company in health care, trust and partnership are going to be probably more important than the coolest machine-learning AI I have ever seen in my life.

What do you think is the single most important piece of technology for improved healthcare delivery?

Google Search! So 30 years ago, when I graduated, jokingly, I thought I knew everything, or at least the senior doctors did and the patients didn't know anything. They didn't go to the library and look up "melana." There was a real imbalance. Twenty-one years ago, Google Search came out, and for the first 10 years, it was pretty bad. Patients came in and they had printed out the internet. And you were like, "Come on now — you've gone down a rabbit hole." The last few years, we've really worked to get that information authoritative, useful, dignified, culturally sensitive, accessible. And it has fundamentally changed the relationship from a paternalistic one between your doctor and you into one that is actually now a partnership. And you can actually find pretty good information. A recent Harvard study concluded that doctors should recommend patients go to Dr. Google. That's a big flip over 20 years' time. It took a while. But that technology of organizing information, in this case health information, and making it accessible, I think has been the biggest tech success that I have seen in my career.

How is Google working to automate or improve data infrastructure for electronic health records, which have been a source of burnout for so many health professionals?

We're working exactly on that in partnership with Ascension. What we've done is go with Ascension and help the doctors normalize (organize) an individual patient's record. And patient records — they may be with Athena as an outpatient, or they may use Epic or Cerner (healthcare software) and they may have gone to CVS. That information is spread across multiple systems. So this project — new software we're calling Care Studio² — has been in the works for a number of years. It's now live. So we've normalized the data³ and the screen for the doctor is what looks like a Google Search homepage. It's just a Google Search bar. The software offers a single, centralized view that automatically brings forward a patient's important information. If you get called to see a patient who has melana, you can type "melana" or "anemia" or "GI bleeding" — that same query expansion that we all use in the regular part of our world with Google happens for that patient's record. Within a microsecond, everything comes up that you need to know. Anemia. What kind of medications they're on. It's looked at all of their hemoglobin levels from multiple hospitalizations normalized in a really easy-to-use interface — actually, this patient always runs a low hemoglobin, so they don't need to be transfused — and then we help you write the note. And writing the note is the same way we help you complete your Gmail. The tool actually allows us to do predictions around who's going to get sick or what's going to happen. It allows us also to think of data insights from a population-health standpoint. The thing that it really does that blows me away — with enough training, it can actually write the person's medical record for the next week or two or a year. We can tell you what's coming next. And when you have that, now you have the ability to say, "Well now, let's tweak it. If we gave this medicine, what would happen?" We are just organizing the information and making it accessible. I don't want us to build an EHR. I want us to build this on top of the EHR ability. Ultimately, we want to take that same data on the individual and combine it with what we do on the consumer side.

In light of widespread vaccine hesitancy and skepticism, how can trust in medicine and science be improved, especially in terms of data collection?

Trust is absolutely crucial. Getting information out is really, really important. But people make decisions based on human connection. So your doctor or your cousin or your friend or your baseball friends are really influential on how people make decisions. So we're looking right now at vaccine issues. We were really focused originally on information about COVID and then information about COVID testing, and now "vaccine near me" has gone up considerably on Google Search. We want to get people the right information, and we can see by search queries and populations that there are certain groups that aren't doing the query enough. We can tell where there is vaccine hesitancy. Sometimes it's an access issue, sometimes it's a trust issue and sometimes it's just a blatant misinformation issue. So we're working super-hard on that. For example, the only subject researchers from Vanderbilt University were unable to get a conspiracy theory to recommend a further conspiracy theory or video was on vaccines. That was our team. So if you type in "vaccines are bad," the next video you get is authoritative information on vaccines. If you have bias, you can find it on the internet, but we don't have to put it on the first page. Then there are sometimes gaps, places where the authoritative folks haven't spoken up. We then engage with them to get that content so that we have pages and pages of good stuff before you get to the bad stuff. ✕

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

1 The international medical fraternity Phi Delta Epsilon

was founded by Aaron Brown and eight fellow medical students in 1904, an era in which Jewish medical students and physicians faced prejudice, admissions quotas and scorn from the medical establishment. Equity is a core value for the group: "Not just the absence of discrimination, but also the presence of values and systems that ensure fairness and justice." Chicago Medical School students founded the Beta Tau Chapter in 1949.

2 Google Health on Care Studio

Today's medical data is often siloed, organized by the type of encounter instead of by person. The data platform is simplifying a mess of information by creating a real-time, normalized longitudinal representation of a person's clinical data.

Source: health.google/for-clinicians/care-studio.

3 Google Search: What is data normalization?

Data normalization is the organization of data to appear similar across all records and fields. It increases the cohesion of entry types leading to cleansing, lead generation, segmentation, and higher quality data.

Source: [bmc.com](https://www.bmc.com).

Watch Dr. Feinberg's full talk with CMS students at:

rfu.ms/feinberg-lecture

EXAMINING THE LEGACY OF POLICE ENCOUNTERS

By Yadira Sanchez Olson



As inequality is spotlighted by increasing demands to resolve social justice issues, those studying and working in fields of psychology and sociology have an opportunity to analyze how mental health is impacted by experiences of discrimination.

Sophie Leib, CHP '23, Emma Faith, CHP '23, and Samuel Vincent, CHP '25, along with Steven Miller, PhD, associate professor of psychology, collaborated on "Police Interactions, Perceived Respect, and Longitudinal Changes in Depression in African Americans," a study published in the *Journal of Social and Clinical Psychology* in February. Its key finding reveals that a "disproportionately high rate of negative encounters with law enforcement" impedes recovery from depression in Black adolescents entering adulthood.

"One study found that mere exposure to police killings of unarmed African American men was predictive of poor mental health outcomes among African American, but not Caucasian participants, suggesting a unique race-based effect," the article states. "Overall, police interactions appear to be related to poorer outcomes on various mental health indices including depression."

"With the Black Lives Matter movement and police reform in the headlines, I thought this topic was a unique opportunity to merge the assignment and shed some light on the issue."

The work began as an assignment in Dr. Miller's Longitudinal Models elective class — a course he developed and Ms. Leib and Mx. Faith took in 2020. It required a look at data related to psychological changes over time, collected over several years dating back to the 1990s. Ms. Leib said her interest in the course was driven by current events.

"With the Black Lives Matter movement and police reform in the headlines," she said, "I thought this topic was a unique opportunity to merge the assignment and shed some light on the issue."

For the published work, the group used data found in the National Longitudinal Study of Adolescent Health, in which researchers surveyed a representative sample of 20,000 7th- through 12th-graders in 1994 and then followed up with multiple rounds of interviews and physical data collection — including blood-based assays and medication history — as the teens transitioned into adulthood.

Participants were divided into two groups based on racial identity — Black and other. Ms. Leib set out to assess the rate of change in depression from adolescence to adulthood for each group.

"There are differences that occur because not everyone is treated equally in society, and so there are different manifestations of mental health issues — social stressors that influence mental health and psychological processes," Dr. Miller said. "Because there are these differences, it's important to have research to understand these and to know the implications."

After Ms. Leib's initial research, Mr. Vincent and Mx. Faith came on board to help develop the manuscript. For Mx. Faith, the work is notable because "it shows a disadvantage that shouldn't be there."

"This opens a conversation for the need for more research in the African American populations, and for people who have had these experiences to be heard," Mx. Faith said.

The full text of the study is available at guilfordjournals.com. x

Yadira Sanchez Olson is a Lake County-based freelance writer who has written extensively about the Latino community.

Above: From left, Dr. Miller with team members Sophie Leib, Emma Faith and Samuel Vincent.



The Dr. John and Kathleen Grady Scholarship, established in 2014, embodies the values of its patrons as expressed by John F. Grady, DPM '80, an internationally recognized foot and ankle surgeon.

“Podiatric medicine is special,” Dr. Grady said. “It’s a vocation, not a job. It requires humility and compassion. It’s really specific, focused — and desperately needed. The longer you practice, the more need you see.”

Dr. Grady has spent his career in private practice — where all eight podiatric physicians are graduates of Dr. William M. Scholl College of Podiatric Medicine — and in education as adjunct clinical faculty for Scholl College and six other podiatry schools across the nation. He is the founder and director of the podiatric surgical residency program at Advocate Christ Medical Center and Advocate Children’s Hospital in Oak Lawn, Illinois.

Dr. Grady’s philosophy of giving took shape as he matured in his profession. In the early years, he didn’t think much about philanthropy.

“It’s been my experience that as soon as you begin to give, your life improves.”

“Younger clinicians are focused on surviving,” he said. “You’re raising children, you’re opening a practice, paying the bills, paying down student debt. But my thinking changed once I started to pay off my bills, and as I continued to teach such excellent students who were so hungry to learn. I discovered that I am a lot happier just thinking about what I can do for others with my money or talent and whatever I have to offer. It’s been my experience that as soon as you begin to give, your life improves.”

A NEED FINDS OPPORTUNITY

Scholarships, Dr. Grady observes, help Scholl College recruit the best students, including those who initially consider other fields and those who, through practice and research, make significant contributions to podiatric medicine.

“That’s why scholarships are so important,” he said. “They give opportunity to people who otherwise wouldn’t have it.” ❖

A 2000 Scholl College Alumnus of the Year, John F. Grady, DPM '80, was elected to RFU’s Board of Trustees in 2019. He was the first American surgeon awarded an honorary membership by the Gesellschaft für Fuß- und Sprunggelenkchirurgie (German Society for Foot and Ankle Surgery). He is a 2010 recipient of the American Podiatric Medical Association’s Award of Excellence, and the founder of The Illinois Institute for Foot & Ankle Surgery. His contributions to podiatric medicine, including innovations in reconstructive surgery, have garnered international recognition.

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THE JOURNEY TOWARD STRONGER ALZHEIMER'S TREATMENTS

By Margaret Smith

For over a decade, the Stutzmann lab and collaborators such as John Buolamwini, PhD, have been dedicated to identifying novel therapeutics to combat Alzheimer's disease. What sets the recent project apart from similar efforts is the use of in silico drug design and screening by the Buolamwini lab, and incorporating computer-based validation tools used by drug companies.

"Together, we're working to develop novel molecules that will reduce the amount of toxic or pathological signaling within neurons and then to develop these CNS-targeted drugs," said Grace E. Stutzmann, PhD, director of the Center for Neurodegenerative Disease and Therapeutics. "The in silico design refers more to the computational, deductive means to draw or develop new compounds or molecular structures — and not the wet lab procedures of mixing and stirring and incubating, but rather using computer-generated methods."

The team behind the project, in conjunction with Dr. Stutzmann's startup company NeuroLucent, includes lab members and teams from across campus — such as Dr. Buolamwini, who is professor and chair of the Department of Pharmaceutical Sciences, College of Pharmacy. Team members also include RFU stakeholders such as Robert Marr, PhD, also in the Center for Neurodegenerative Disease and Therapeutics.

Dr. Stutzmann described Dr. Buolamwini's role as "central to our project. As a medicinal chemist, he and his lab are designing, creating and generating the actual compounds that we are testing, as well as overseeing any outsourced chemistry screens and assays." Dr. Buolamwini provides oversight of all the drug-based chemistry data that is generated so he can work to optimize the composition of the compounds.

Top: Samples are stored and tested in the Center for Neurodegenerative Disease and Therapeutics. Bottom: Drs. Stutzmann (left) and Buolamwini.

"For me, it is an incredible journey. I would love nothing more than to speed it up for the overall good of humankind and to reduce all that suffering that comes with this disease."

The latest addition to the team is a company that specializes in mathematical modeling through artificial intelligence to build compounds. The objective is to compile data from the project and use the predictive modeling of AI to foresee which compounds could prove to be the most beneficial.

Dr. Stutzmann has watched the integration of technology and medicine unfold over the last decade, something she calls an “enlightening experience.” While the end goal is providing safe and effective drugs for Alzheimer’s patients, getting there isn’t exactly linear, nor is it simple.

Funding and comparing and contrasting the most effective screening methods are just some of the barriers Dr. Stutzmann described when it comes to getting a drug out of the lab and into the pharmacy. She suggests there still might be another decade of research between now and then. In the meantime, she added, the project will focus on short-term goals, such as creating “combinations and permutations of existing compounds to identify the best lead candidates, and then determine which tools to use to identify the most promising ones. ...We should, by no means, have to pick (just) one.”

The motivation of this project, for Dr. Stutzmann, is double-sided. While the project’s main goal is undoubtedly finding the most effective way to treat Alzheimer’s, it simultaneously is bringing AI-driven medicine into the mainstream and making room for alternative research methods.

Additionally, personal to Dr. Stutzmann, actualizing this mode of research — which at one time was what she called just a “percolating and developing” concept — is monumental.

“Even approaching something that could potentially have a clinical benefit is overwhelming in satisfaction. For me, it is an incredible journey. I would love nothing more than to speed it up for the overall good of humankind and to reduce all that suffering that comes with this disease,” Dr. Stutzmann said. “But for me ... it will just have to take as long as it takes. We’re not going to leave the project.” ✕

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



“The way we frame virtually every question was, ‘While working remotely, I did something or I experienced something.’”

Drs. Elskenidy (far left) and Hagopian (far right) join students who assisted with their study on the effects of working remotely.

DISCONNECTED OR CONNECTED? TRACKING THE EFFECTS OF WORKING REMOTELY

By Margaret Smith

During the height of the COVID-19 pandemic in America, when physical health became the country’s cardinal focus, there were those who were also concerned with the other aspects of health.

One of those groups resides at Rosalind Franklin University, spearheaded by Kavork Hagopian, PT, DPT, MBA, an assistant professor in the Department of Physical Therapy.

Dr. Hagopian formed a team that included faculty member Naglaa Elskenidy, DSc, PT, MS ’96, and first-year physical therapy students Ashley Duer,

Justirini Corpus, Kevin Hershberger, Joseph Wittmann, Katherine Harris and Megha Parikh. He said their work began “in earnest” in August 2020, compiling what would later become “A Survey of the Effects of Working Remotely on Health and Wellness of Faculty and Staff of a Health Professions University During the 2020 COVID-19 Pandemic.” The survey was distributed in November 2020 to all employed by RFU who had been working at home since the onset of the pandemic, resulting in 192 responses.

Content for the survey was selected categorically from the seven pillars of wellness: emotional, social, physical, environmental, spiritual, intellectual and occupational. “The way we framed virtually every question was, ‘While working remotely, I did something or I experienced something,’” Dr. Hagopian said.

Though the raw data from the project is still being assessed, Dr. Hagopian said there are definite plans for it. “We will compile the data, try to make some good decisions from it or glean some good opinions from it, and then we’ll present them,” he said. The application of the data to the university will be a longer rollout and more nuanced.

“We’re still trying to get our arms around, ‘What were the struggles?’” Dr. Hagopian said. “There’s a lot of empirical information out there. I’m sure every supervisor has their hands on the pulses of their coworkers and people that they are responsible for. But we were trying to look at things as an aggregate.”

The overwhelming takeaway from the survey, for Dr. Hagopian, was that employees at RFU feel supported by the institution.

“And that to me just fits with the culture of Rosalind Franklin,” he said. “We had a public health crisis, and leadership from the Board of Trustees to our president to our deans was supportive and really put the health, well-being and wellness of their community first. So now, let’s quantify really how positive that was on the seven aspects of wellness.” ✕

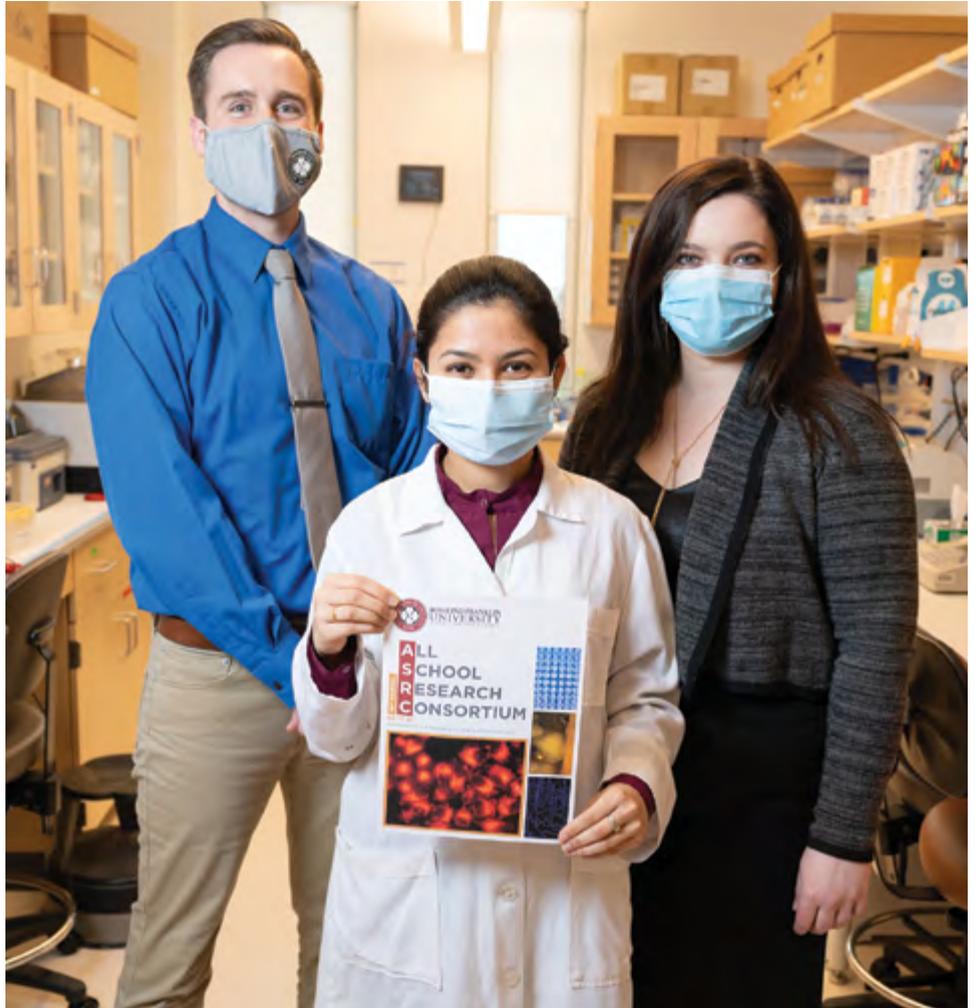
“Seeing so many people come together virtually to share their work, collaborate and network speaks to the resilience and character of the RFU community — traits we seem to have in common with our institutional namesake.”

Above: PhD students Matthew Stratton, Babita Thadari and Nikki Barrington were among the organizers of the virtual ASRC 2021.

STUDENT ORGANIZERS MAKE ALL SCHOOL RESEARCH CONSORTIUM A VIRTUAL REALITY

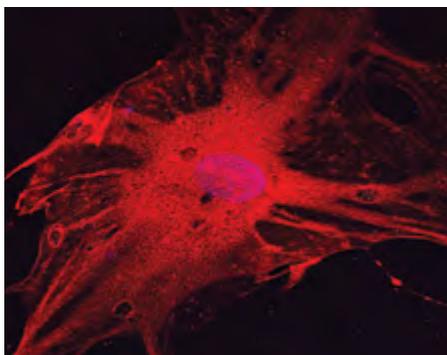
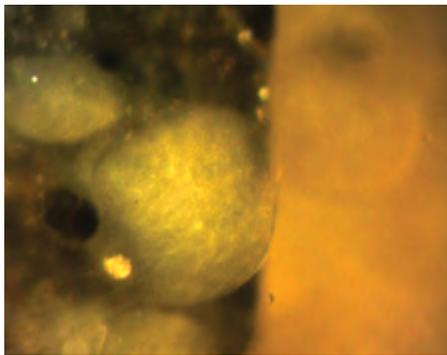
By Sara Skoog

The annual All School Research Consortium (ASRC) provides a showcase for RFU students, postdocs and residents from all five schools and colleges to share their research projects with the larger university community.



Organized by a dedicated committee of student volunteers — with support from RFU’s Graduate Student Association (GSA) and administrators and departments throughout the university — ASRC is truly an interprofessional endeavor. What began in 2006 as a half-day program with 40 research posters and a handful of oral presentations is now a daylong event featuring more than 100 posters, 20 research talks, a keynote address, an awards ceremony and the opening of the annual “Art From the Benchtop” art exhibit.

ASRC is typically presented in the format of a scientific conference, with participants stationed next to their posters in a large central location where judges and attendees browse the posters and ask students about their research projects. The event is held in March each year, which placed it directly in the path of the coronavirus pandemic in 2020. The university’s move to remote operations last March for the safety of students, faculty and staff meant ASRC 2020 was cancelled. With COVID-19 still a threat in 2021, student organizers were determined to make ASRC happen virtually this year on March 17.



“In an unprecedented year marked by adversity and division, it was nothing short of extraordinary to see the breadth and volume of original research produced by Rosalind Franklin students, postdocs, residents and staff at ASRC 2021,” said Nikki Barrington, an MD/PhD student and co-chair of the ASRC organizing committee.

“Seeing so many people come together virtually to share their work, collaborate and network speaks to the resilience and character of the RFU community — traits we seem to have in common with our institutional namesake,” she added. “As Dr. Rosalind Franklin herself once said, ‘Science and everyday life cannot and should not be separated.’ ASRC 2021 demonstrated that science is everyday life at RFU, and even a pandemic couldn’t stop us from sharing that.”

One of the biggest challenges was finding a way to connect poster presentations from 120-plus students with the 40 or so judges who would be evaluating the research posters and symposia talks, as well as allowing program attendees to view the posters and talk to the student researchers about their work. Maintaining the interactive nature of the event was key, as proficiency in communicating about research is an essential part of professional development for the students and postdocs. Consortium organizers worked with RFU’s Information Technology Services to move all ASRC programming to a virtual platform. But how do you present dozens of posters simultaneously when everyone needs to be talking at the same time? The solution was virtual breakout rooms. Lots of breakout rooms.

“In the end, we individualized a personal breakout room for each poster at the conference — that way, any judge, colleague or interested party could go directly to the research that intrigued them and find the presenter ready and waiting to discuss their work,” said Aubrey Penney, academic program coordinator for RFU’s School of Graduate and Postdoctoral Studies. “For the symposia, we kept a piece of the in-person event, organizing three breakout rooms based on discipline and subject matter with a programmed schedule of speakers.”

In addition to coordinating the setup of so many virtual locations, student and staff volunteers also stood at the ready to assist with technical issues and point participants and guests in the right digital direction. Organizers acted as air traffic controllers of sorts, deftly navigating judges in and out of breakout rooms and helping participants get exactly where they needed to go. There may have been a few digital hiccups along the way, but that didn’t deter those committed to making sure knowledge was shared and the participants celebrated for their dedication to advancing scientific discovery. ✕

Sara Skoog is a staff writer with the RFU 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.

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ASRC 2021 BY THE NUMBERS

108

**POSTERS
PRESENTED**

17

**SYMPOSIA
PRESENTATIONS**

46

JUDGES

8

**ASRC BOARD
MEMBERS**

274

GUESTS

111

**BREAKOUT
ROOMS**

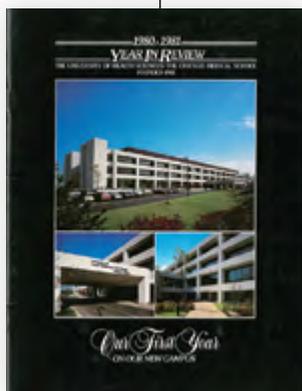
453

**PARTICIPANTS
LOGGED INTO
THE PLATFORM**

Left: Among the ASRC exhibits were (from top to bottom) “A Window into the Brain of a Mollusk” by Viral Mistry, SGPS ’24, and Jeffrey Brown, PhD; “Observe, Record, Repeat” by Sarah Mustaly, SGPS ’24; “Jellyfish” by Asha Kumari, PhD; “Reflecting” by Alexandra Ritger, SGPS ’24, CMS ’26; and “The Glow of Potential” by Adriana Fresquez, PhD, CMS ’22.

1980-81: BASIC SCIENCES BUILDING DELIVERED “MORE MODERN AND SOPHISTICATED” FACILITIES

By Kelly Reiss



Forty years ago, Chicago Medical School and the School of Graduate and Postdoctoral Studies moved forty miles to North Chicago where they joined the School of Related Health Sciences — now College of Health Professions — programs that were already being held in adjacent buildings at the Downey Veteran Administration Hospital, which is now the Captain James A. Lovell Federal Health Care Center.

The 350,000-square-foot facility at the North Chicago campus enabled the university “to increase graduate student enrollment as well as to provide them with more modern and sophisticated laboratory experience.”

The modern, four-story Basic Sciences Building, as it is known in 2021, was built to house administrative offices, basic science departments, research and teaching laboratories, classrooms, dining facilities, and a Learning Resource Center and library. An auditorium that could seat 900 people utilizing two rotating pods on either side of the main auditorium also welcomed incoming classes for the two schools in the fall of 1980.

The 1980–81 school year ended with an unprecedented commencement celebration on June 11. It was held on the new, 92-acre campus under a large, striped tent, while the awards ceremony took place in the school’s auditorium.

The 350,000-square-foot facility at the North Chicago campus enabled the university “to increase graduate student enrollment as well as to provide them with more modern and sophisticated laboratory experience,” according to the 1980–81 Year in Review. The same could be said for the recent development of the new Innovation and Research Park, which marked its ribbon-cutting in January 2021. With many graduate students, research staff and faculty moving their work into the Innovation and Research Park, the university has the opportunity to redevelop parts of the Basic Sciences Building to create classroom and learning spaces for new students and faculty. ✕

Kelly Reiss is director of the Rosalind Franklin University Archives and the Feet First Exhibition.



UNIVERSITY OF HEALTH SCIENCES
THE CHICAGO MEDICAL SCHOOL
Commencement - June 11, 1981



**EXPONENTIAL
GROWTH**
1980 VS 2021

93 | 97
TOTAL ACREAGE

375K | 1,000K
DEVELOPED
SQUARE FOOTAGE

683 | 2,123
NUMBER
OF STUDENTS

~650 | 853
NUMBER
OF EMPLOYEES



UNIVERSITY OF HEALTH SCIENCES
THE CHICAGO MEDICAL SCHOOL
Commencement - June 11, 1981

Left: School of Graduate and Postdoctoral Studies graduate Peter K. Healey, PhD '81, receiving his diploma from Herman Finch, then Chairman, Board of Trustees. Above: Chicago Medical School Class President Ira Jay Blumen, MD '81, one of three graduating student speakers, gives remarks to his fellow graduates and their guests.



Captions:

MEMORIAM

REMEMBERING FORMER PRESIDENT JEROME A. GOLD, MD '53 (1928-2021)

By Sara Skoog and Meg Wakefield

Jerome A. Gold, MD '53, former university president, trustee and CMS Distinguished Alumnus Award recipient, passed away Feb. 19 at age 93.

Dr. Gold attended Long Island University before earning his MD degree from CMS. He then returned to his native Brooklyn to complete his internship and residency in internal medicine and pulmonary diseases at Kings County Hospital.



Dr. Gold's many achievements included serving as an active-duty lieutenant and chief of the Chest and Infectious Disease Service at the U.S. Naval Hospital in Bethesda, Maryland; clinical research director of Smith, Klein and French Laboratories; and vice president of business development for Wyeth Laboratories. During this time, he was instrumental in the release of specific cephalosporin antibiotics (Ancef) and was one of the founders of the rubella vaccine. In April 1970, Dr. Gold was called to consult before the Apollo 13 space flight when one of the astronauts was exposed to German measles. His Apollo 13 flight patch and later photo with mission commander Jim Lovell are mementos of one of his greatest legacies.



“From an early age, we watched him and how he treated people. He taught us to take care of family first, your patients first, and always give back.”

Dr. Gold served as president of the CMS Alumni Association from 1971-75 and received the Distinguished Alumnus Award in 1978. He returned to the university in 1986 and served as president and CEO until 1987, when he and his wife, Anne, retired to Florida. He also served on the university's Board of Trustees.

Dr. Gold is survived by his sons, Dr. Robert (Gail) Gold and Dr. Michael (Cindee) Gold; grandchildren and great-grandchildren; as well as his brother, Richard Gold. He was preceded in death by Anne, to whom he had been married for 70 years, in 2020. x

Michael Gold, MD '85, Reflects on Father's Legacy

Compassionate. Visionary. Loyal. Intelligent. Giving. These are the words that come to Dr. Michael Gold's mind when asked to describe his father, the late Jerome Gold, MD '53. Michael, a fellow CMS alumnus, said his father's example inspired him and his brother Robert to pursue careers in medicine.

“From an early age, we watched him and how he treated people. He taught us to take care of family first, your patients first, and always give back,” said Michael. “That has really resonated with both me and my brother recently. My brother teaches and organizes events, and I'm doing a lot of giving back now.”

One of Michael's favorite memories is from his CMS graduation in 1985. “My father presented me with my diploma. It was a special thing.”

Left: From left, Dr. Michael Gold with his parents, Anne and Dr. Jerome A. Gold. Right: A signed letter from Apollo 13 Commander James A. Lovell and a patch from the famed NASA mission were among Dr. Gold's prized possessions.

Undaunted. Resilient. Inspired. **Jennifer.**

A first-generation American from Longwood, Florida, **Jennifer So, DPM '21**, served as her grandfather's medical interpreter during his long battle with Type 2 diabetes. She spent long hours in study and service at Scholl College while also working as chief medical consultant for her startup, KEYQO Security, LLC, which is designing the next generation of healthcare IT products.

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