RESEARCH & SCHOLARSHIP REPORT
July 1, 2014 – June 30, 2015
“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
ACADEMIC ACHIEVEMENT IS IN OUR DNA

The Rosalind Franklin University of Medicine and Science (RFUMS) 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 in 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 ACADEMIC PROGRAMS INCLUDE:

- Doctor of Medicine through the Chicago Medical School
- Doctor of Podiatric Medicine through the Dr. William M. Scholl College of Podiatric Medicine
- Doctor of Pharmacy through the College of Pharmacy
- Masters and doctoral programs through the College of Health Professions, including nurse anesthesia, nutrition, physical therapy, pathologists’ assistant studies and physician assistant practice
- Advanced biomedical degrees through the School of Graduate and Postdoctoral Studies

OUR MISSION

The mission of Rosalind Franklin University of Medicine and Science is to serve the nation through the interprofessional education of health and biomedical professionals and the discovery of knowledge dedicated to improving the health of its people. Today, the university is shaping the future of health care through rigorous education, pioneering biomedical research and innovative community service.
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 programs from the beginning of their time here.

That’s especially important, as healthcare teams play an increasingly vital role in patient care. At RFUMS, 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 introduction for an integrated interprofessional education experience, brings students from virtually all academic programs together to learn from one another, get oriented to the culture of health care and start interacting in small, interprofessional teams.
COLLEGE OF PHARMACY

The College of Pharmacy (COP) is the newest college at RFUMS 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 RFUMS, 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.

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INTRODUCTION
We continue to be inspired by our university’s namesake, Dr. Rosalind Franklin, especially in our research and scholarship endeavors. The faculty and students of the College of Pharmacy are excited to participate in the university’s quest for new knowledge, highlighted by the university’s motto, *Life in Discovery*.

These efforts are an important component of our mission. We are pleased to see that research productivity has increased in parallel to the overall growth and development of the college since its inception. Through independent and collaborative activities our faculty and students contribute to the base of knowledge in disease-targeted drug discovery, interprofessional education, disease management, healthcare delivery, global health, use of technology and more. The number of pharmacy students exploring research opportunities continues to increase each year, with several students establishing ongoing, multi-year activities with faculty mentors. Our strong representation at university research poster sessions and at the All School Research Consortium, our success in obtaining grant funding and our well-attended Haim & Jane Nagirner Weinstein Symposium Series are additional testaments to the emphasis the college places on research and scholarship activities. These efforts are the seeds from which an increasingly robust program will continue to develop.

This is the third annual College of Pharmacy Research and Scholarship Report, covering the academic year July 1, 2014 – June 30, 2015. The breadth, depth and range of the college’s scholarly output is truly remarkable. We are once again proud to present this report, reflecting the efforts of numerous faculty and students.

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.


Scientists and scholars who have accumulated significant expertise and respect from their peers are often asked to share their knowledge in the form of a book or a book chapter. Several College of Pharmacy faculty members have contributed such works during the past year.


ABSTRACTS & PRESENTATIONS

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.


Lauren B. Angelo. Pharmacy-Based Immunization Delivery. American Pharmacists Association, New Orleans, LA, July 2014 (with Vincent Hartzell); Farleigh Dickinson University, Florham Park, NJ, August 2014 (with Vincent Hartzell); HD Smith, Oak Brook, IL, October 2014 (with Jamie Dillig); Genoa Healthcare, Schiller Park, IL, April 2015 (with Carrie Maffeo).


Lauren B. Angelo, Jessica Cottreau and Abbie Lyden. Integrating Students and Residents into Practice. CPE Presentation. RFUMS Annual Preceptor Program. February 2015.


John K. Buolamwini. Drug, Probe and/or Biomarker Discovery Targeting Cancer, HIV/AIDS and Cardiovascular Diseases. Concordia University of Wisconsin, August 2014.


S. Cebrij and Sean P. Kane. A Pilot Project to Recognize, Initiate, and Expediently Manage Patients with Alcohol Withdrawal Syndrome. 11th Annual Advocate Injury Institute Symposium, Elmhurst, IL, November 21, 2014. Winner of the “People’s Choice Award.”


S. DeGrote, S. Khan and Michael Shuman. The prevalence and significance of antipsychotic dosing on QTc Prolongation: a focus on haloperidol, olanzapine,


Theresa Kodua, Michelle Shalaby, J. Carlson and T. Batteson. Four brains are better than one: Can cognitive training in an IPE clinical setting reduce processing biases in health professionals and improve patient outcomes? Summer Research Poster Session, Rosalind Franklin University, October 31, 2014.


Khyati Patel. NOACs. Family Practice Physician Group Monthly Meeting, Aurora Medical Center, Kenosha, WI, September, 2014.


Caleb Rosenbalm and David H.T. Harrison. COP Curriculum Correlations. Summer Research Poster Session, Rosalind Franklin University, October 31, 2014.

Andrew Ruettiger and D. Eric Walters. Searching for Small Molecules to Inhibit Protein-Protein Interactions. Summer Research Poster Session, Rosalind Franklin University, October 31, 2014.


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.

R. Gazmuri, J. Radhakrishnan, D. Eric Walters, and L. Jin. Molecular Mechanisms by which Cyclophilin-D Modulates Transcription of Mitochondrial Genes. DePaul-RFUMS Research Pilot Grant, 12/1/2014 – 11/30/2015. The goal of this project is to discover ways to limit tissue damage immediately following a heart attack.

Arun K. Ghosh, PI. Design & synthesis of nonpeptide protease inhibitors. D. Eric Walters, Co-investigator. NIH/GMS, 4/1/96 – 8/31/16. The goal of this project is to discover new drug therapies for treatment of HIV viral infections. This project led to the discovery of darunavir (PREZISTA®).


Kevin Rynn, S. Kent, Gloria Meredith, Tina Zook, K. Hankewych, Scott Hanes, S. Patel, Sarah Garber. National Association of Chain Drug Stores (NACDS) Community PREP Foundation Grant. $50,000 / 3 years. This grant supports the development of a residency program at NorthShore University HealthSystem.

Kristy Shanahan. Blood Biomarkers to Assess Suicide Risk. American Society for Clinical Laboratory Science Education and Research Fund, May 29, 2015. The goal of this project is to identify readily measured markers that could predict suicide risk.
Our seminar program is generously supported by an endowment from Haim G. Nagirner Weinstein and Jane Grauman 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.

**MONDAY, SEPTEMBER 29, 2014**

Dr. Gregory Thatcher, University of Illinois Chicago
Academic drug discovery: A case example in Alzheimer’s and a new Chicago-wide initiative in collaborative engagement

**TUESDAY, OCTOBER 21, 2014**

Dr. Ellen M. Unterwald, Temple University
GSK3 in Cocaine Reward and Memory

**THURSDAY, NOVEMBER 20, 2014**

Dr. Brian Fingerson, Kentucky Professionals Recovery Network
Risk, Recognition, Resolution: Substance Use Disorder in Healthcare Professionals

**MONDAY, DECEMBER 1, 2014**

Dr. James T. O’Donnell, Rush University Medical Center
Avoiding Drug Injury and Pharmacist Malpractice

**WEDNESDAY, JANUARY 7, 2015**

Dr. Ruth Nemire, American Association of Colleges of Pharmacy
Interprofessional Practice: Thinking Critically About Preparation, People and Places

**TUESDAY, FEBRUARY 10, 2015**

Dr. Joseph Friedman, PDI Medical
VAPORS & PAPERS & DABS, OH MY! Medical Marijuana and the Pharmacist and Pharmacy Technician Behind the Curtain

**MONDAY, MARCH 9, 2015**

Dr. Paul Ornstein, Roosevelt University
Adventures in Drug Discovery: Good Molecules, Bad Timing

**WEDNESDAY, APRIL 1, 2015**

Dr. Cory Theberge, University of New England
Development of a Veterinary Pharmacy Elective Course
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 RFUMS, 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.

EXEMPLARY 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 RFUMS 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 RFUMS 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.
CONTACT US FOR FURTHER INFORMATION:

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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 60503; Phone: 312-664-3575; Fax: 312-664-4652; Website: www.acpe-accredit.org.