RESEARCH AND SCHOLARSHIP REPORT
July 1, 2019 - June 30, 2020
“SCIENCE, FOR ME, GIVES A PARTIAL EXPLANATION FOR LIFE. IN SO FAR AS IT GOES, IT IS BASED ON FACT, EXPERIENCE AND EXPERIMENT.”

DR. ROSALIND FRANKLIN
1920–1958
Rosalind Franklin University of Medicine and Science (RFU) is named for Dr. Rosalind Franklin, the pioneering British researcher who captured “Photograph 51” of the “B” form of DNA in 1952 while at King’s College London. This photograph revealed the structure of DNA, the key to understanding how the blueprint for every living thing is passed down from generation to generation.

Today, Rosalind Franklin University of Medicine and Science carries on her legacy of inquiry, diligence and academic excellence. Formed in 1912 as the Chicago Hospital-College of Medicine, the university is a national leader in interprofessional medical and healthcare education.

OUR MISSION

The mission of Rosalind Franklin University of Medicine and Science is to serve humanity through the interprofessional education of health and biomedical professionals and the discovery of knowledge dedicated to improving wellness. Today, the university is shaping the future of health care through rigorous education, pioneering biomedical research and innovative community service.

OUR VISION

The vision of Rosalind Franklin University of Medicine and Science is to be the premier interprofessional health sciences university. Sharing our accomplishments and contributing to the evidence base for science, interprofessional education and practice will help build a safer, more responsive, coordinated system of patient care, prevention and wellness.

OUR VALUES

Civility · Diversity · Excellence · Innovation · Integrity · Scholarship · Teamwork
INTERPROFESSIONAL EDUCATION

At Rosalind Franklin University of Medicine and Science, we believe in breaking down academic barriers. We take an interprofessional approach to education, so our students learn from and work with peers in other specializations from the beginning of their time here.

That’s especially important, as healthcare teams play an increasingly vital role in medicine. At RFU, we prepare students for the future by integrating collaboration and teamwork into education. Having more than 30 graduate health professions and science programs in one university creates great opportunities to do that.

Additionally, each first-year student in our clinical programs takes the Foundations for Interprofessional Practice course during the fall quarter. This class, which acts as the foundation for an integrated interprofessional education experience, brings students from all academic programs together to learn from one another, get oriented to the culture of health care and start interacting in small, interprofessional teams.
The College of Pharmacy (COP) is the newest college at RFU and graduated its first class in 2015. The program focuses on exciting opportunities in a variety of career paths, including community pharmacy, health systems, industry, academia and public health.

As with other schools at RFU, interprofessional education separates the College of Pharmacy from other pharmacy programs. The rapid change in delivery of care is helping to drive the expansion of pharmacy’s scope of practice. From the first day, our students attend classes with peers studying other disciplines and they learn from them along with the faculty.
INTRODUCTION
The following pages document the research and scholarship accomplishments of the faculty and students of the College of Pharmacy during the past academic year. The discovery and dissemination of new knowledge is an important part of each faculty member’s responsibilities and it is especially satisfying when we can involve our students in these endeavors. Research and scholarship activities in the college cover a wide range of topics, from the laboratory to the clinic to the classroom. This year was particularly challenging, as the COVID-19 virus hindered efforts to meet and to carry out many kinds of research. Nevertheless, a great deal was accomplished in the ninth year of our Summer Research Program.

Each year we also list the names of those who have been invited speakers in our endowed seminar series. We are fortunate to be able to bring in outstanding scientists and clinicians from all over the country, so that they can share their discoveries with us. This is made possible by the generosity of the Haim G. Nagirner Weinstein and Jane Graumann Weinstein endowment.

Throughout this document, we use bold text to indicate College of Pharmacy contributors and an asterisk* to indicate student, resident and postdoctoral contributors. We use the symbol ‘‘’’ to indicate interprofessional items.

D. Eric Walters, PhD
Associate Dean for Research

Marc S. Abel, PhD
Dean, College of Pharmacy
When research and scholarship efforts produce interesting and important results, the scholar submits these results for publication in scholarly journals. But before the results can be published, they must undergo rigorous review by other experts in the field. Peer-reviewed publications have met the standards set by these experts. The following list of peer-reviewed publications represents significant efforts from College of Pharmacy faculty and students.


Y. Zhang, Y. Le, Pengli Bu and X. Cheng. Regulation of Hox and ParaHox genes by perfluorochemicals in mouse liver. Toxicology. 2020; 441:152521.

(Bold = College of Pharmacy contributors, *= Student, resident and postdoctoral contributors, ^ = Interprofessional items)
ABSTRACTS AND PRESENTATIONS AT EXTERNAL MEETINGS

An important aspect of the sharing of new knowledge is the presentation of that knowledge in oral or poster format. This happens at regional, national and international conferences and in the form of invited seminars. The College of Pharmacy has produced an impressive list of such presentations, listed here.


T. Batteson, L. Thuente and Sarah S. Garber. A Structured Simulation Based on Health Disparities and Social Determinants of Health. National Collaborative for Education to Address the Social Determinants of Health, Northwestern University, April 2020 (accepted, not presented).


Danielle M. Candelario, Sneha Baxi Srivastava, A. Pabst, Luis Solano* and Kathleen Cunningham. Description of a Transitions of Care and Telemedicine Simulation Lab Activity.


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PRESENTATIONS WITHIN THE UNIVERSITY


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EXTERNAL SEMINAR AND CONTINUING EDUCATION PRESENTATIONS


John K. Buolamwini. Design and discovery of small molecule drug/probe leads against targets in heart disease, cancer and AIDS. University of Arkansas Medical for Sciences, Department of Pharmaceutical Sciences, College of Pharmacy Little Rock, AR. Sep. 6, 2019.


Abbie Lyden. How to Safely Decrease the Number of Medications in Older Adults. Geriatrics for Advanced Practice (GAP) Series. February 2020.


(Bold = College of Pharmacy contributors)
BOOKS, BOOK CHAPTERS AND OTHER PUBLICATIONS


*S.R. Bunting, Sarah S. Garber and D. Ducar. The Knowledge Gap: Improving Nursing Education About Pre-Exposure Prophylaxis for HIV Prevention. Dean’s Notes, 2020; 41:3.


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GRANTS

Research and scholarship takes many forms and it often requires significant resources. Success in competition for research funding can provide such resources and further the discovery of new knowledge.

The following list highlights such successes by College of Pharmacy faculty:


Ateequr Rahman. Just in Time Inventory Management — A Strategic Planning Tool for Pharmaceutical Distribution System. MAKS Pharma and Diagnostics, NY.

(Bold = College of Pharmacy contributors)

ACHIEVEMENT AWARDS

The College of Pharmacy Outstanding Achievement in Research Award. Each year, just prior to Commencement, an award is presented to a graduating College of Pharmacy student for Outstanding Achievement in Research. This year the award was presented to Yelena Sahakian.

Dr. Yelena Sahakian worked with Dr. Ateequr Rahman on several projects throughout her time at the RFU College of Pharmacy. Her research projects included the area of clinical and social and administrative sciences, involving development of assessment tools, drug utilization review, quality of life and educational assessments. She developed a prolific research profile in the field of pharmacoeconomic and health outcomes studies assessing the cost and quality of life of various disease states such as hypertension, urinary tract infections, Alzheimer’s disease and dementia. Additional areas of research comprise scholarship of teaching and learning (SOTL), public health and safety, and healthcare policy.

She published extensively in national and international peer-reviewed journals both as a primary author and co-author. She has also presented her research findings at national and international conferences and received numerous awards for best papers and poster sessions. She is a reviewer for several peer-reviewed journals and an active member of various pharmacy and healthcare organizations. She is currently a clinical resident at the Swedish Covenant Hospital in Chicago.

Previous Winners:

- 2015: Monal Punjabi
- 2016: Andrew Ruettiger
- 2017: Shannon Riley
- 2018: Tiffany Chairudin
- 2019: Alexandria Henry, Soyoung Chang
- 2020: Yelena Sahakian
CREATE YOUR IMPACT.

YOU CAN SHAPE THE FUTURE OF THE COLLEGE OF PHARMACY.

BUOYED BY YOUR SUPPORT, we are:

- **Strengthening programs and partnerships:** We are teaching future healthcare professionals how to transform systems of care through our innovative curriculum, use of state-of-the-art technology and expansion of clinical affiliates and community partnerships.
- **Impacting the community:** We are committed to improving health, wellness and access to educational opportunities in underserved communities.
- **Expanding biomedical, clinical and social determinants of health research:** We are continually investing in the discovery of new treatments and therapeutics, including in the fields of neuroscience, cancer and genetic and infectious diseases.
- **Improving scholarship support:** We are decreasing the economic barriers to students’ aspirations.

Together we can strengthen our healthcare workforce and advance the discovery of knowledge dedicated to improving wellness.

PARTNER WITH US TO MAKE AN IMPACT.

SUPPORT THE COLLEGE OF PHARMACY by contributing online

[https://rfu.ms/impactcop](https://rfu.ms/impactcop)

Please consider a recurring gift, which empowers our students and faculty and funds our top priorities.
THE HAIM AND JANE NAGIRNER W
CENTENNIAL SYMPOSIUM SERIES
2019-2020
Our seminar program is generously supported by an endowment from Haim G. Nagirner Weinstein and Jane Graumann Weinstein. Dr. Nagirner was a research scientist at the North Chicago Veterans Administration facility and a Chicago Medical School faculty member with interests in geriatric health care and pharmacy.

TUESDAY, SEPTEMBER 10, 2019
DR. SHARON W. AYD, CEO, AYD BIOPHARMA CONSULTING GROUP
HER FANTASTIC JOURNEY — A TRUE STORY OF HOW YOU CAN CHANGE THE WORLD AND LEAVE A LEGACY WITH A CAREER IN BIO/PHARMACEUTICALS

TUESDAY, OCTOBER 15, 2019
DR. PAUL TRIPPETER, UNIVERSITY OF NEBRASKA MEDICAL CENTER
SMALL MOLECULE AKR1C3 INHIBITORS TO COUNTER DRUG RESISTANCE IN CANCER

MONDAY, NOVEMBER 11, 2019
DR. TERESA A. BEAM, MANCHESTER UNIVERSITY
PHARMACOGENOMICS IN CLINICAL PRACTICE — CURRENT PERSPECTIVES AND FUTURE PROMISE

MONDAY, DECEMBER 16, 2019
DR. EHAB A. ABOURASHED, MEDICAL COLLEGE OF WISCONSIN
SCHOOL OF PHARMACY
CNS — TARGETING SECONDARY METABOLITES FROM TWO ‘BRAINY’ BOTANICALS

TUESDAY, JANUARY 28, 2020
DR. PENG LI BU, ROSALIND FRANKLIN UNIVERSITY
ORIGIN OF A RAPIDLY EVOLVING PROLACTIN PARALOG PROGRAMMING TESTIS FUNCTION IN MICE

MONDAY, FEBRUARY 24, 2020
DR. JOHN S. SCHNEEKLOTH, NATIONAL CANCER INSTITUTE-FREDERICK
TARGETING STRUCTURALLY AND FUNCTIONALLY DIVERSE RNAs WITH DRUGLIKE SMALL MOLECULES
THE PERSONAL SIDE OF HEALTH CARE
The College of Pharmacy focuses on opportunities in a variety of career paths, including community pharmacy, health systems, industry, academia and public health. Individual attention in a small class size, as well as experience in a state-of-the-art patient simulation laboratory, puts students at the forefront of modern pharmacy practice.

As with other schools at RFU, interprofessional education separates the College of Pharmacy from other pharmacy programs. The rapid change in delivery of care is helping to drive the expansion of pharmacy’s scope of practice. From day one, students collaborate in teams, learning about, from and with one another’s profession and how, together, they each impact the future of health care.

EXCELLENT MEDICAL CARE IS THE PRODUCT OF A GREAT TEAM
We teach that patients are not only at the center of the model of care, but also an active member of that team. Students learn that outcomes improve through positive patient interactions and clear communication. During their training, students sharpen those interactions, along with critical reasoning and communication skills, in simulation labs. Our program provides immunization training and puts students in contact with actual patients early in their first quarter.

STATE-OF-THE-ART FACILITIES
The RFU 97-acre campus is home to cutting-edge technology used throughout the curriculum and even has a Department of Healthcare Simulation. Examples of advanced systems that RFU students use include:

PHARMACY SKILLS LAB: Dedicated to learning communication and technical skills needed in the pharmacy field, this new lab gives students hands-on experience in many areas of contemporary pharmacy practice such as clinic, hospital or neighborhood pharmacy.

THE EDUCATION AND EVALUATION CENTER: Students perform clinical histories and patient assessments on standardized patients within this safe, learner-centered environment.

THE SIMULATION AND SKILLS LAB: This is home to several full-body mannequin simulators that can mimic dilating pupils, breathing and circulation. These allow students to have realistic experiences on an interprofessional team in a risk-free setting.

INNOVATION AND RESEARCH PARK: Opened in Spring 2020, includes 100,000 square feet of space designed to increase interaction, a free exchange of ideas and sharing of expertise and scientific tools.

HANDS-ON FUTURES
Through experiential rotations, student pharmacists learn the possibilities their degree has to offer.
CONTACT US FOR MORE INFORMATION

COLLEGE OF PHARMACY

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Rosalind Franklin University of Medicine and Science is regionally accredited by the Higher Learning Commission and all programs are approved by the Illinois Board of Higher Education. Rosalind Franklin University of Medicine and Science College of Pharmacy’s Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, IL 60603-4810; Phone: 312-664-3575; Fax: 866-228-2631; Website: www.acpe-accredit.org.