



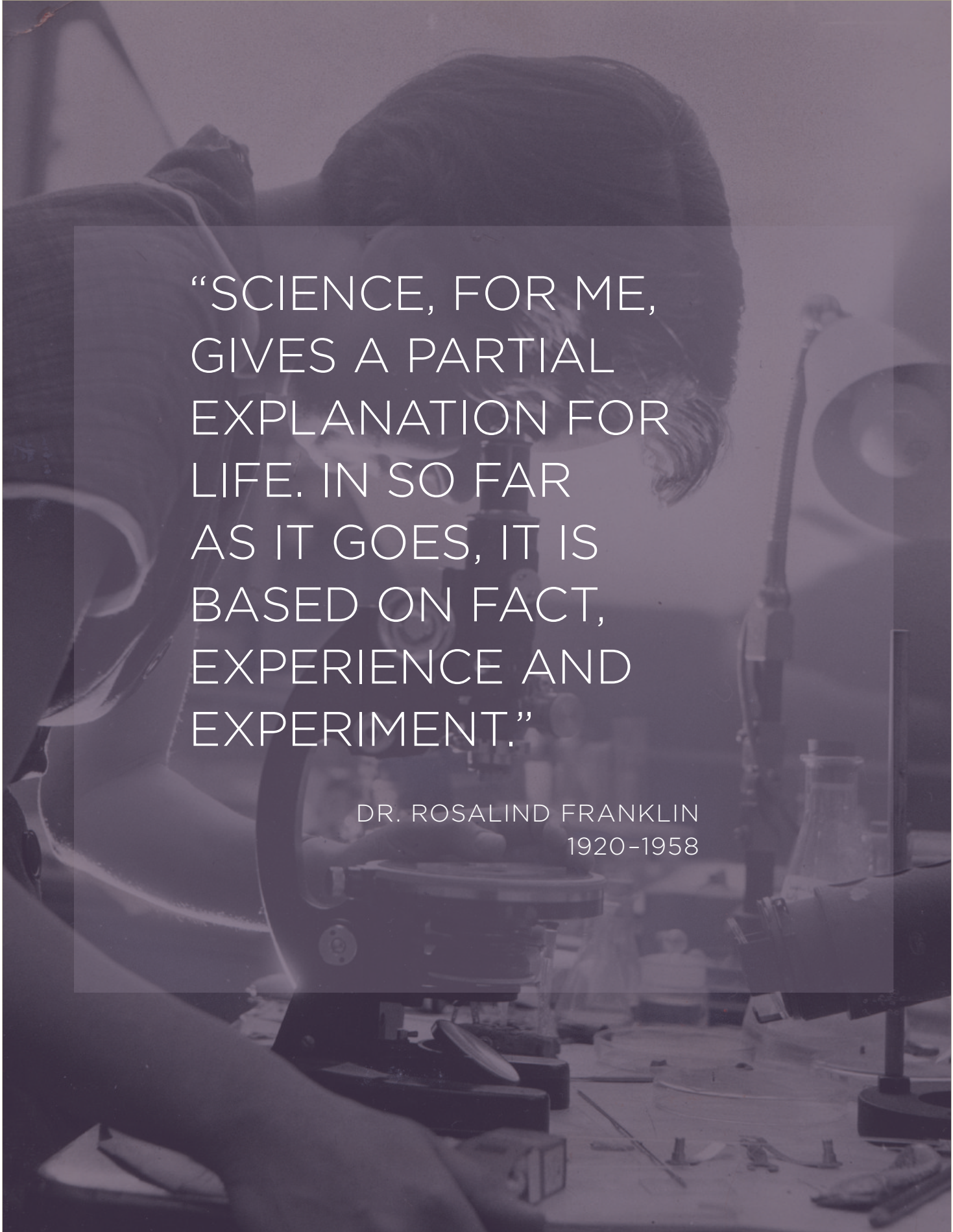
ROSA LIND FRANKLIN
UNIVERSITY
of MEDICINE AND SCIENCE

COLLEGE OF PHARMACY



RESEARCH AND SCHOLARSHIP REPORT

July 1, 2018 - June 30, 2019



“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

2,113 STUDENTS 30+ ACADEMIC PROGRAMS 1 UNIVERSITY

ACADEMIC ACHIEVEMENT IS IN OUR DNA

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



ROSALIND FRANKLIN
UNIVERSITY
of MEDICINE AND SCIENCE

THE ROSALIND FRANKLIN UNIVERSITY DIFFERENCE

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.



COLLEGE OF PHARMACY

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.

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**ROSALIND FRANKLIN
UNIVERSITY**
of MEDICINE AND SCIENCE

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.

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 brochure, we use **bold** text to indicate College of Pharmacy contributors, and an asterisk* to indicate student, resident and postdoctoral contributors.

D. Eric Walters, PhD

Associate Dean for Research

Marc S. Abel, PhD

Dean, College of Pharmacy



PEER-REVIEWED PROFESSIONAL PUBLICATIONS

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.

Kristen M. Ahlschwede, G.L. Curran, J.T. Rosenberg, S.C. Grant, G. Sarkar, R.B. Jenkins, S. Ramakrishnan, J.F. Poduslo and K.K. Kandimalla. Cationic carrier peptide enhances cerebrovascular targeting of nanoparticles in Alzheimer's disease brain. *Nanomedicine*, 2019; 16:258–266.

Lauren B. Angelo. Immunization update 2018. *Pharmacy Today*, 2018; 24(9):48–57.

T. Batteson and **Sarah S. Garber**. Assessing constructs underlying Interprofessional Competencies. *Journal of Interprofessional Education and Practice*, 2018; 16:100195.

T.J. Batteson and **Sarah S. Garber**. Methods and Systems for Improving Patient Outcomes. *U.S. Patent Appl.* 2018 No. 15/433,703.

Hemantkumar Deokar*, M. Deokar, W. Wang, R. Zhang and **John K. Buolamwini**. QSAR Studies of New Pyrdo[3,4-b] indole Derivatives as Inhibitors of Colon and Pancreatic Cancer Cell Proliferation. *Med. Chem. Res.*, 2018; 27:2466–2481.

S.M. Dresden, K. Allen and **Abbie Erikson Lyden**. Common Medication Management Approaches for Older Adults in the Emergency Department. *Clinics in Geriatric Medicine*, 2018; 34:415–433

Sean P. Kane, Michael Shuman, Khyati Patel and Margaret Olson*. Frequency and characteristics of drug-related podcasts and the role of pharmacists in this educational medium. *Am. J. Pharm. Educ.* October 2018 (Epub ahead of print).

M. Kempasiddhaiah, V. Kandathil, R.B. Dateer, B.S. Sasidhar, **Shivaputra A. Patil** and S.A. Patil. Magnetite tethered mesoionic carbene-palladium (II): An efficient and reusable nanomagnetic catalyst for Suzuki-Miyaura and Mizoroki-Heck cross-coupling reactions in aqueous medium. *Applied Organometallic Chemistry*, 2019; 33:e4846.

K. Myers and **Abbie Erickson Lyden**. A Review on the New and Old Anticoagulants. *Orthop. Nurs.* 2019; 38(1):43–52.

M. Patil, A.N. Poyil, S.D. Joshi, **Shivaputra A. Patil**, S.A. Patil and A. Bugarin. Synthesis, Molecular Docking Studies and Antimicrobial Evaluation of New Structurally Diverse Ureas. *Bioorganic Chemistry*, 2019; 87:302–311.

V. Patil, S.A. Patil, **Renukadevi Patil**, A. Bugarin, K. Beaman and **Shivaputra A. Patil**. Exploration of (hetero)aryl derived thienylchalcones for antiviral and anticancer activities. *Med Chem.*, 2019; 15(2):150–161.

Ateequr Rahman and Yelena Sahakian*. Evaluation of Adherence to Guidelines for Treatment of Acute Pharyngitis and Sinusitis in U.S. Outpatient Settings. *J. Clin. Microbiol. Antimicrob.* 2019; 3:104.

Ateequr Rahman, Yelena Sahakian* and **Rahul Deshmukh**. Economic Impact of Caregiving for Dementia Patients. *International Health Journal*, 2019; 1:3–14.

Ateequr Rahman, Yelena Sahakian* and **Rahul Deshmukh**. Prescribing Patterns of Antihypertensive Medications in U.S. Ambulatory Care Settings. Proceedings Publications in the Business and Health Annual Meeting.

Ateequr Rahman, Yelena Sahakian*, **Sean Kane, Marc Abel** and **Rahul Deshmukh**. Live-feed use in the Classroom as an Engagement Tool. *Currents in Pharmacy Teaching and Learning*. (Accepted for Publication)

R. Rodriguez, M. Cucci, **Sean Kane**, E. Fernandez and S. Benken. Novel Vasopressors in the Treatment of Vasodilatory Shock: A Systematic Review of Angiotensin II, Selepressin and Terlipressin. *J. Intensive Care Med.* 2018; Dec. 18:885066618818460.

Yelena Sahakian*, **Brisilda Bylykbashi*** and **Ateequr Rahman**. Prescribing Patterns of Antihypertensive Medications in U.S. Ambulatory Care Settings. *Pharmacy (Basel)* 2019; 7(2):64.

Eris Tollkuci. Isavuconazole therapy in a FLT3 mutated acute myeloid leukemia patient receiving midostaurin: A case report. *J. Oncol. Pharm. Pract.* 2019; 25(4):987–989.

Eris Tollkuci, A. Seddon, L. Geswein and M. Musleh. Midostaurin administration in two hemodialysis patients. *J. Oncol. Pharm. Pract.* 2019; 25(5):1285–1288.

(**Bold** = College of Pharmacy contributors,
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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**. Meeting Mr. Sodo: The Creation of a Social Determinants of Health Standardized Patient for an IPE Low-Fidelity Simulation Experience. Jefferson InterProfessional Education Center, 2nd Annual Conference: Interprofessional Care for the 21st Century: Redefining Education and Care, Philadelphia, PA, Oct. 28-29, 2018.

T. Batteson, L. Thuente, **Sarah S. Garber** and S. Bunting. The Unified Neighborhood Chronic HealthCare Model: An Interprofessional Community Micro Clinic Design to Address Health Disparities and Chronic Illness. Jefferson InterProfessional Education Center, 2nd Annual Conference: Interprofessional Care for the 21st Century: Redefining Education and Care, Philadelphia, PA, Oct. 28-29, 2018.

L. Bethishou, J. Wooster, P. On, **Danielle M. Candelario**, S. Gernant, R. Mansukhani and O. Shoir. Assessment of intraprofessional communication between inpatient and outpatient pharmacists during transitions of care (TOC). Amer. Pharmacists Assn., Annual Meeting, Seattle, WA, Mar. 22-25, 2019.

Kathleen Cunningham. #SquadGoals: Expanding and Optimizing the Transplant Pharmacy Team: The Northwestern Experience. American Transplant Congress, Boston, MA, Jun. 1-5, 2019.

Philip Duca*, **Patrick Kuchta***, **David H.T. Harrison** and **Danielle M. Candelario**. Wikipedia for Patient Drug Information: Describing the modifications and changes to a crowd-sourced encyclopedia. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

Bridget Fleming*, **Soyoung Chang***, **Kristy Shanahan** and **John Buolamwini**. hTERT Incorporation into Yeast Cells. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

N. Gandhi, C. Malone, J. Hamper, **Scott Hanes**, **Danielle M. Candelario** and J. Highland. Impact of Communication Technique Training on Rates of Naloxone Dispensing Rates. Amer. Pharmacists Assn., Annual Meeting, Seattle, WA, Mar. 22-25, 2019.

Scott D. Hanes. Use of Mapping to Assess Basic, Clinical and Social Science Curricular Integration. Amer. Assn. Colleges of Pharmacy, Annual Meeting, Boston, MA, Jul. 21-25, 2018.

M. Kapugi, **Kathleen Cunningham**, C. D'Agostino, A. Novak and J. Schulte. Risk Factors for Initial Sub or Supra-Therapeutic Tacrolimus Trough Levels in Renal Transplant Recipients. Vizient Consortium Pharmacy Network Meeting, Anaheim, CA, Dec. 2018; American Transplant Congress, Boston, MA, Jun. 1-5, 2019.

Patrick Kuchta*, **Philip Duca***, **David H.T. Harrison** and **Danielle M. Candelario**. Wikipedia Drug Information Pages for Healthcare Professionals: Describing the Modifications to a Crowd Source Encyclopedia. Amer. Pharmacists Assn., Annual Meeting, Seattle, WA, Mar. 22-25, 2019.

Abbie Lyden. Use of Mannequin-Based Simulation to Improve Skills and Retention of Knowledge in a Toxicology Elective. Amer. Assn. Colleges of Pharmacy, Annual Meeting, Boston, MA, Jul. 21-25, 2018.

Kate Meyer*, **Todd Smith** and **Lisa Michener**. Assessment of student and preceptor perceptions of longitudinal advanced pharmacy practice experiences within health systems. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

Taylor L. Page*, **Jayna Sharma***, **Frank L. Hughes**, **Kristen Ahlschwede** and **Danielle M. Candelario**. Pharmacy Student Interest in Computer Assisted Learning in Pharmaceutical Calculations. Amer. Assn. Colleges of Pharmacy, Annual Meeting, Boston, MA, Jul. 21-25, 2018.

Krista Paplaczky*, **Kathleen Cunningham**, A. Novak, J. Salvador and A. Shetty. Conversion to a Belatacept Based Immunosuppression Regimen in Renal Transplant Recipients. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

Ateequr Rahman, **Yelena Sahakian*** and **Rahul Deshmukh**. Prescribing Patterns of Antihypertensive Medications in U.S. Ambulatory Care Settings. Business and Health Administration Association, Division of MBAA International, 55th Annual Meeting, Chicago, IL, Mar. 27-29, 2019.

Angelina Raimonde*, **Janeen Winnike**, K. Rynn, T. TenHoeve and **Jamie Dillig**. Evaluation of the Illinois Pre-Pharmacy Fair to Promote the Profession of Pharmacy: A State-Wide Collaboration Among Seven Colleges of Pharmacy. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

Yelena Sahakian*, **Ateequr Rahman**, A. Kahaleh and B. Polyakova. Antibiotic Prescribing Patterns for Pharyngitis and Sinusitis. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

V.L. Thanh, S.N. Patel, R. Golakiea, A.N. Seddon and **Eris Tollkuci**. Impact of obesity on outcomes in patients receiving acute myeloid leukemia (AML) induction chemotherapy. American Society of Health-System Pharmacists, Midyear Meeting, Anaheim, CA, Dec. 2-6, 2018.

L. Thuente, T. Batteson and **Sarah S. Garber**. Creating practical teaching and learning opportunities with Interprofessional Student-Led Grand Rounds. Jefferson InterProfessional Education Center, 2nd Annual Conference: Interprofessional Care for the 21st Century: Redefining Education and Care, Philadelphia, PA, Oct. 28-29, 2018.

L. Thuente, T. Batteson and **Sarah S. Garber**. Experiential Learning Teaches Interprofessional Knowledge, Attitudes, Skills and Behaviors. Jefferson InterProfessional Education Center, 2nd Annual Conference: Interprofessional Care for the 21st Century: Redefining Education and Care, Philadelphia, PA, Oct. 28-29, 2018.

Eris Tollkuci, H. Hodges, C. Varughese, A. Seddon, K. Schultz, Z. Click and B. Seyboth. Multidisciplinary approach to optimizing posaconazole use at RUMC. Rush University Medical Center Quality Fair, Chicago, IL, Apr. 2019.

Eris Tollkuci, A. Seddon, B. Myers, Z. Click and B. Seyboth. Evaluation of non-ICU chemotherapy desensitizations: A cost savings analysis. Rush University Medical Center Quality Fair, Chicago, IL, Apr. 2019.

Eris Tollkuci, A. Seddon, K. Schultz, Z. Click and B. Seyboth. Pharmacy directed chemotherapy and monoclonal antibody dose rounding: A cost savings evaluation. Rush University Medical Center Quality Fair, Chicago, IL, Apr. 2019.

D. Tompkins, **Sean Kane** and S. Benken. Obesity and the Negative Impact on Propofol Usage for ICU Sedation. American College of Clinical Pharmacy, Annual Meeting, Seattle, WA, Oct. 20-23, 2018.

D. Eric Walters. Discovery and Design of Small Molecule Inhibitors of Citrate Transporter Proteins. Keynote Lecture, First International Conference, Advancement on Biotechnology and Biocomputing; February 9, 2019; Islamic University, Islamabad, Pakistan.

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Asterisk* = Student, resident and postdoctoral contributors)



PRESENTATIONS WITHIN THE UNIVERSITY

B. Benner, C. Christen, **Rita Piro***, **Nimita Shah***, K. O'Mara and P. Kallio. Reflection on Patient Outcomes Following mHealth App Usage: Healthcare Resources in the Digital Age. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

B. Benner, C. Christen, **Rita Piro***, **Nimita Shah***, K. O'Mara and P. Kallio. Use of the RFU mHealth App Provider Recommendation Tool for Commercially Available Asthma Apps: A Report on Patient Safety. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Brisilda Bylykbashi*, **Yelena Sahakian***, **Ateequr Rahman** and **Rahul Deshmukh**. Prescribing Patterns of Antihypertensive Medications in US Ambulatory Care Settings. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC),

March 20, 2019, Oral Presentation, RFUMS, North Chicago, IL.

Philip Duca*, **Patrick Kuchta***, **David H.T. Harrison** and **Danielle Candelario**. Wikipedia for Patient Drug Information: Describing the Modifications and Changes to a Crowd-Sourced Encyclopedia. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

Bridget Fleming*, **Isaiah Blackburn***, M. Bonar, **Kristy Shanahan** and **John K. Buolamwini**. hTERT Incorporation into Yeast Cells, Part 2. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

Karen Juco*, **Scott Hanes**, S. Miller and Z. Mazur. Implicit Bias in Interprofessional Peer Evaluations. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Patrick Kuchta*, **Philip Duca***, **David H.T. Harrison** and **Danielle Candelario**. Wikipedia for Patient Drug Information: Describing the Modifications to a Crowd-Sourced Encyclopedia. All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

M. Lalani, D. Sale, D. Shah, **Sitwat Zainab***, K. O'Mara and P. Kallio. Criteria for Assessing the Quality of mHealth Apps. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

M. Lalani, D. Sale, D. Shah, **Sitwat Zainab***, K. O'Mara and P. Kallio. Use of the RFUMS mHealth App Provider Recommendation Tool for Commercially Available Asthma Apps: A Report on Adherence to Professional Standards. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Ricky Mahajan*, **Rahul Deshmukh** and **Kristen Ahlschwede**. A Look at the Stability of Chitosan in Hydroxypropyl Beta-Cyclodextran and Sodium Tripolyphosphate Nanoparticles. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

Kate Meyer*, **Todd Smith***, **Daniel Dickson***, K. Rynn and **Lisa Michener**. Assessment of Student and Preceptor Perceptions of Longitudinal Advanced Pharmacy Practice Experiences within Health Systems. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, Oral Presentation, RFUMS, North Chicago, IL.

Krista Paplaczky* and **Kathleen Cunningham**. Conversion to Belatacept in Kidney Transplant Patients for Maintenance Immunosuppression Therapy. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Angelina Raimonde*, **Janeen Winnike**, K.O. Rynn, T. TenHoeve and **Jamie Dillig**. Evaluation of the Illinois Pre-Pharmacy Fair to Promote the Profession of Pharmacy: A State-Wide Collaboration Among Seven Colleges of Pharmacy. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

Yelena Sahakian*, **Ateequr Rahman** and **Rahul Deshmukh**. Antibiotic Prescribing Patterns for Pharyngitis and Sinusitis. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Yelena Sahakian*, **Brisilda Bylykbashi***, **Ateequr Rahman**, **Rahul Deshmukh**, **Sean Kane** and **Marc Abel**. Social Media Live-Feed as an Engagement Tool in the Classroom. All School Research Consortium (ASRC), March 20, 2019, Oral Presentation, RFUMS, North Chicago, IL.

Yelena Sahakian*, **Brisilda Bylykbashi***, **Ateequr Rahman**, **Rahul Deshmukh**, **Sean Kane** and **Marc Abel**. Social Media Use in the Classroom as an Engagement Tool. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Sarah Singer* and **John K. Buolamwini**. Studies on New Anticancer Compounds. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL.

Todd J. Smith* and **Suzanne Molino**. Impact of Pharmacy-Led Antimicrobial Stewardship Efforts on Antibiotic Prescribing Practices for Acute Respiratory Tract Infections. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

Olutosin Teniola*, **Atieh Jannati***, **Yelena Sahakian***, **Brisilda Bylykbashi***, **Rahul Deshmukh** and **Ateequr Rahman**. Evaluating the Perceptions Regarding Two Different Forms of Information Presentation on the Drug NERLYNX® by Current and Future Healthcare Providers — A Research Proposal. Summer Research Poster Session, October 17th, 2018, RFUMS, North Chicago, IL; All School Research Consortium (ASRC), March 20, 2019, RFUMS, North Chicago, IL.

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Asterisk* = Student, resident and postdoctoral contributors)

EXTERNAL SEMINAR AND CONTINUING EDUCATION PRESENTATIONS

Lauren B. Angelo. Invited Speaker, APhA's Pharmacy-Based Immunization Delivery Certificate Training Program. Florida Pharmacists Association Annual Meeting, Jul. 2018.

Lauren B. Angelo. Invited Speaker, APhA's Pharmacy-Based Immunization Delivery Faculty Training Program. Binghamton University School of Pharmacy, Dec. 2018.

Lauren B. Angelo. Invited Speaker. APhA's Delivering Medication Therapy Management Services Certificate Training Program. American Pharmacists Association Annual Meeting, Mar. 2019.

Lauren B. Angelo. Educational Speaker for Seqirus USA, Inc. Prevention of Seasonal Influenza: Making the Case for Cell-Based Vaccines. American Pharmacists Association Annual Meeting, Mar. 2019.

Lauren B. Angelo. Educational Speaker for Seqirus USA, Inc. Advances in Seasonal Influenza: Making the Case for Adjuvanted and Cell-Based Vaccines. American Geriatric Society Annual Meeting, Apr. 2019.

John K. Buolamwini. Design and Discovery of Novel Agents for Cancer, Cardiovascular and Viral Diseases. Department of Pharmacological and Pharmaceutical Sciences, University of Houston College of Pharmacy, Dec. 18, 2018.

John K. Buolamwini. Design and Discovery of Potential Therapeutic Agents and/or Probes for Cancer, HIV/AIDS, Ischemia and Mitochondrial Protection. Department of Biochemistry and Molecular Genetics, Feinberg School of Medicine, Northwestern University, Chicago, IL, Apr. 26, 2018.

John K. Buolamwini. Design and Discovery of Probes and/or Potential Therapeutic Lead Compounds for Cancer, Ischemia-Reperfusion Injury, HIV/AIDS, or Mitochondrial Protection. University of Arizona, College of Pharmacy, Tucson, AZ Graduate Program Seminar Series: Drug Discovery & Development, Oct. 23, 2018.

John K. Buolamwini. Drug Design and Discovery Research. El Colegio Nacional, Mexico City, Mexico, May 9, 2019.

Danielle M. Candelario and **Khyati Patel.** Keeping Up with Standards: How to Incorporate Updated Accreditation Standards in Your Precepting. CE Presentation for Illinois Pharmacists Association (IPhA) Annual Conference, Sep. 27-30, 2018.

Danielle M. Candelario and J. Wooster. Teaching Transitions of Care: Facilitation through Didactic and Experiential Learning. American Pharmacists Association National CE Webinar, Apr. 2019.

E. Moeke, C. Cavazos, **Eris Tollkuci** and R. Hunter. Allogeneic Stem Cell Transplant Caregiver Class. Rush University Medical Center, Chicago, IL, Mar. 2019.

Shivaputra A. Patil. Discovery of New Small Molecules as Anticancer and Antiviral Agents. Roosevelt University, Schaumburg, IL, Sep. 24, 2018.

Ateequr Rahman. Civility and Respect in Health Care Environments — Challenges and Solutions. Illinois Pharmacists Association (IPhA) Annual Conference, Sep. 27-30, 2018; CE Presentation at DuPage Pharmacists' Association, Feb. 2019.

Sneha B. Srivastava. Diabetes Medication Management and Adherence. Invited speaker, AADE Illinois Diabetes Symposium, Nov. 2018.

Sneha B. Srivastava. Examining the Role of Serotonin and Unique Approaches to Treating Chronic Idiopathic Constipation. Invited speaker at 4 Directions in Pharmacy meetings nationally, multiple dates, 2018-2019.

Sneha B. Srivastava. Revealing the Who and the What Behind the Cardiovascular Outcomes Trials: How to Best Apply the data to Your Patients. Webinar for APhA Diabetes SIG.

Sneha B. Srivastava. What the Gut? Diabetes Update. Invited speaker, DECAADE-Chicago. Nov. 2018.

Janeen Winnike. Providing Feedback to Student Pharmacists. Pharmacist Moms Live Facebook CPE, Dec. 20, 2018.

(**Bold** = College of Pharmacy contributors)



BOOKS, BOOK CHAPTERS AND OTHER PUBLICATIONS

Danielle M. Candelario and **Khyati Patel**. The Interprofessional Community Clinic: A Model of Service, Clinical Practice, and Student Initiative. American Association of College of Pharmacy, Pharmacy Practice Section Newsletter, 2018:1-14.

Sean P. Kane. GI Alterations. In: B.A. Boucher and C.E. Haas, Eds. *Critical Care Self-Assessment Program, 2018, Book 3*. Fluids and Nutrition/GI and Liver Disorders. American College of Clinical Pharmacy, Lenexa, KS; 2018:79-96.

Abbie Lyden and K. Allen. Medication Errors in Aging Adults: A Case Based Approach to Medication Management. In: L. Lindquist and S. Dresden, Eds., *Geriatric Emergencies: A Case Based Approach to Improving Acute Care*. Springer Nature Switzerland AG; 2019:113-138.

Renukadevi Patil, O. Powrozek, B. Kumar, W. Seibel, K. Beaman, G. Waris, N. Sharma-Walia, and **Shivaputra Patil**. Bisbenzimidazoles: Anticancer Vacuolar (H⁺)-ATPase Inhibitors. In: M. Marinescu, Ed., *Benzimidazole and Its Derivatives*. IntechOpen, London; 2019, Chapter 8.

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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:

Kristen Ahlschwede and **Rahul Deshmukh**. Development of novel formulations for pediatric use. Academic Pharmaceuticals Inc., Oct. 1, 2017.

John K. Buolamwini and G.E. Stutzmann, Pls. Intracellular Ca²⁺ channels as a therapeutic target for AD drug discovery. Alzheimer's Association, Oct. 1, 2018.

Nidhi Gandhi*, **Scott Hanes** and **Danielle Candelario**. Impact of communication technique training on rates of naloxone dispensing. APhA, Feb. 1, 2019.

Arun K. Ghosh, PI. Design & synthesis of nonpeptide protease inhibitors. **D. Eric Walters**, Co-investigator. NIH/GMS, Apr. 1, 1996–Aug 31, 2020.

Shivaputra Patil, PI. Synthesis of GSK J4 related small molecules as anti-glioma agents. Northwestern University, Jul. 1, 2018.

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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, two students were selected for this award.

Alexandria Henry was involved in research for most of her time at the college. Alex did a synthetic chemistry project one summer, and participated in a study of longitudinal Advanced Pharmacy Practice Experience the following year. She was vice president of the RFUMS chapter of the Industry Pharmacists Organization (IPhO), and placed 3rd and 5th nationally in the IPhO Case Competition.

Soyoung Chang worked with Prof. Kristy Shanahan and Prof. John Buolamwini in a project that involved expression of human telomerase reverse transcriptase in the mitochondria of yeast cells. She presented her project in the Toxicology section at the American Society of Health-System Pharmacists Midyear Clinical Meeting in 2018.

Previous Winners:	2015	Monal Punjabi
	2016	Andrew Ruettiger
	2017	Shannon Riley
	2018	Tiffany Chairudin

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.

**ROSALIND FRANKLIN
UNIVERSITY**
of MEDICINE AND SCIENCE **/IMPACT**

SUPPORT THE COLLEGE OF PHARMACY
by contributing online

<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

2018-2019



EINSTEIN

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.

MONDAY, SEPTEMBER 24, 2018

DR. CARRIE ROSKAMP, PILLSBURY WINTHROP SHAW PITTMAN LLP
CAREER PATHS IN INTELLECTUAL PROPERTY

THURSDAY, OCTOBER 18, 2018

DR. STACY BROWN, EAST TENNESSEE STATE UNIVERSITY
USING DRUG STABILITY STUDIES TO ENHANCE PATIENT CARE

TUESDAY, NOVEMBER 13, 2018

DR. RAJIV R. SHAH, MYMEDS
THE REAL WORLD APPLICATION OF INTERPROFESSIONAL TEAMS

WEDNESDAY, APRIL 24, 2019

DR. ATEEQUR RAHMAN AND YELENA SAHAKIAN*
ESTABLISHING A SUCCESSFUL LONGITUDINAL MENTORSHIP

MONDAY, APRIL 29, 2019

DR. ART FIOCCO, REGULATORY COMPLIANCE ASSOCIATES, INC.
PHARMACEUTICALS — IMPROVING WELLNESS AND THE QUALITY OF LIVES WHILE REDUCING THE TOTAL COST OF HEALTHCARE

TUESDAY, MAY 7, 2019

DR. TERRICK ANDEY, MASSACHUSETTS COLLEGE OF PHARMACY AND HEALTH SCIENCES

TOWARDS A MORE PRECISE MEDICINE: MOLECULAR AND FORMULATION APPROACHES FOR TARGETED TREATMENT OF CANCER

(**Bold** = College of Pharmacy contributors,

Asterisk* = Student, resident and postdoctoral contributors)





HANDS-ON FUTURES

Through experiential rotations, student pharmacists learn the possibilities their degree has to offer.

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.



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CONTACT US FOR MORE INFORMATION

COLLEGE OF PHARMACY

**Rosalind Franklin University of Medicine
and Science**

**3333 Green Bay Road
North Chicago, IL 60064-3095**

pharmacy.admissions@rosalindfranklin.edu

847-578-3204

rosalindfranklin.edu

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 60503-4810; Phone: 312-664-3575; Fax: 866-228-2631; Website: www.acpe-accredit.org.



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3333 Green Bay Road, North Chicago, IL 60064-3095 • www.rosalindfranklin.edu